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Iraqi Journal of Medical Sciences

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تعنون المراسلات إلى المجلة العراقية للعلوم الطبية، صندوق بريد ١٤٢٢٢ بغداد، العراق. تلفون و فاكس (٩٦٤-١-٥٢٢٤٣٦٨).

رقم الإيداع في دار الكتب و الوثائق ببغداد ٧٠٩ لسنة ٢٠٠٠

EDITORIAL

ARTIFICIAL NEURAL NETWORKS IN MEDICINE

Anam R. Al-Salihi* *M.Sc., Ph.D.*

By the turn of the century, it became evident that the most important features of the last decade were the information revolution and the impact of computer on all disciplines of medicine. It is well known now that computers make performance of computational tasks faster, more accurate and easier.

Evolving from neurobiological insight, neural network technology was developed. The neural network mimics the human brain in terms of architecture, design and functioning. It can be used to recognize pattern and images, construct a design tree to image a problem, classify data, predict outcomes and study thematic evolution of a process.

Neural network gives a computer system an amazing capacity to actually learn from input data. Artificial neural net works (ANN) have provided solution to problems normally requiring human observation and thought process.

Artificial neural network are software construction designed to mimic the way human brain learn. The brain is made up of billions of interconnected neurons. Similarly, artificial network are made of virtual interconnected node. Computer scientists have developed many classes of artificial neural networks with a variety of architecture and training a logarithm. The most basic and commonly used neural networks architecture is the "Multilayer Perception (MLP)" with a back-propagation training a logarithm. The input layer nodes accept input variables (analogous to independent variables). One or more hidden layers of nodes do the majority of processing. Values from the hidden layer are processed and presented as an output value at one or more output nodes (analogous to dependent variables).

Each generic hidden node has multiple connections. Each connection has a weight or coefficient associated with it (W1, W2, W3 .....). These weights serve as multipliers for the value passing to the nodes through each connection from the previous layer (the values coming from the input layer are usually represented by X1, X2, X3 .....). When numbers are entered into the input layer, they are multiplied by the weights at each connection and then summed at the hidden nodes. The resulting sum is passed to the next layer of nodes. Finally, a number emerges at the output node with a value that depends on the input values and weights assigned to each interconnection.

The above description forms the basis of the use of artificial neural networks in medicine and clinical practice. Almost all clinical decisions that doctor make are based on more than one item of data because it is very rare for a single symptom or sign, or measurement to be path gnomonic with no overlap with other diseases. Doctors make such decisions by assigning, usually unconsciously, different weights to the items of data and then choosing the most probable prediction. They will have learned the relative importance and specificity of the items of the data from the past experience of seeing patients, collecting data from them, making a diagnostic prediction, and then comparing this with the actual outcome. A physician attending a patient presenting with chest pain in an admission unit will ask about site and character of the pain, whether the patient is short of breath, is nauseous, or smokes; what is the age and sex of the patient; and will assess whether there is new ST elevation or pathological Q wave on the ECG, will elucidate other data items, and a clinical decision will evolve.

In developing an artificial neural network, data are collected from real patients. These data are compiled and studied to determine their characteristics. Then an artificial neural network is created to model the data.

Artificial neural networks are not programmed like conventional computer programs, but learn from experience. The artificial neural network learns during a training phase in which cases

Dept. Human Anatomy, College of Medicine, Al-Nahrain University

with known inputs and outputs are shown to the artificial neural network sequentially and repeatedly. A training algorithm adjust the weights at each connection with the goal of reducing the error between the known output values and the actual values the artificial neural network generate with the weights it has at the moment. At first, the outputs produced by the artificial neural network are somewhat arbitrary. But, over time, as cases are reintroduced repeatedly hundreds or thousands of times, the artificial neural network begins to get some of the answers right. The training algorithm continues to change the weights until most of the answers are correct and training is then stopped. The next phase is to test or validate the artificial neural network. This is done with a set of cases that the artificial neural network has never seen. Based on the artificial neural network performance on this test, called validation set, it is determined whether the artificial neural network has learned appropriately.

Several research groups and investigators are currently working to develop artificial neural networks for clinical application. Ian Cather of the University of Sydney is using artificial neural networks in assisted cardiac auscultation and clinical identification of murmurs. Silipo and his group from the University of California at Berkeley use artificial neural networks in classification of arrhythmic events in ambulatory ECG. The group at Aston University, Birmingham is interested in artificial neural network techniques in the analysis of electroencephalogram. One of the well known programs is the Prostatic Cancer Calculator which is under investigation by Josephine Ford Cancer Center and Department of Urology, Detroit.

Several links to people and organizations working with medical application of artificial neural networks and related technologies can be found on the net at:

"Artificial Neural Networks in Medicine World Map.htm".

Original Articles

LYMPHOCYTE APOPTOSIS AND ADVERSE PREGNANCY OUTCOME

Israa F. Al-Samarai***MBChB, M.Sc. Ph.D.*, **Malka Al-Sadi*******MRCOG*,
Ibtisam Al-Ubusi*******B.Sc., M.Sc., Ph.D.*,**

Abstract

Background: Apoptotic cell death plays an important role in cell biology and pathology including studies of embryonic development, pathogenesis of diseases, and the response of cell to therapy.

Aim of the study: To clarify the relation between apoptosis and oxidative stress in different pregnancy outcome, namely miscarriage and PET.

Patient and methods: The study involved 30 pregnant women; 10 were preeclampsia, 10 had miscarriage (before 20 weeks gestation).
Surface morphological changes of lymphocyte apoptosis were diagnosed by phase contrast and Interference contrast microscopy. Lipid peroxidation using thiobarbituric acid reactive species (malondialdehyde). Erythrocyte glutathione was estimated by Lang *et al* method, Zinc and Copper were estimated using atomic absorption spectrophotometer. Statistical analysis done using unpaired student T- test, and correlation coefficient.

Results: We found a significant increase in lymphocyte apoptosis in preeclamptic patients ($p<0.05$) than normal pregnant, the increase in MDA level was highly significant $p<0.005$ the same thing applied to consumption of glutathione in preeclamptic patients $p<0.005$ .there was also positive correlation between increased apoptotic process and oxidative stress variables. In miscarriage there was a significant increase in lymphocyte apoptosis compared to normal pregnant ($p<0.05$) also there was strong positive correlation between apoptotic process and oxidative stress ($r=0.92$).

Conclusion: Lymphocyte apoptosis and oxidative stress was significantly increased in PET and miscarriage; this means that oxidative stress can induce PET and miscarriage in pregnant women.

Key words: apoptosis, oxidative stress, PET, miscarriage

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Introduction

Apoptotic cell death plays an important role in cell biology and pathology including studies of embryonic development, pathogenesis of diseases, and the response of cell to therapy[1].
Apoptosis is a distinct type of cell death in which an individual cell undergoes an internally controlled transition from an intact metabolically active state into a shrunken remnant retaining their membrane integrity[2]. The internal organelle does not undergo lysis during apoptosis and little leakage of the contents of the dying cell can be detected so apoptotic cell death does not induce an inflammatory response. Instead the shrunken apoptotic bodies are phagocytosed by macrophages and their contents are recycled, therefore apoptosis provide the organism with a safe ,clean method to remove dying cells without evoking an inflammatory response[3] this diagram summarizes a small portion of the apoptosis regulation pathway that have recently been delineated[4].

* Dept. Clinical Physiology, ** Dept. Gyneacology & Obstetrics, *** Dept. Chemistry & Biochemistry, College of Medicine, Al-Nahrain University.
Address Correspondence to Dr. Israa F. Al-Samarai.
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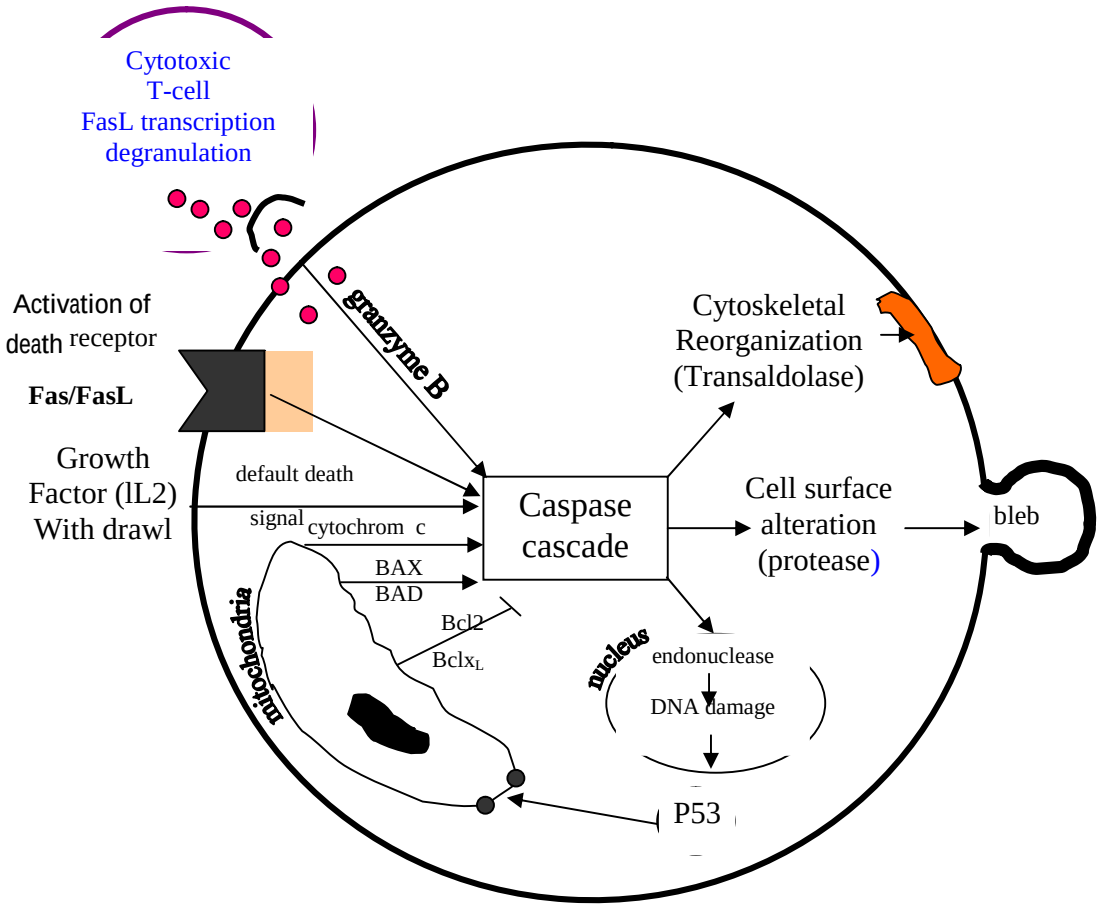

Summary of some factors affecting apoptosis

Apoptotic cells has distinct morphological features these are; membrane bleb formation membrane spikes, nuclear shrinkage with chromatin condensation, ordered cleavage of DNA, compactness of cytoplasmic organelles and lastly disintegration of cell into apoptotic bodies[5].

Apoptosis can be induced by variety of stimuli as ionizing radiation, cytotoxic drugs, and reactive oxygen species (ROS) including free radicals[6]: free radicals are any species that contain one or more unpaired electron(s)[6]. These ROS are highly reactive chemicals that are produced during participation of oxygen in redox reaction in normal metabolic pathway can directly penetrate cell membrane and induce mitochondrial permiabilization then release of cytochrome C which activate apoptosis[7], these ROS are able to cleave DNA and activate certain enzymes as endonuclease and phospholipase[8,9]. Previous work in our lab had shown that apoptosis is associated with generation of free radicals.

In contrast zinc inhibits apoptosis at three levels: at nuclear level by suppressing endonuclease enzyme[10], at cytosole level by inhibition of caspase activation[11], at mitochondrial level by increase in Bcl2/Bax ratio, also Zn is involved in scavenger ability of superoxide dismutase[12]. Ceruloplasmin is one of the scavengers against oxidative stress[13].

The aim of this work is to clarify the relation between apoptosis and oxidative stress in different pregnancy outcome.

Subjects & Methods

Thirty pregnant women were enrolled in this prospective study. The mean age was (29±1.23). Ten were preeclampsia (after 20 week gestation). Ten had miscarriage (before 20 weeks gestation) and 10 were normal pregnant. Preeclampsia was defined as blood pressure of 140/90mmHg or more occurs after 20 weeks gestation in a previously normotensive lady with protein urea of 300mg/dl or more. Miscarriage was defined as percentage loss before 20 weeks gestation. Beside the routine investigation each patient had the following tests: First: 2 ml of anticoagulated blood was processed for lymphocyte separation, lymphocyte layer was separated using Ficoll 400

(pharmacia Fine Chemicals) washed three times with phosphate buffered saline (PH 7.2) then lymphocytes counted by Neubaur counting chamber, then the non viable lymphocytes were excluded by trypan blue exclusion test (Figure 1). Surface morphological changes of lymphocyte apoptosis were diagnosed by phase contrast and Interference contrast microscopy[14] (Polyvar Richert-Jung microscope), cell morphology regarded as the most specific hallmark of apoptosis[15]. Second: blood samples were processed for estimation of lipid peroxidation using thiobarbituric acid reactive species(MDA) according to (Satoh)[16], erythrocyte glutathione was estimated by Lang **et al** method[17], Ceruloplasmin which is an acute phase protein was estimated using spectrophotometric method of Menden *et al*[18], Zinc and Copper were estimated using atomic absorption spectrophotometer.

Statistical analysis done using unpaired student T- test, and correlation coefficient.

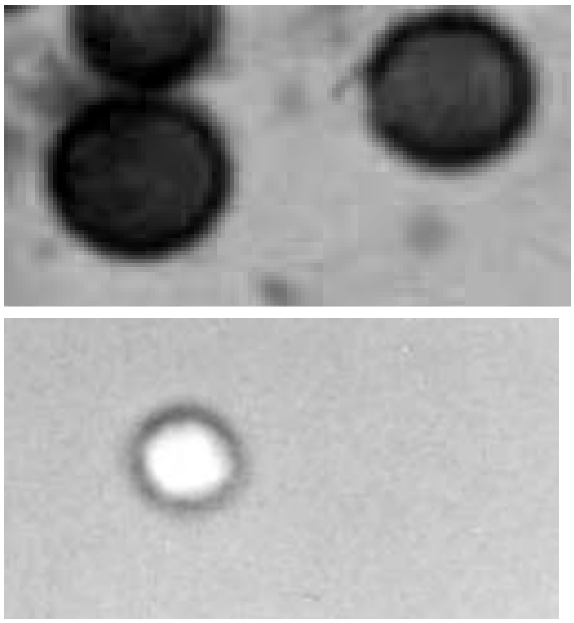

Figure 1: Lymphocyte viability assessed by trypan blue exclusion test; viable cells exclude the deye (bottom; while non viable cells stain with trypan blue (dark cell top)

Results

Morphological changes of lymphocyte apoptosis including membrane bleb formation, protrusion of echinoid spikes and lastly disintegration of cells into apoptotic bodies are shown in figure 2.

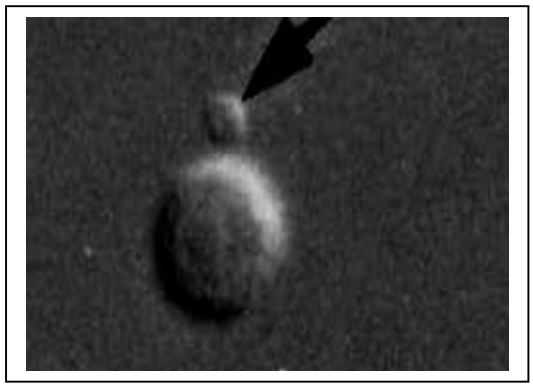

Figure 2: Peripheral blood lymphocyte seen by phase contrast microscopy membrane bleb formation (x 400 annular diaphragm)

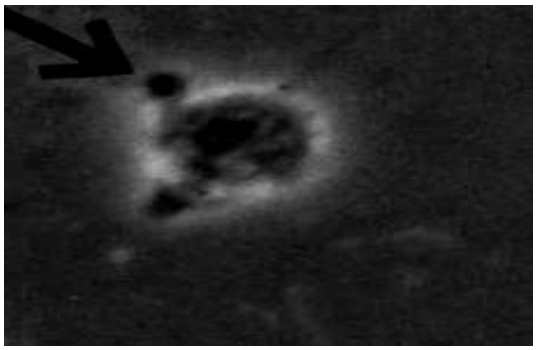

Figure 2: Peripheral blood lymphocyte showing multiple bleb formation (x 400 annular diaphragm)

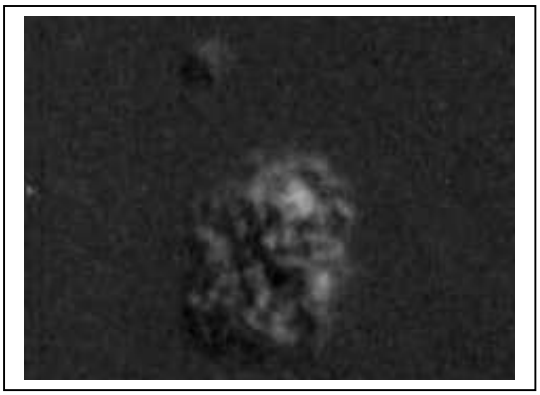

Figure 2: Peripheral blood lymphocyte showing complete destructions of the cell with the formation of apoptotic bodies: (x400annulardiaphragm)

As shown in the table 1 there was significant increase in lymphocyte apoptosis in preeclamptic ($p<0.05$) than normal pregnant, the increase in MDA level was highly significant $p<0.005$ the same thing applied to consumption of glutathione in preeclamptic patients $p<0.005$ .there was also positive correlation between increased apoptotic process and oxidative stress variables (MDA, thiol, Zn and Cu). These results simulate those seen by Diedrich in 2001.

In miscarriage there was also significant increase in lymphocyte apoptosis compared to normal pregnant ($p<0.05$) also there was strong positive correlation between apoptotic process and oxidative stress ($r=0.92$).

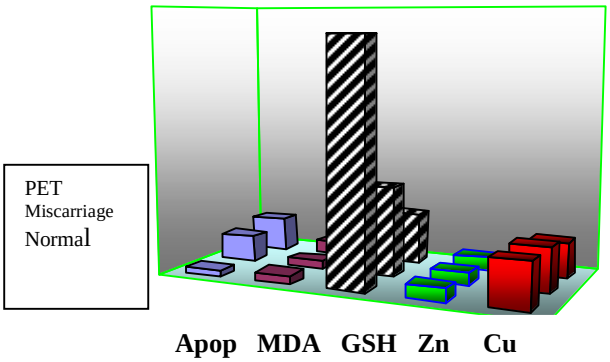

Figure 3: Over all changes associated with PET and Miscarriage; Cu,Zn,GSH, MDA, and %apoptotic lymphocyte .

Table1: Changes in % apoptotic cells and oxidative stress variables compared in normal pregnants miscarriage and PET

N =30	Normal	Miscarriage	P*	PET	P*
Apop. Cells %	3.02±0.35	15±2.52	Sig	19.58±3.96	Sig
MDA (mg/dl	4.7±1.09	4.36±2.31	ns	7.3±2.33	Sig**
GSH µm/L	136±48.3	50.2±10.04	Sig	28.8±8.76	Sig**
Zn mg/dl	0.75±0.10	0.74±0.04	ns	0.7±0.09	ns
Cu mg/dl	25.7±8.66	27.16±4.33	ns	19.58±6.96	ns

ns = non significant * = P<0.05, ** P <0.005

Discussion

An important prerequisite for a successful pregnancy is that maternal immune system does not reject the fetus, down-regulation of T-helper 1 (TH_1) associated cellular immune response could therefore be essential[20].

Apoptosis has been shown to regulate immunological over-reactivity and the level of TH_1 cells[20]. Fournel, et al had found enhanced CD95 ligand expression in peripheral blood lymphocyte suggesting that it may act as immunomodulator during pregnancy[21]. Elevated serum soluble Fas are associated with preeclampsia; such elevation might indicate protection of maternal T-lymphocyte apoptosis and consequently lead to the maternal immune intolerance noted in preeclampsia[22].

In the present study we found that lymphocyte apoptosis is significantly increased in cases of miscarriage as well as in pre-eclampsia (15% & 19% respectively compared to 3% in normal pregnancy). Also there was significant decrease in glutathione level in both preeclampsia and miscarriage which is in line with increased oxidative stress in both conditions[23], but we could not find significant difference in zinc and copper.

Daunter in 1992 has found controversial results regarding the total counts of T cell subset in the peripheral blood[23].

Gunter in 1998 found that the TH_1/TH_2 cytokine ratio in T cell of women during pregnancy and after delivery was significantly decreased[20]. In contrast the TH_1/TH_2 ratio was elevated to near normal in women with recurrent spontaneous abortion[20].

Apoptosis in decidual and villous cells have been studied in different pregnancy complications; Chiu in 2001 concluded that apoptosis activity in hydatidiform mole might be considered as a prognostic indicator for predicting the clinical behavior[24]. Li *et al* in 1999 concluded that mifepristone and misoprostol used for terminating human early pregnancy induce decidual and villous cells excessive apoptosis[25]. Qumsiyeh 2000 found that apoptosis of the stromal cells and cell proliferation in blood vessels and stoma play an important role in the differentiation and functioning of villi and that these changes could explain the etiology of spontaneous abortion and growth retardation of chromosomally abnormal embryos[26]. Shiraishi 1996 suggested that placental apoptosis caused by activation of maternal cytotoxic T lymphocytes may play important roles in the rejection of fetal allographts[27]. Fortunato 2000 suggested apoptosis as a possible pathway to metalloproteinase activation and fetal membrane degradation in premature rupture of membrane[28].

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TRACE ELEMENTS IN MALIGNANT LYMPHOMA

Subh S. Al-Mudallal* *M.Sc., FICMS Haem.,* **Raji Al-Hadithi*** *M.Sc., FABPath.,* **Marwan S. M. Al-Nimer**** *Ph.D.*

Abstract

Human malignant lymphomas are heterogeneous groups of tumors that differ in regard to clinical behaviour and survival. Many histological classifications had categorize the degree of malignancy of the neoplasm by histological, cytochemical, immunological and genetic criteria, but additional indices can be useful for a better definition of the aggressiveness of lymphoid tumors. Trace elements particularly copper (Cu) and Zinc (Zn) which are essential metals which are required for growth and proliferation of healthy cells as well as for normal lymphocyte maturation and regulation of immune function therefore the estimation of the intracellular concentration of these metals may be used as a marker alongside other biological indices to define the aggressiveness of the malignant lymphomas.

Aim: To determine the intracellular lymphocyte Cu and Zn and its relation with the grades of NHL and the histotypes of HD.

Patients & Methods: Trace elements Cu, Zn and Cu/Zn ratio was estimated in 42 patients with malignant lymphoma. Of them 23 patients had non Hodgkin's lymphoma (NHL) [age range 5-75 years] and 19 patients had Hodgkin's disease (HD) [age range 6-70 years]. They were compared with 19 age matched healthy control subjects [age range 7-70 years]. All patients were newly diagnosed and did not receive any medication. Intracellular lymphocyte Cu and Zn were estimated using flame atomic absorption spectrophotometer, Perkin-Ewer 400 and the classification and grading of the lymphoma were based on the Rye classification and N.C.I. system for HD and NHL respectively.

Results: intracellular Cu and Cu/Zn ratio were significantly high while intracellular Zn was insignificantly low when compared to control group. Moreover, only lymphocyte Cu had correlated with the grades and the histotypes of NHL and HD respectively.

Conclusion: Therefore, we may propose that in malignant lymphoma Cu and Cu/Zn ratio rather than Zn may be used as a diagnostic markers and for following up the patients alongside other biological indices, and that only intracellular Cu reflect the disease severity in NHL and therefore can be used as a prognostic marker.

Keyword: Malignant Lymphoma, Trace elements Cu, Zn and Cu/Zn ratio

Iraqi J Med Sci, 2004; Vol. 3(1):8-13

Introduction

Malignant lymphomas are a heterogenous group of malignancies of B cells and T cells that usually originate in the lymph nodes but may originate in any organ of the body[1]. It is divided into two main categories:

1. Non – Hodgkin's lymphoma (NHL). 2. Hodgkin's lymphoma (HD)[1,2].

According to the results of Iraqi Cancer Registry (1991-1997), NHL and HD were the fourth (6.2% of the total) and the tenth (2.5% of the total) most common cancer in Iraq respectively[3].

Copper (Cu) and Zinc (Zn) are biological elements that are called as trace elements because small amount of them are found in human body[4], however they are essential metals that are required for growth and proliferation of healthy cells and for normal lymphocytes maturation and regulation of the immune function[5], Moreover changes in the level of these elements may impair cellular and physiological functions[6], through changes in the activities of metalloenzymes which require a small and constant number of metal per mole to attain full activity. Therefore a minute variation in these elements cause significant changes in the activity of these enzymes[7].

Copper and zinc have been critically examined in the etiology of various diseases especially cancer. They may serve as useful indices, independent to any other hematological and biochemical tests[8].

The aim of the study includes:

1. To determine the intracellular lymphocytes Cu and Zn in patients with malignant lymphoma.
2. To evaluate the relation between the lymphocytes Cu and Zn and the grades of NHL and the histotype of HD.

* Dept. Clinical Pathology, College of Medicine, Al-Nahrain University.
** Dept. Paramacology, College of Medicine, Al-Mustansiriya University.
Address Correspondenc to Dr. Subh S. Al-Mudallal, Al-Adhamiya, District 332, Street 29, House No. 66. Tel. 4431402
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Patients & Methods

This study was conducted on 42 patients who attended the institute of Nuclear Medicine, Baghdad and Al-Kadhimiya Teaching Hospital. They include 19 patients with HD (11 males, 8 females. Age range is 6-70 years) and 23 patients with NHL (12 males, 11 females. Age range 5-75 years). All patients were newly diagnosed and did not received any medication. Additionally, 19 healthy subjects had served as control (16 males, 13 females. Age range 7-70 years) (Table 1).

Blood was collected in EDTA containing tube and was treated immediately with Ficoll-Hypaque (lymphocyte separation medium) for the separation of lymphocytes[9,10]. Intracellular lymphocyte Cu and Zn was estimated using flame atomic absorption spectrophotometer [Flam (AAS)], Perkin-Ewer 400.

The diagnosis of lymphoma was confirmed by two independent pathologists and the classification and grading of lymphoma was based on the Rye classification for the HD[2,11] and the N.C.I. system for the NHL[2,12].

The results are expressed as mean±SE of number of cases. The data was analysed by unpaired student "t" test and by the confidence interval of control taking $p<0.05$ as the lowest limit of significance.

Table 1: The demographic charactersitics of cases with malignant lymphoma

Character	Control	NHL	HL
No.	19	23	19
Sex:			
♂	10	12	11
♀	9	11	8
Age (year)			
Range	7-70	5-75	6-70
Median	27	50	24

Results

Forty-two cases with malignant lymphoma who were newly diagnosed and nineteen healthy subjects served as control were included in this study (Table 1).

On estimation of lymphocyte Cu in both NHL and HD, it was significantly high when compared with control value [$p<0.001$ and < 0.05 for NHL and HD respectively] (Figure 1) and (Table 2).

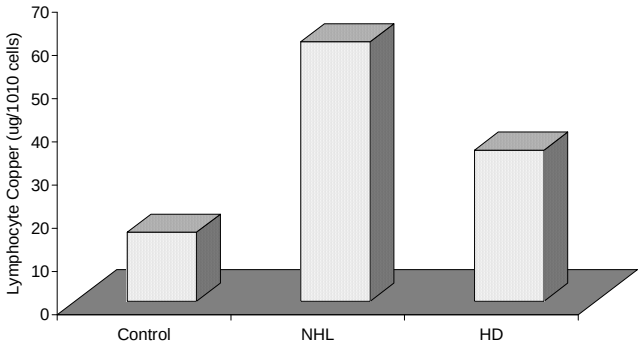

Figure 1: Concentration of lymphocytes copper (ug/10^{10} cells) of cases enrolled in this study.
NHL= Non Hodgkin's lymphoma, HD = Hodgkin's disease.

Table 2: The changes in lymphocytes trace elements of control and patients with malignant lymphomas

	Control	NHL	HL
Cu µg/10^{10} cell	15.8±1.8	60.48±9.78*	40.5±8.38***
Zn µg/10^{10} cell	75.42±9.63	68.34±12.64	73.8±14.4
Cu/Zn ratio	0.32±0.048	1.038±0.182*	0.53±0.082**#
Number of seperated lymphocytes x 10^6/ml	3.15±0.28	2.61±0.302	3.27±0.51

* = P<0.001 in comparison with control, ** = P<0.01 in comparison with control, *** + P<0.05 in comparison with control, # =P<0.01 in comparison with NHL.

Further analysis was done to evaluate the level of intracellular Cu in different grades of NHL in comparison with the control confidence interval [95% C.I.= 19.328-12.272]. It revealed that lymphocyte Cu in the high and intermediate grade had a high significant value. Moreover, the high grade had higher value than that of the intermediate which was higher than the lower grade (Table 3, Figure 2).

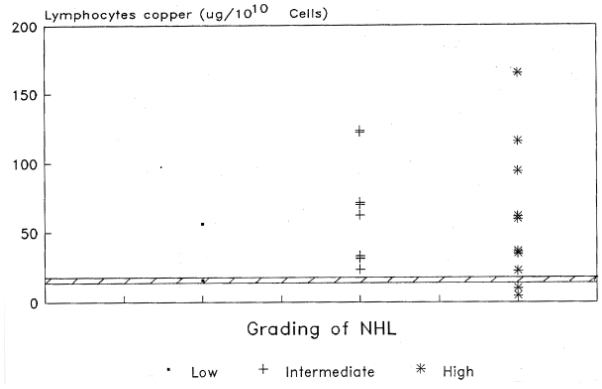

Figure 2: Distribution of lymphocytes copper (ug/10^{10} cells) according to the grading of non Hodgkin's lymphoma.
Shaded zone represents Mean±SE of controls value.

Table 3: Mean levels of lymphocytes trace elements of patients with NHL according to the grades

Grades	Cu µg/10^{10} cell	Zn µg/10^{10} cell	Cu/Zn ratio
Low (n =2)	15.55	14.2	1.095
Intermediate (n=10)	x =68.61 median =62	x =73.2 median =50.6	x =1.648 median =1.296
High (n=11)	x =104.96 median =55.83	x =81.24 median =33.8	x =1.134 median =1.14

But in HD although all the histological subtypes values were significantly high when compared to control confidence interval [95% C.I.= 19-32-12.272] ($p < 0.05$) (Table 4), but the value of the mixed cellularity was lower than that of nodular sclerosis and lymphocyte depleted subtype (Figure 3, Table 4).

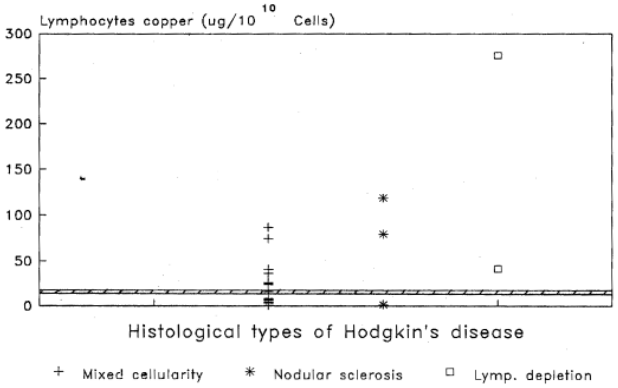

Figure 3: Distribution of lymphocytes copper level according to the histological types of Hodgkin's disease.
Shaded zone represents Mean±SE of controls value.

Table 4: Mean levels of lymphocytes trace elements of patients with HD according to the histological type

Histological type	Cu µg/10^{10} cell	Zn µg/10^{10} cell	Cu/Zn ratio
Lymphocyte predominance (n=0)	---	---	---
Mixed cellualrity (n=14)	x =27.61 median =23.66	x =63.4 median =33.24	x =0.469 median =0.39
Nodular sclerosis (n=3)	x =66.083 median =78.83	x =64.2 median =92.8	x =2.25 median =0.769
Lymphocyte depletion (n=2)	x =158.41 median =158.41	x =92 median =92	x =1.44 median =1.44

On estimating lymphocyte Zn in both HD and NHL there was an insignificant reduction in Zn level when compared with control value (Table 2, Figure 4).

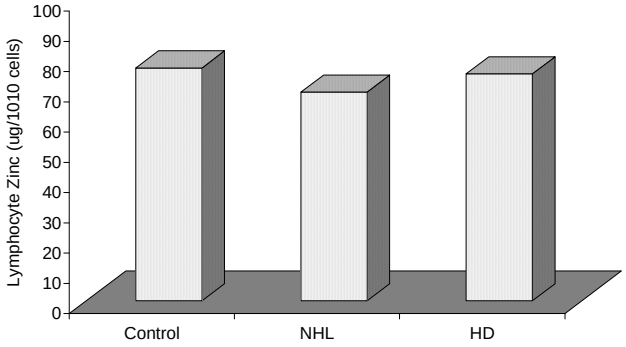

Figure 4: Concentration of lymphocytes zinc (ug/10^{10} cells) of cases enrolled in this study.
NHL= Non Hodgkin's lymphoma, HD = Hodgkin's disease.

Figures 5 & 6 and tables 3 & 4 showed a non significant correlation between lymphocyte Zn level and the grades of NHL and histotypes of HD respectively.

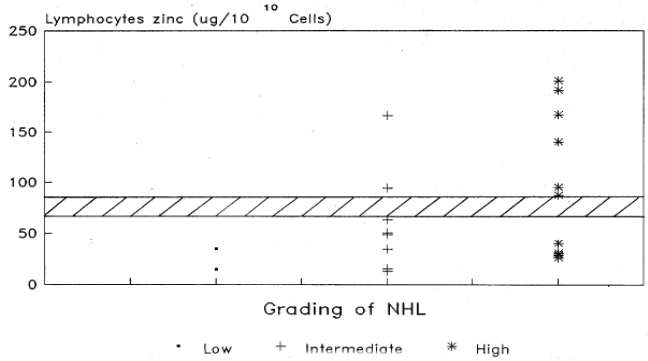

Figure 5: Distribution of lymphocytes zinc (ug/10^{10} cells) according to the grading of non- Hodgkin's lymphoma.
Shaded zone represents Mean±SE of controls value.

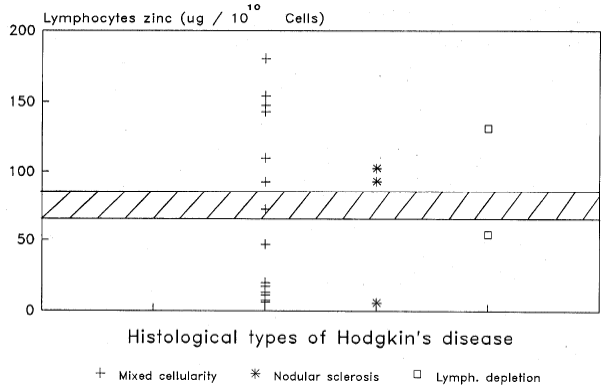

Figure 6: Distribution of lymphocytes zinc (ug/10^{10} cells) according to the histological types of Hodgkin's.
Shaded zone represents Mean±SE of controls value.

Furthermore Cu/Zn ratio was estimated in HD and NHL where there was a significant high value when compared with the control (Table 2 and Figure 7). Moreover the ratio in NHL was

significantly higher than that of HD. However there was no significant correlation between the lymphocyte Cu/Zn ratio and the grades of NHL or the histotypes of HD as shown in tables (3 and 4) and Figures (8 and 9).

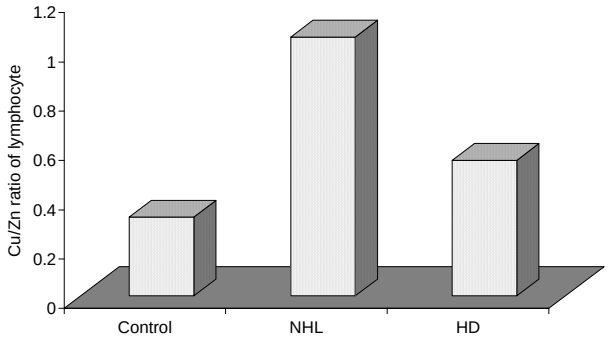

Figure 7: The values of Cu/Zn ratio of lympocytes of cases enrolled in this study.
NHL= Non Hodgkin's lymphoma, HD = Hodgkin's disease.

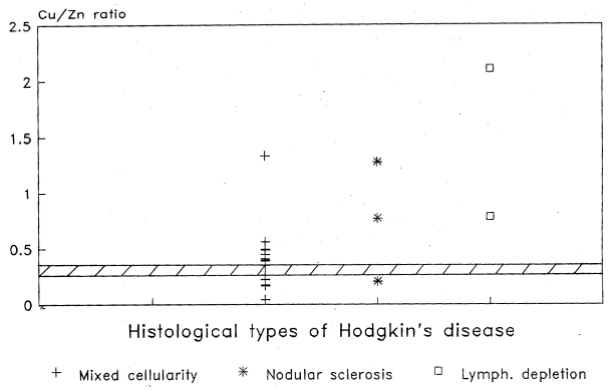

Figure 8: Distribution of lymphocytes Cu/Zn ratio according to the grading of non- Hodgkin's lymphoma.
Shaded zone represents Mean±SE of controls value.

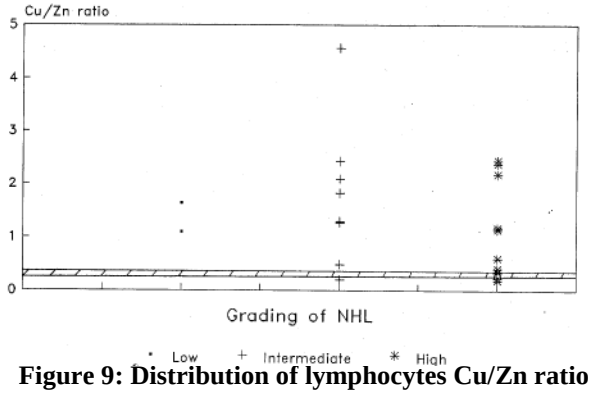

Figure 9: Distribution of lymphocytes Cu/Zn ratio according to the histological types of Hodgkin's disease.
Shaded zone represents Mean±SE of controls value.

Discussion

In the present study there was a significantly high and an insignificant low intracellular Cu and Zn respectively in both HD and NHL (Table 2, figures1 & 4).

Similarly Carpentieri *et al* had found that malignant lymphocyte whether they were separated from patient with acute lymphocytic leukemia[5] or they were grown in a media with optimum concentration of Cu and Zn[13], would show a significant high and insignificant low intracellular Cu and Zn respectively[5,13].

This may be explained by the effect of the increase in serum Cu particularly caeruloplasmin which was observed in various specific and non specific pathological condition and was attributed either to the increase in the release of the synthesized protein caused by the high turnover of the cells or to the induction of the protein synthesis or to both[14,15].

This increase in serum Cu had a deleterious effect on the cell membrane by oxidizing the sulphhydryl group in the membrane protein which will seriously impair the membrane flexibility, deformability and permeability[16].

Since Zn may act as a stabilizer of various biological membranes by interacting with the extrinsic macromolecule components of the membrane mainly the enzymes and/or directly with the intrinsic structure of the plasma membrane[17], therefore the low Zn level will affect the membrane stability as well.

This modification of the cell membrane may be a cause for the great changes in the concentration of many trace elements particularly Cu and Zn which was observed in malignant cells[5]. Whereas in normal cells there was an active regulation in the intracellular metal concentration at the membrane level[5].

Furthermore, two studies were done on lymphocyte Zn in malignant lymphoma [HD and NHL][18] and in acute lymphoblastic leukemia (ALL)[5]. Both of them showed an insignificant reduction in the intracellular Zn level when compared with control value[5,18]. This reduction was not associated with reduction in Zn serum level and was not corrected by oral Zn supplement or by changes in T and B cell ratio[5,18]. Therefore they had concluded that this cellular hypozincaemia was resulted from the defective uptake of Zn by the malignant cells and that mitogenic stimulation has no effect on zinc binding protein within the cells[5,18]. These changes was attributed to the modification in the cell membrane of the malignant lymphocytes[5].

Further analysis of the results of this study had revealed that there was a positive correlation

between the intracellular Cu and the grades of NHL (Table 3 and Figure 2). This was in agreement with many studies done on NHL which revealed that serum Cu directly correlated with the disease activity and the grades of the tumor[19-22].

Since serum Cu correlate with cellular Cu in malignant lymphocytes[5], and that cellular Cu and Zn reflect more accurately body copper status[23-25], therefore we may propose that intracellular Cu like serum Cu can be used as an auxiliary marker in the diagnosis, follow up and as a prognostic marker in NHL. Moreover, the exposure to copper dust had been considered as a predisposing agent since it had a close association with the incidence of NHL[26].

On the other hand in HD, this study is similar to many other studies[14,26,27] had revealed that there was a positive and a negative correlation between Cu and Zn level and the disease activity (regardless of their histological subtypes) respectively (Table 4, Figure 3 and 6). Therefore they had speculate that Cu as well as Zn level can be used to differentiate between active and inactive disease and in detecting early relapse (Figures 1, 2, 3, 4, 5 and 6).

Additionally, similar to many studies there was a significant rise in Cu/Zn ratio in both HD and NHL (Table 2, Figure 8). Therefore they had proposed that Cu/Zn ratio can be used as a tumor marker alongside other biochemical indices[28,29]. However, this increase in Cu/Zn ratio did not correlate with the grades or the histotypes of NHL and HD respectively. Similarly a study was done on patients with melanoma where they had a significant rise in serum Cu and serum Cu/Zn ratio and a non significant reduction in serum Zn, however neither Zn nor Cu/Zn ratio correlate with the disease activity, therefore they had speculate that the Cu/Zn ratio had only reflect the changes in serum Cu[30] (Figures 7, 8 and 9).

Conclusion

1. Intracellular Cu and Cu/Zn ratio rather than Zn may provide a simple and reliable auxiliary tumor marker for the diagnosis and the follow up of patients with malignant lymphomas.
2. Only intracellular Cu had reflect the disease severity in NHL, therefore may be used as a prognostic marker.

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SERUM ZINC, COPPER AND MAGNESIUM IN PATIENTS WITH BRAIN TUMOR

Yahya Y.Z. Farid* *Ph.D.*, **Hussein K.A. Hussein**** *B.Sc. M.Sc.*, **Sarmad Aziz***** *FICMS*

Abstract:

Background: Trace elements such as copper (Cu), zinc (Zn), and magnesium (Mg) have an important chemical and biological roles. Recently different modes of changes in their concentrations have been shown to be correlated with the prognosis in selected human malignancies including brain tumor.

Materials and Methods: Ninety three individuals were included in the present study, 28 with benign brain tumor, 31 with malignant brain tumors, and 34 normal healthy controls. Serum Cu, Zn, and Mg were determined before surgical removal of the tumor and one week after the operation using the atomic absorption spectroscopy.

Results: Results of this study revealed that serum copper was markedly elevated ($p<0.05$) in malignant brain tumor patients followed by benign tumor patients. There is a significant difference in serum zinc in malignant brain tumor cases as compared with healthy controls. Serum magnesium in benign brain tumor patients was significantly different as compared with either control or malignant brain tumor. The surgical removal of the tumors lead to decrease serum copper and increase serum zinc as compared with their base level before surgery and they were directed to be within the normal ranges of the healthy control.

Conclusion: There is a different change in the level of trace elements in serum of brain tumor patients as compared with control and also before and after surgery. Further investigation needed to estimate the accurate causes of these changes.

Keywords: Zinc, Copper, Magnesium, Brain tumor, Cancer, Trace elements

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Introduction

Although the mineral elements constitute relatively small amounts of total body tissues, they are essential to many vital processes. Hence, the study of the level of some important trace elements in different disease is the field of extensive studies in recent years[1-2].

In malignant tumors, the estimation of trace elements level in different body tissue may give different profiles depending on the type and location of cancer[3-4]. Serum copper for example was markedly elevated in bronchial carcinoma; while serum zinc was significantly reduced compared with healthy control[5]. Timer *et al* found that zinc partly inhibited the metastasis of lung carcinoma[6]. A plasma copper was slightly increased in benign breast cancer and significantly increased in malignant breast cancer as compared with control group, while zinc level in all groups was not statistically significant[7].

There is important role of zinc, copper and magnesium in the development of normal brain function. There is a link between severely deregulated metal-ion homeostasis and the selective neuronal pathology[8]. Copper is a constituent of dopamine-beta hydroxylase, the critical enzyme in a catecholamine biosynthesis pathway[9]. Angiogenesis (new blood vessel growth) is very important process for the tumor growth and a sufficient level of copper appears to be required for angiogenesis and also many angiogenesis promoters appear to be dependant upon copper level[10]. Synthesis of serotonin which is necessary for melatonin synthesis involves zinc enzymes; zinc deficiency may result in low level of both hormones[11]. Zinc deficiency in injured brain causes a profound gliosis in the area surrounding the lesion, along with a severe damage to neuron[12].

A number of studies have demonstrated that the neurological motor and cognitive deficits induced by traumatic brain injury can be attenuated with administration of magnesium salt[13]. Magnesium is very necessary for the production of energy released by the ATP hydrolysis which significantly reduced in many diseases[14].

* Dept. Chemistry & Biochemistry, College of Medicine, Al-Nahrain University, ** Dept. Chemistry, College of Science, Karbala University, *** Dept. Surgery-Division of Neurosurgery, College of Medicine, Al-Nahrain University.

Address Correspondence to: Dr.Yahya Y.Z. Farid, E-mail: Yahya1@uruklinik.net

From all of the above importance of these three elements in the brain functions and diseases we have measured the serum level of zinc, copper and magnesium in patients with different brain tumors either benign or malignant and also the level of these metals were measured after surgical interferences as possible tools for the follow up of the patients status.

Subjects & methods

Patients:

Blood samples were drawn from 59 patients with different brain tumor referred to the universal hospital of Iraqi college of medicine for surgical intervention. The patients with benign tumors were 28 patients (17 patients with meningioma, 7 patients with schwanoma, and 4 patients with dorsal neurofibroma). The tumor in these patients is removed totally by surgery. Patients with malignant tumors were 31 cases (16 patients with glioma, 6 patients with glioblastoma, 4 patients with medullary blastoma, 5 patients with brain metastases from breast and lung carcinoma). 34 healthy peoples were taken as control.

Venous blood samples were collected before initiating the operation, and seven days after operation .Sera were separated and kept at (-20^{o}C) until analysis.

Assay: 0.1ml of serum diluted to total volume of 1ml using 6% n-butanol solution analyzed for their copper and zinc contents using atomic absorption spectrophotometer (Schimadzu AA-646). Copper and zinc hallow cathode lamps were used at wavelengths of 324.75 nm and 213.9 nm respectively. The assay for magnesium estimation was carried out by adding 4.9 ml. of (1% Lanthanum chloride) solution to 0.1 ml. of serum. These solutions were aspirated directly into air-acetylene flame and the magnesium hallow cathode lamp were used at wavelength 285.2 nm.

Statistical methods

The results were analyzed statistically, and values were expressed as (mean ± standard deviation). The level of significance was determined by employing (t-test). Only when the (p) value was less than 0.05 was the difference between two groups considered statistically significant.

Results & Discussion

The mean and standard deviation values of serum copper of healthy controls and patients with brain tumor are presented in Table 1. Results of the patients with benign and malignant brain tumors before and after surgical removal of the tumors are also recorded. There is a significant increase ($p<0.05$) in serum copper of patients with benign and malignant tumors in comparison with healthy controls. While there is no significant difference between the patients with malignant and benign brain tumors. These results can be explained by considering the fact of angiogenesis process in the two types of tumors. The rapid cell division process requires a suitable blood supply and the angiogenesis process is very important and very active in the brain tumor tissue[10]. It reported that copper is very necessary to this process[10]. Copper which is important in the development of the brain[15] and is also involved in many neurological diseases[16,17] is transported in serum bound initially to albumin and later more firmly bound to cerruloplasmin where it is exchanged in the cupric form[18]. Cerruloplasmin is one of the acute phase reactant proteins which increased in acute inflammation and in neoplastic diseases[19] leading to increase the copper in serum of the patients with brain tumors. Some workers[10,20] used chelating agent therapy to reduce copper in animal tumor models. They found that the decrease in blood copper leads to stabilize tumor growth and the results also found to be encouraging in human patients with a variety of advanced and metastatic malignancies[10,20]. Yoshida *et al*[4] found that metastatic carcinoma and malignant gliomas revealed significantly higher tissue copper concentration than tissue of control and maningiomas.

Serum copper was significantly higher in metastatic carcinoma group than control. Serum copper is significantly decreased ($p<0.05$) after surgical removal of tumors. The benign tumors were totally removed while the malignant tumors were partially removed. This may be due to the fact that, after one week of operation the inflammatory response would be reduced and hence the level of acute phase reactant proteins (including cerruloplasmin) tend to be within normal range.

Table 1: Serum copper in healthy controls and patients with brain tunors

Parameter	S. Copper Mean±SD µmol/L	Compared Groups	P value
Healthy Controls	21.4±6.2	Benign Vs control	0.0095
Benign:			
Before surgery	27.2±9.1	Before Vs after surgery	0.0003
After surgery	22.9±7.9	Malignant Vs control	0.0210
Malignant:			0.0456
Before surgery	33.1±9.4	Before Vs after surgery	
After surgery	24.1±9.2	Benign Vs malignant (before surgery)	0.8760

Table 2 showed that the serum level of zinc is not changed in the patients with benign brain tumors as compared with controls. Also there is no change in serum zinc after removal of benign tumors .This has been seen in other types of tumors such as benign breast cancer[21]. The results revealed that there is a significant decrease between malignant brain tumors as compared with either control and benign brain tumor. These results indicate that the change in serum zinc is involved in the malignant tumors as shown by different workers who studied the malignant tumors in different organs[22].

The partial removal of the malignant brain tumor leads to maintain normal serum zinc level as compared with the serum zinc before surgery. This result confirms the concept of dependence of serum zinc level on the malignancy of tumor tissue. In addition to the fact that the rapid growth of cells requires an increase in the demand of cells to zinc and hence there is a decrease in serum zinc.

Table 2: Serum zinc in healthy controls and patients with brain tumors

Parameter	S. zinc Mean±SD µmol/L	Compared Groups	P value
Healthy Controls	16.9±2.7	Benign Vs control	0.03426
Benign:			
Before surgery	12.4±3.9	Before Vs after surgery	0.8964
After surgery	13.6±6.6	Malignant Vs control	0.000006
Malignant:			
Before surgery	9.5±3.8	Before Vs after surgery	0.01232
After surgery	15.4±7.3	Benign Vs malignant (before surgery)	0.00543

Serum magnesium in benign, malignant, and controls are shown in Table 3. The results have revealed that there is a significant difference between both benign and malignant brain tumors as compared with healthy controls. There is a significant difference between serum magnesium in malignant and benign groups'. Also the surgery has no effect on the serum magnesium after one week of operation.

Table 3: Serum magnesium in healthy controls and patients with brain tumors

Parameter	S. zinc Mean±SD µmol/L	Compared Groups	P value
Healthy Controls	2.28±0.49	Benign Vs control	0.00087
Benign:			
Before surgery	1.78±0.62	Before Vs after surgery	0.87210
After surgery	2.06±0.43	Malignant Vs control	0.986744
Malignant:			
Before surgery	2.02±0.54	Before Vs after surgery	0.03589
After surgery	2.15±0.47	Benign Vs malignant (before surgery)	0.045369

In cellular systems, magnesium is a second most abundant element and is involved in basically all metabolic pathways[22]. Magnesium is very necessary for the cell metabolism and production of energy released by the ATP hydrolysis which is significantly reduced in brain in many diseases[14]. Hence the change in serum magnesium is significant in the uncontrolled production state either benign or malignant tumors as compared with controls.

Conclusions

Brain tumors are associated with various changes in the serum concentration of copper, zinc, and magnesium. Serum zinc was increased and serum copper was decreased after surgical removal of the tumor.

Recommendations

Study of trace elements in brain tumor patients are required using a higher number of cases. In addition to study serum trace elements at different intervals after operation to estimate the accurate causes of the changes in these parameters.

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EVALUATION OF SOME SERUM ENZYMES LEVELS IN BREAST CANCER PATIENTS

Nidhal Abdul-Mohymen*, *B.Sc., Ph.D.*, **Bushra M. Mahmood**** *B.Sc., Ph.D.*, **Farouk K. Hassan***** *B.Sc., Ph.D.*

Abstract

Background: Breast cancer is the most common gynecological malignancy in many parts of the world. It is the major cause of death for women, and its occurrence has a particular relevance to women's health worldwide. The etiology of breast cancer appears to be multifactorial, since both. Endogenous and exogenous factors are known to increase breast cancer risk

Objective: Detection of some prognostic factors in sera like LDH, ADA.

Patients & Methods: Seventy-three patients with breast tumor were included in this study. Sixty-two with malignant breast cancer and 11 with benign breast tumor. The malignant breast tumor included: 8 patients with Intraductal carcinoma (IDC), 5 with Lobular carcinoma (LC), 49 patients with and infiltrative ductal carcinoma which in turn divided into 11 with well differentiated ductal carcinoma (WDC), 12 patients with moderately differentiated ductal carcinoma (MDC), and 26 patients with poorly differentiated ductal carcinoma (PDC). All cases were admitted to Al-Yarmouk Teaching Hospital and Medical City, during the period from December 1999 to January 2001. Detection of some prognostic factors in sera like Lactic acid dehydrogenase LDH, and adenosine deaminase (ADA), were detected.

Results:

The results indicated that serum levels of LDH were elevated in PDC (267.9±24.01) and in MDC (200.0±37.4).Other types as well as benign tumor were found within the normal range values (80-190) u/L. Serum levels of ADA were elevated in PDC type (32.7±5.21) and slightly elevated in LC. There were no significant differences between malignant types and benign breast tumor ($P<0.05$) whereas significant differences were recorded between healthy control and other types of tumors ($P>0.05$).

Conclusion: The application of enzyme assay (ADA, LDH) is of prognostic value

Key words: Breast cancer, ADA, LDH.

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Introduction

Lactate dehydrogenase is one of the non-plasma specific enzymes. The concentration of such enzyme in tissue is very high, compared with that in plasma[1]. It is widely rich in mammalian tissues, being rich in myocardium, kidney, liver and muscle; it catalyzes the reversible oxidation of lactate to pyruvate with the oxidation of NADH to NAD[2]. LD levels usually are normal in-patients and animals with small, localized carcinomas, whereas levels are increased in those with distant metastases or even local extension. The highest value occurs in patients with metastases to the liver, although increased levels are also found in some patients with only extrahepatic metastases or extension[2].

Adenosine deaminase (ADA), (adenosine amino hydrolase, EG 3.5.4.4), is the enzyme that irreversibly catalyzes the hydrolytic deamination of adenosine and deoxyadenosine to inosine respectively and ammonia[3]. A unit of activity of this enzyme is defined as the amount of enzyme that deaminates one micromole of substrate per minute, under specific steady assay condition. The normal value of ADA in serum range from 2-17 u/L[4]. Studies have suggested a critical role for ADA activity in the normal development of the immune system[5,6]. These studies indicate that a deficiency in this enzyme in human result in an autosomal recessive type of sever combined immunodeficiency diseases (SCID), which is characterized by the loss of both T- and B-cell function[7]. The activity of ADA seems to vary in a number of diseases. Elevated serum ADA has been reported in carcinomas[8]. Patients with acute lymphoblastic leukemia have increased level of ADA activity in their T-cells[9]. However, in some cases of lymphoblastic leukemia, low levels of ADA were found. The levels increased as chemotherapy was introduced[10]. Fluctuated activity of ADA in serum has also been found in breast cancer[11]. The specific activity of ADA

* Dept. Medical Microbiology, College of Medicine, Al-Nahrain University. ** Dept. Microbiology, College of Medicine, Al-Mustansiriya University.

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Address Correspondence to Dr. Nidhal abdul-Mohymen

measured in serum, of breast cancer patients, shows different value according to the stage of the disease comparing with the control group[12]. In this study we intended to detect some of the prognostic factors in sera like LDH, ADA in breast cancer patients.

Patients & Methods

A total of seventy-three patients presented with breast tumor, were included in this study. The patients were admitted for surgery at Medical City and Al-Yarmok teaching hospital. The history as well as personal information, about each patient was obtained through a form which is developed to fulfill the aims of this study. The patients mentioned were grouped according to their histopathological finding into

Group 1: includes 11 patients with benign breast tumors.

Group 2: includes 62 patients with malignant breast tumors.

Those patients were of two categories: 26 post menopausal patients and 36 pre menopausal patients. The histopathological finding of all patients was tabulated according to Bloom & Richardson grading system (1957) and as presented in Table 1. Twenty apparently healthy women were included as a control. Those ladies had similar age range with those of the patients. Serum of venous blood of patients and control subjects under investigation were collected aseptically, serum of 20 healthy women were included in this study as control

Table 1: Type of specimen tumor under investigation based on Bloom & Rrechardson (1957)

Group	Type of tumor	Number
Malignant breast tumor	WDC	11
	MDC	12
	PDC	26
	IDC	8
	LC	5
Benign breast tumor	Fibroadenoma	4
	Fibroadenosis	6
	Epitheliosis	1

Enzyme Assays:

Adenosine deaminase assay: The method for assay of ADA adopted is based on measuring the rate of ammonia consumption at 620 nm following the reaction. The activity was determined in the serum according to Giust (1981)[14].

Lactate Dehydrogenase (LDH): A colorimetric method was followed in estimation of LDH activity. The principle of this method is based on the reduction of pyruvate to lactate in the presence of NADH by the action of lactate dehydrogenase. Kit of RANDOX UK was used.

Results

The results tabulated in table 2 showed the mean values and standard deviation of LDH activation in different type of malignancies and in benign breast tumor. Serum levels of LDH were elevated in PDC (267.9±24.01) and in MDC (200.0±37.4).Other types as well as benign tumor were found within the normal range values (80-190) u/L. There was highly significant difference between malignant type when compared to normal tissue LDH activity (P=0.0022).

Table 2: Mean±SD of LDH level in different tumor types

Type of tumor	No. of cases	Mean±SD
IDC	8	59.8±9.5
LC	5	82.2±26.5
MDC	12	200±37.4
PDC	26	32.7±8.2
WDC	11	12.9±2
Total malignant	62	64.6±45
Benign tumors	11	12.9±2

P = 0.002

Table 3 shows mean values and standard deviation in different types of malignancies and in benign breast tumors. Serum levels were elevated in PDC type (32.7±5.21) and slightly elevated in LC. There is no significant differences between malignant types and benign breast tumor (P<0.05) whereas significant differences were recorded with healthy control (P>0.05).

Table 3: Mean±SD of ADA enzyme activity in different tumor types

Type of tumor	No. of cases	Mean±SD
IDC	8	1.76±4
LC	5	20.8±0.6
MDC	12	7.4±3.9
PDC	26	32.7±8.2
WDC	11	13±2
Total malignant	62	16.6±30
Benign tumors	11	17.5±2.8
Control	20	16.5±5

P<0.05 between all types, P>0.05 health controls Vs other types

Discussion

One of the best-characterized features of tumor growth is the associated alteration in the enzyme and isoenzyme pattern of tissue in the host organism[15]. LDH is one of the enzyme systems preferentially produced and retained by cancer cells, being necessary to maintain tumor growth[16]. When the LDH isoenzyme are released from neoplastic tissue in the serum, the LDH isoenzyme pattern of serum changes. There have been several reports of anomalies in the synthesis and total LDH activity as well as in the pattern of LDH isoenzymes that correlate with cancer in humans[17].

In these data, the mean concentration of serum LDH was significantly elevated in PDC and MDC groups, this in agreement with previous study which showed significant differences in enzyme activities between benign and malignant neoplasms of the breast when compared with each other and when compared with healthy control, also there were significant enzyme changes between non-metastatic and those with metastasis and when stage I, II cancer were compared with those in stage III and IV. Another study in Iraq[18], recorded an extra band migration anodally to LDH, they observed only an additional LDH band but no other abnormalities in the electrophoretic mobility of LDH isoenzymes. This abnormal band disappeared shortly after surgical removal of tumor and after chemotherapy or radiotherapy was begun.

Our data and others may suggest that this assay may have potentially clinical usefulness, at least for follow-up studies of malignant disease and as indicator for bad prognosis.

ADA deficiency in humans results in an immunodeficiency characterized by severe reduction in T, B and NK cells[19]. The metabolic disturbances associated with ADA deficiency induced apoptosis in developing thymocytes in vivo. Peripheral T and B cells were abnormal in ADA/mice as reflected in the expression of cell surface marker and localization in different zone of lymphoid organ. In addition, mature T cells recovered from spleen of ADA/mice were defective with their regard to their ability to functionally signal through the TCR[20].

In our data, elevated ADA activity was recorded in PDC and LC and there was significant elevation, in comparison with healthy control. Cancer cells have increased ADA activity and this might be a physiologic attempt of the cancer cells to provide more substrate needed by cancer cells to accelerate the salvage pathway activity. Furthermore, high ADA activity might also a play role in the detoxification process of high amount of toxic adenosine and deoxyadenosoduced from celerated purine metabolism in the cancerous tissue.

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RIGHT AND LEFT VENTRICULAR DYSFUNCTION IN PATIENTS WITH CHRONIC LUNG DISEASE, ECHOCARDIOGRAPHIC STUDY

Hashim M. Hashim* *FRCP*, **Nabil A. Antowan**** *DCH, Ph.D.*, **Abbas F. Hlahel*** *MBChB*

Abstract

Aim: To evaluate right and left ventricular function in patients with chronic lung disease by echocardiography

Patients & methods: 50 patients with different chronic lung disease (obstructive, restrictive and vascular lung disease) admitted to the teaching hospital / Iraqi medical college were evaluated by clinical examination and investigations (Chest x-ray, ECG, Echocardiography and Pulse oximetry) to assess the right and left ventricular function in relation to chronic lung disease.

Results: The results in this study showed that 40 patients had obstructive lung disease, 7 patients had restrictive lung disease and 3 patients had vascular lung disease. 100% of the patients with vascular lung disease, 65% of the patients with obstructive lung disease and 42% of the patients with restrictive lung disease were diagnosed with right ventricular dysfunction which was inversely related to O_2 saturation LV dysfunction was rarely diagnosed in patients with chronic lung disease. It was also found that 59% of the patients diagnosed with RV dysfunction by echocardiography had shown ECG criteria of RVH on ECG examination.

Conclusion: Right ventricular dysfunction is common in patients with second stage chronic lung disease especially when O_2 saturation is >90%, the presence of left ventricular dysfunction is related to RV dysfunction through ventricular interdependence.

Keywords: Right and left ventricular dysfunction, chronic lung disease, Echocardiography.

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Introduction

More than half of the patients with chronic obstructive lung disease had Rt. V dysfunction especially those with ventilatory failure and worsening of pulmonary hypertension[1].

Corpulmonale occur in the setting of two distinct disorders, those associated with abnormal gas exchange where chronic obstructive lung disease is the leading cause and those associated with pulmonary vascular obstruction where primary pulmonary hypertension is the leading cause, and RV ischemia volume and pressure overload are involved in the pathogenesis of RV failure[2].

Despite potential limitations due to severe obstructive lung disease surface echocardiography imaging is feasible non invasive tool in this patient population to identity patients with evidence of corpulomonale that suggest pulmonary hypertension[3].

* Dept. Medicine, ** Dept. Clinical Physiology, College of Medicine, Al-Nahrain University.

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Address correspondence to Dr. Nabil A. Antowan.

In many patients with chronic lung disease (CLD), it has been shown that abnormal early LV systolic function is correlated with a decline in the RV function which deviate the inter ventricular septum and lower the left ventricular preload[4], LV dysfunction is seen more frequently with deterioration of respiratory function in patients with CLD[5] and recently it was found that nitrous oxide production is inversely related to the development of corpulmonale in patients with severe chronic obstructive pulmonary disease[6].

This study was conducted to evaluate RV and LV function in different respiratory disease in relation to O_2 saturation using echocardiography.

Patients & Methods

Cross section study of 50 patients with chronic lung disease admitted to Al-Kadhimiya Teaching Hospital in Baghdad was carried out from 1st March to 1st October 2002.

The patients included in this study were 27 male (54%) and 23 female (46%), the age range was from 12-80 years.

Clinical examination, pulmonary function test and chest x-ray were done for all the patients to evaluate the severity and type of the different CLD (obstructive, restrictive and vascular lung disease). Right and left ventricular dysfunction was assessed by using ECG and echocardiography pulse oximetry, anon invasive method was used to assess the arterial oxygenation. O_2 saturation of 90% was considered equal to PO_2 60 mm Hg.

Results

In this study the spirometry results showed that 40 patients (80%) had obstructive lung disease, 7 patients (14%) had restrictive pattern of the lung disease and only 3 patients (6%) had vascular lung disease (Table1).

Table 1: Types of chronic lung diseases

Chronic lung disease	Patients	
	No.	%
Vascular	3	6
Obstructive	40	80
Restrictive	7	14

26 patients out of the 40 patients with obstructive lung disease were diagnosed with Rt. V dysfunction on echocardiography examination, and 25 of them (96%) had O_2 saturation <90% whereas 3 patients out of the 7 patients with restrictive lung disease were diagnosed with Rt. V dysfunction and 3 of them (100%) had O_2 saturation <90%, similarly 3 patients with vascular lung disease had Rt. V dysfunction but only one of these patients (33.3%) had O_2 saturation >90% (Table 2a).

Table 2a: O_2 saturation and Rt. V. dysfunction in chronic lung disease

Chronic lung disease	No.	Rt. V dysfunction	O_2 <90%
Vascular	3	3 (100%)	1 (33.3%)
Obstructive	40	26 (65%)	25 (96%)
Restrictive	7	3 (42%)	3 (100%)
Total	50	32 (64%)	29 (91%)

The rest of the patients with obstructive lung disease (14) had no Rt. V dysfunction and 9 of them (64%) had O_2 saturation >90%, also the rest of the patients with restrictive lung disease (4) had no R.V. dysfunction and 3 of them (75%) had O_2 saturation >90% (Table 2b).

Table 2b: O_2 saturation in chronic lung disease without Rt. V dysfunction

Chronic lung disease	No.	Without Rt. V dysfunction	O_2 <90%
Vascular	3	0	0
Obstructive	40	14 (35%)	9 (64%)
Restrictive	7	4 (57%)	3(75%)
Total	50	18 (36%)	12 (67%)

So that means 65% of the patients with obstructive lung disease had Rt. V dysfunction, 42% of the patients with restrictive lung disease had Rt. V dysfunction and 100%of the restrictive lung disease had Rt. V dysfunction (Table 2a & 2b).
The results in this study also showed that none of the patients with restrictive lung disease or with vascular lung disease had Lt. V dysfunction but one patient only with restrictive lung disease (25%) had Lt. V dysfunction (Table 3).

Table 3: Prevalence of Lt. V dysfunction in chronic lung disease

Chronic lung disease	No.	Lt. V dysfunction
Vascular	3	0
Obstructive	40	1 (2.5%)
Restrictive	7	0

Both Rt. & Lt. ventricular dysfunction was found in 5 patients with obstructive lung disease (12.5%), similarly it was found in one patient with restrictive lung disease (14.3%) and in one patient (33.3%) with vascular lung disease (Table 4).

Table 4: Association of Rt. V & Lt. V dysfunction in chronic lung disease

Chronic lung disease	No.	RVH by ECG
Vascular	3	1 (33.3%)
Obstructive	40	5 (12.5%)
Restrictive	7	1 (14.3%)

RVH criteria was found in ECG of all the patients with vascular lung disease diagnosed with RVH on echocardiography, also14 patients with obstructive lung disease (54%) diagnosed with RVH on echocardiography had RVH criteria on ECG

examination and similarly 2 patients with restrictive lung disease (67%) diagnosed with RVH on echocardiography had RVH criteria on ECG examination (Table 5).

Table 5: Association between Echo and ECG criteria in detecting RVH

Chronic lung disease	RVH by Echo	RVH by ECG
Vascular	3	3 (100%)
Obstructive	26	14 (54%)
Restrictive	3	2 (67%)
Total	32	19 (59%)

Discussion

Although cur culminate is not uncommon. The prevalence of right ventricular dysfunction in patients with severe pulmonary disease remains uncertain likewise the prevalence of left ventricular dysfunction in advanced lung disease is not known and the concept of Lt. V dysfunction caused by Rt. V dysfunction is controversial.

The presence of R.V. dysfunction is correlated with O_2 saturation since hypoxia is one of the major determinants of pulmonary hypertension[7]. In this study O_2 saturation >90% was shown in 29 patients out of 32 patients (91%) with Rt. V dysfunction, this was clearly seen in patients with obstructive & restrictive lung disease but less evident in patients with vascular lung disease. This goes with Vizza study[8] in which patients with pulmonary hypertension had higher O_2 saturation. However 12 patients out of 18 patients had no Rt. V dysfunction (67%) also showed higher O_2 saturation.

This is explained by haemodynamic profile between pulmonary hypertension and parenchymal lung disease[9], In contrast to right ventricular dysfunction left ventricular dysfunction was rarely present in patients with CLD, this is similar to other studies[10] which showed that Lt. V dysfunction occur infrequently. The presence of Lt. V dysfunction without Rt. V dysfunction is unusual in patients with advancing lung disease and primary cardiovascular disease should be considered when Lt. V dysfunction is out of proportion to the degree of Rt. V dysfunction[11].

Both Rt. V and Lt. V dysfunction are present in 7 patients with CLD. This relationship between Rt. and Lt. ventricular function suggest ventricular interdependence when R.V. dilation can compromise left ventricular function by shifting the interventricular septum[5]. In this study 19 patients out of 32 patients with Rt. V dysfunction (59%) had ECG criteria of RVH where the sensitivity for RVH was 64%, which is higher than the results of Inzaizi study where the sensitivity for RVH was 44%. This difference may reflect the severity of Rt. V dysfunction in our patients.

Conclusions

1. Rt. V dysfunction is common in patients with end stage chronic lung disease specially those with O_2 saturation is < 90%.
2. Lt. V dysfunction is rare in patients with CLD.
3. Rt. V and Lt. V dysfunction probably reflect ventricular interdependence.
4. Patients with ECG criteria of RVH is more likely to have RVH by
5. Echocardiography especially in those with vascular lung disease.

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ANTIBODY RESPONSE AMONG SEROPOSITIVE INDIVIDUALS AFTER MEASLES VACCINATION

Ismail I. Latif *M.Sc., Ph.D.*, **Layla S. Al-Omar** *B.Sc., Ph.D.*, **Nidal Abdul-Muhymen** *B.Sc.,Ph.D.*

Abstract

Background: Measles is one of the leading causes of childhood mortality worldwide. A live-attenuated vaccine controls measles infection in industrialized countries, and measles has been targeted by the WHO for global eradication following the eradication of poliomyelitis.

Objective: To determine the antibody response to measles virus in seropositive volunteers after vaccination with live attenuated measles vaccine.

Methods: Fifty two measles virus seropositive normal volunteers have been enrolled in this study, they were 36 males and 16 females, their age ranged between 15-45 years. 26 of them were vaccinated with measles virus vaccine and 26 were injected with diluent supplied with measles virus vaccine (placebo). Antibodies against measles virus were detected in volunteer's sera prior to, one and four weeks after vaccination, using ELISA method.

Results: There was marked rising in the mean of antibodies after vaccination, the OD readings were 1.72 and 1.95 during first and fourth week respectively. Data analysis showed that there was a significant difference of OD value among seropositive vaccines. And there was a significant elevation of serum antibody in the first week, but the fourth week had very high OD readings, which may reflect an increase in the concentration of antibodies.

Conclusion: Measles virus vaccine was safe, and at the same time effective. There was no evidence of transient suppression of the humoral immune response and there was an elevation of serum antibody titer among vaccinated individuals.

Key words: Antibody, seropositive, measles vaccination

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Introduction

Measles is one of the leading causes of childhood mortality world wide, in addition to causing an acute respiratory infection. Measles is associated with profound transient suppression of cell-mediated immunity[1]. This immuno-suppression contributes to the major complications of measles: pneumonia, diarrhea, and other secondary infections; in rare cases, measles can also cause encephalitis and persistent infection of the central nervous system[2].

A live-attenuated vaccine controls measles infection in industrialized countries, and measles has been targeted by the World Health Organization (WHO) for global eradication following the eradication of poliomyelitis[3].

Thus, while eradication is a primary goal, frequent reemergence of measles in many countries[4]. During 1997-1998 in Eastern Mediterranean Region the number of cases reported increased by 58% from previous outbreak, outbreaks were reported in Iran, Syria, Saudi Arabia, and Morocco[5].

In our country an outbreak of measles had occurred at the same period[6]. So our aim as a preparation for an anticipated Global Measles Eradication Programme in Iraq, and to check the potency of the available measles virus vaccine.

Subjects & Methods

Subjects

A total 52 apparently healthy volunteers were included in this study, their ages ranged from 15-45 years, (36 males and 16 females). The volunteers were age and sex matched, and was subdivided into two groups.

Group 1: Included 26 individuals, they were vaccinated with measles vaccine. The mean age group was (30.2) year. (69.2%) of them were males and 30.8% were females.

Group II (control) Included 26 individuals, they were injected with the diluent supplied with measles vaccine (placebo). The mean age group was (27.8) year. 69.2% of them were males and 30.8% were females.

Blood sample collection and preparation:

Two and a half ml venous blood was aspirated under sterile technique from each subject in the studied groups, prior to and 1and 4 weeks after injection of vaccine or diluent supplied with the

Dept. Medical Microbiology, College of Medicine, Al-Nahrain University

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Address Correspondence to Dr. Ismail I. Latif.

vaccine; and was placed in dry tube for sera separation. The separated sera were dispensed into closed-capped tubes in 0.2 ml aliquots and stored at -20ºC till tested.

Enzyme Immunoassay for the Determination of IgG Antibodies:

Antibodies against MV were detected in volunteer's sera (prior to, one and four weeks after vaccination) using ELISA-test, which done according to the manufacturer instruction and as follows:

The low positive control served as the cut-off value and when the absorbance of the subject sample was more than 10% above the cut-off value, the result was regarded as positive and the absorbance more than 10% below the cut-off value, the result was regarded as negative, results in between that could not clearly be defined and they were regarded as questionable. The higher OD, the higher levels of anti- immunoglobulins are present. The mean cutoff value was calculated, the OD was (1.104) any OD reading higher than this OD reading by 10% was considered as positive, and any OD reading below by 10% was considered as negative.

Results

Rising serum antibody titer after measles vaccination:

Serum IgG level against MV in the sera of the subjects had been measured by using ELISA technique, which measure the optical density (OD) of readings. The mean OD reading of group 1 was 1.55 while the mean OD of group II was 1.52 before vaccination. During the first week of measles vaccination the mean OD was 1.72, and in the fourth week the mean OD reading was 1.95 (Figure 1).

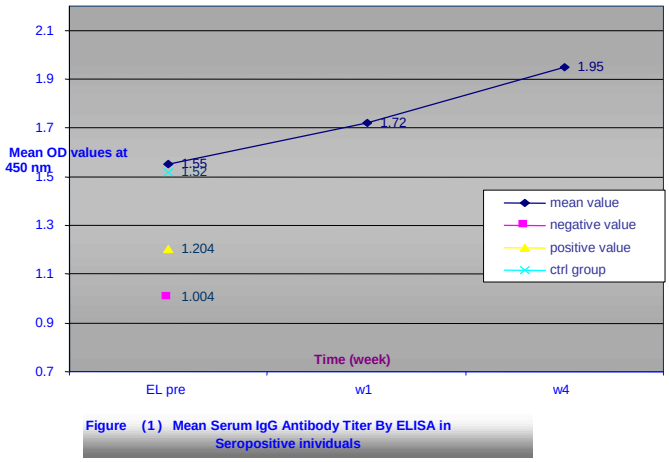

Figure (1) Mean Serum IgG Antibody Titer By ELISA in Seropositive inividuals

Data analysis showed that there was a significant difference of OD value among seropositive vaccines, which was not a matter of sampling variability. And there was a significant elevation of serum antibody in the first week, but the fourth week had very high OD readings, which may reflect an increase in the concentration of antibodies (Table 1).

Table 1: IgG levels by ELISA (OD) between prevaccination and postvaccination among seropositive individuals

Cs	Pre		Week 1		P value
sig	Mean	Variance	Mean	variance	0.04
	1.55	0.03	1.72	0.01	
	pre		Week 4		
Sig.	Mean	Variance	Mean	Variance	0.001
	1.55	0.03	1.95	0.009	
ns	Mean	Variance	Mean	Variance	0.14
	1.72	0.01	1.95	0.009	

Discussion

All studied subjects had preexisting antibody to measles prior to inoculation of vaccine, a significant changes in antibody levels was observed during first and fourth week after vaccination. However, no significant changes in antibody levels after measles vaccination using either haemagglutination inhibition (HAI) or ELISA were observed[7].

Ninety per cent of Indian children who had pre-vaccination measles antibodies showed a rise in HI antibodies[8].

Humoral immunity is not essential for recovery from MV infection but the antibody response is brisk following natural measles infection. Active B cell proliferation during the week after the onset of the rash may reflect expansion of virus specific clones since specific antibodies appear with the rash and increase to peak levels 2-3 weeks later[9], and persist for life, which may be important in preventing reinfection[10].

Our results of an in vitro study in lymphocyte culture indicated that preexisting antibody play a very important role in prevention of infection[11].

In a study conducted in South Africa, reciprocal IgG antibody titers rose at one month after vaccination, and most of the studied children had previously been exposed to measles or measles vaccine[12]. The discrepancy of the results reported by others compared to the present study may be due to the effect of ethnic group on

seroresponse. Also different predominant HLA types may limit the selection of peptides presented by antigen presenting cells and may affect response to vaccine[13,14]. HLA frequencies were found to be different among different populations[15].

For successful measles eradication vaccination campaign targeting till the age of 18 regardless of history of measles disease or vaccination status should be done in addition to routine vaccination program.

In conclusion, the available measles vaccine was safe, and at the same time effective. There was no evidence of transient suppression of humoral immune response and there was an elevation of serum antibody titer among vaccinated individuals.

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EVALUATION OF TOTAL SERUM SIALIC ACID AND LIPID ASSOCIATED SIALIC ACID IN BRAIN TUMOR PATIENTS

Yahya Y.Z. Farid* *Ph.D.*, **Hussein K.A. Hussein**** *B.Sc. M.Sc.*, **Sarmad Aziz***** *FICMS*

Abstract

Background: Total serum sialic acid (TSA) and lipid associated sialic acid (LSA) are found to be increased in different neoplastic diseases .The present study was undertaken to study the changes in the concentration of TSA and LSA in patients with different types of brain tumors before and after surgical removal of brain tumor.

Methods: TSA and LSA levels have been estimated in serum of patients with benign brain tumors (n=28) and malignant brain tumors (n=31) in addition to healthy controls (n=34).Also the TSA and LSA measured in the patients (7) days after surgical removal of the tumor.

Results: Data analysis reflects a significant increase ($p<0.05$) in the TSA and LSA in the malignant tumor patients as compared with healthy controls. The results revealed a significant decrease ($p<0.05$) in the TSA but not LSA (7) days after operation.

Conclusions: It has concluded that there is a correlation between the type of tumor and the concentration of TSA and LASA. The surgical removal of the tumor leads to decrease in TSA and LASA in the serum.

Keywords: Brain tumor, Cancer, Sialic acid, Lipid associated sialic acid

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Introduction

N-acetylnuraminic acid (sialic acid) is acetylated derivatives of neuraminic acid and it is a carbohydrate derivative found as a common terminal saccharide of the cell surface constituents (glycoprotein and glycolipids). Several evidences indicate that different changes of structural components of the neoplastic cells have been carried out. It has been found that many glycoproteins and glycolipids are increased in sera and malignant tissues of patients with various types of cancers. Sialic acids are the predominant carbohydrate of these compounds[1]. The relevance of sialic acids to the tumor cell is apparent from the increased sialylation and sialytransferase activity observed in many cancer cells[2].

In sera and tissues, sialic acid appeared to be found in two forms, bound sialic acid and free sialic acid. In the former, sialic acid was bound to glycoproteins and glycolipids .Thus lipid associated sialic acid (LSA) has significant roles in different diseases including malignances[3-6].

Sialic acid containing glycosphingolipids could be a microglial activator[7] and it modulates cell-cell and cell-matrix interactions[8]. Also glycosphingolipids (containing sialic acid) expressed in cancer cells have implicated in modulation of tumor cell growth through their interaction with transmembrane signaling molecules such as growth factor receptors. For glycosphingolipids to interact with growth factor receptors, the presence of sialic acid seems to be essential[9].

Sialic acid level can be used as diagnostic marker to assess the stage of cancer and can be used as prognostic markers during therapy of some types of cancer[10-11]. The objective of this work is to estimate (TSA) and (LSA) as a possible useful diagnostic and prognostic parameter in patients with different types of brain tumor.

Patients & methods

Patients

Fifty nine patients with different brain tumors referred to Al-Kadhimiya Teaching Hospital for surgical interventions. The patients with benign tumors were 28 patients (17 patients with meningioma, 7 patients with schwanoma, and 4 patients with dorsal neurofibroma). Patients with malignant tumors were 31 cases (16 patients with glioma, 6 patients with glioblastoma, 4 patients with medullary blastoma, 5 patients with brain metastases from breast and lung carcinoma, astrocytoma). The tumors in these

* Dept. Chemistry and Biochemistry, College of Medicine, Al-Nahrain University. ** Dept. Chemistry, College of Science, Karbala University. *** Dept. Surgery-Division of Neurosurgery, College of Medicine, Al-Nahrian University.

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Address Correspondence to: Dr. Yahya Y.Z. Farid, E-mail: Yahya1@uruklinik.net

patients were removed by surgery. 34 healthy peoples were taken as control.

Venous blood samples were collected before initiating the operation and one week after operation. Sera were separated and kept at (-20^{o}C) until analysis.

Assay

TSA was measured using Svennerholm (1957)[12] method as modified by Miettinen and Takka-Luukkainen (1959)[13]. In brief, 20µL of serum was diluted into 500µL in a test tube with distilled water .five hundred micro liter of resorcinol reagent (0.2 grams of resorcinol was dissolved in 10 ml of distilled water and added to 80ml of concentrated HCl containing 0.25ml of 0.1M copper sulfate and completed to 100ml with distilled water) were added. The test tube was heated for 15 minutes at 100°C in boiling water bath. After heating, the tubes were cooled in running water and 1ml of butyl acetate-n-butanol (85:15 v/v) mixture was added at room temperature, vortex and centrifuge for 5 minutes at 2500rpm. Read absorbance of the extracted blue color at 580nm.

LASA is measured according to procedure of Katopodis and Stock[14] in which 50µL of serum were extracted with 3ml of chloroform: methanol (2:1 v/v) at 4°C. The lipid extract was partitioned with 0.5 ml of cold distilled water, and the aqueous layer containing LSA was precipitated with 50µL of phosphotungstic acid (1g/ml). After centrifugation, the supernatant was aspirated, and the precipitate was resuspended in 1ml of distilled water and sialic acid content was determined as mentioned for TSA.

Results & discussion

The results of the TSA and LASA of the patients with benign and malignant brain tumor in addition to healthy controls are presented in Table 1 & 2.

Table 1: The results of TSA in patients with benign and malignant brain tumors & healthy controls

TSA	Mean±SD mg/dl	No. of patients		Sensitivity
		≥89.35*	<89.35	
Controls	61.83±13.76	0	34	0
Benign:				
Before surgery	72.32±16.79	6	22	21.43
After surgery	63.05±11.93	1	27	3.75
Malignant:				
Before surgery	81.22±20.73	13	18	41.94
After surgery	68.28±14.39	5	27	16.13

Table 2: The results of LSA in patients with benign and malignant brain tumors and healthy controls

LSA	Mean±SD mg/dl	No. of patients		Sensitivity
		≥36.04*	<36.04	
Controls	21.54±7.25	0	34	0
Benign:				
Before surgery	29.14±8.03	11	17	39.29
After surgery	23.58±5.81	3	25	10.71
Malignant:				
Before surgery	34.57±8.57	17	14	54.84
After surgery	25.36±5.5	8	23	34.78

The results revealed that there was a significant increase ($p<0.05$) in the TSA and LASA level in the patients with malignant brain tumor as compared with healthy control (Table 3).

Table 3: P values between the compared groups (control, patients with benign and malignant brain tumors)

Groups	P value	
	TSA	LSA
Control Vs benign *	0.185	0.788
Control Vs Malignant *	0.025	0.0009
Benign* Vs Malignant *	0.038	0.057
Benign* Vs Benign **	0.071	0.658
Malignant* Vs Malignant**	0.006	0.949

While no significant variation ($p<0.05$) was indicated in TSA and LASA between benign brain tumor and control. Several types of tumors have been reported to have elevated serum contents of sialic acids including human tumors of breast, lung, stomach, and lymphoma[15-17]. Sialic acids present as components of surface glycoconjugate and of soluble glycoconjugate in the animal cells and tissue, appear to be involved in the regulation of cell surface functions and thus in malignant transformations[18,19]. Several studies have shown that neoplastic transformation leads to elevated serum sialic acids concentration. Elevated TSA or its other forms have been reported in sera of patients with different malignant diseases[20-23]. Other explanation for the higher serum sialic acids content in brain cancer patient could not be excluded .Such increase not only in the concentration of serum glycoprotein and glycolipids but also in the degree of sialylation of these substances. In fact, an elevation in the activity of serum sialyltransferase in patients with different types of cancer has been

demonstrated[24,25]. Some authors have suggested that increased serum sialic acid in patients with cancer reflects an inflammation reaction to the tumor, leading to an elevated output of the acute phase reactant proteins from liver[26,27]. Hence our results are with agreement with these suggestions.

The insignificant increase in TSA level in patients with benign tumors as compared with healthy controls was also agreed with other observations[28]. Serum sialic acids were found to be increase in patients with metastatic diseases when compared with patients having only localized involvement[29].

Considering their pretreatment levels as base line, elevation in levels of TSA was found in patients with benign and malignant brain tumors. While there is no significant changes in LASA levels before and after surgery. These results may be explained by the fact that the cause of increase TSA is mainly due to increase in the acute phase reactant protein as an inflammatory reaction. After treatment by drugs and surgery, the anti-inflammatory drugs which mainly hydrocortisone and its derivatives that decreases the inflammatory reaction and hence decrease the acute phase reactant proteins in the blood. Also the removal of all tumor tissue in benign brain tumor patients and subtotal removal of malignant tumors leads to decrease the level of TSA.

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A STEP TO ALTERNATIVES TO MENTAL HOSPITAL FOR LONG-STAY INPATIENTS IN IRAQ

Muhammad A.H.S. Al-Samarrai, *F.R.C.Psych. M.R.C.Psych. D.P.M.*

Abstract

Background: In Iraq their are accumulating long-stay patients in the only mental hospital in the absence of community based-care health services. This paper suggests the first step toward deinstitution-alization.

Objectives: The Study aimed to identify the prevalence of the Long-Stay inpatients that can live in alternative accommodation to mental hospital.

Methods: A random sample of 100 male patients admitted to AL-Rashad hospital for 2 years and over were studied. The required information were obtained from; case notes, opinion of treating psychiatrists, nursing staff and social workers. The patients and some of their families were interviewed in semi-structured form General physical examination of the patients was carried out.

Results: The mean duration's of illness and of admission were 19.3 and 7.7 years respectively. The patients who were able to live outside the hospital were 46% of the sample. The appropriate homes for them included: supervised homes by hospital staff (N=10), less supervised homes (N=16) and community based homes (N=20). Although 77 patients had families, 78% of them rejected their patients.

Conclusion: The implications of the results suggest focussing on the community care of the mentally ill. A co-ordination between the health and social authorities is recommended for humanistic and cost benefits reasons.

Key words: Chronic Mentally Ill, Community Care, Schizophrenia in Iraq, Community Psychiarty, Mental Hospitals in Developing Countries.

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Introduction

It is acceptable that the mentally ill should be cared by their families in their homes. However some patients who are seriously disturbed by the effect of their severe and chronic mental illness need hospitalization for short or long time. There are accumulating long stay inpatients in the mental hospitals in Iraq as in many countries in the world[1-5].

There is a general agreement between researchers about the ill effect and complications of long-term hospitalization in regard to poor standards of treatment care and patients quality of life[1,6-9]. In the community- based care the patients maintain high level of social functioning[2,3,8,9].

Many studies in western countries have emphasized on the alternatives to hospital accommodation and the role of the community services in the care of the mentally ill[1-4,7-9]. Such measures may lead to cost reduction and improvement in psychiatric services. Those deinstitutionalization movements involved phasing out of mental hospital as in Italy[10]; discharge to community and community supported system in other countries[1-11].

Dept. Medicine-Division of Psychiatry, College of Medicine, Al-Nahrain University.

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However Thornicroft and Tansella (2002)[8] suggested a model of balancing community-based and hospital-based mental health care for the treatment of the mentally ill.

In Iraq as in many developing countries there is no community care in the psychiatric services and the mental hospital continues to play its role. Health authority (Ministry of Health) carries out the care of the mentally ill.

The aim of this study is to identify the rate of long–stay inpatients in mental hospital who are able to live in alternative accommodations to hospital.

Methods

Sample:

A random sample of hundred male patients admitted to AL-Rashad Mental Hospital for two years and over were studied during six month period (September 1999 to February1999). The selected sample represented 15.4% of the total number (650) of the chronic male in-patients. Patients admitted to the female wards and the secure (forensic) unit was not included.

AL-Rashad Mental Hospital is the only mental hospital in Iraq, which includes 1200 beds for long-stay, short- term admission and forensic (secure) inpatients. The bulk of this hospital is the long-stay inpatients. In addition to this hospital, psychiatric care in the country is

provided by another hospital for acute problems and psychiatric units in teaching and some general hospitals. There is no mental hospital.

Design:

A special form for the required data was used. It included age, sex, marital status, residence, occupation before illness or admission, level of education, diagnosis, duration of illness and of last admission, number of admissions, presence of family and its type, family members attitude and patient's attitude towards leaving hospital. The assessments of nursing staff, social workers and treating psychiatrists and the final assessment by the researchers were made on special forms.

The Case notes of the patients were examined. The medical, nursing and social staff was asked for their opinion bout the appropriate accommodation for each patient if they were available. The patients were interviewed in a semi-structured psychiatric interview schedule based on the International Classification of Diseases, the 10th. Revision (ICD-10). (12) to confirm the diagnosis.

Scale for assessment of negative symptoms (SANS) and scale for assessment of positive symptoms (SAPS) (Andreason 1984) (13) were used to assess the severity of the illness.

General physical examination was carried out for all patients to exclude any physical disease. Some of the patients' family members were interviewed alone and with their patients to assess accepting their patients to live with them.

The criteria used for the assessment of the most appropriate accommodations for the patients by the researcher included the following; 1) Stability in the hospital, 2) Fitness for rehabilitation, 3) The severity of symptoms, 4) The reasonable wish of the patients to live outside hospital, 5) The ability of the patient to have an appropriate job, 6) Age, 7) Physical health, 8) The presence of accepting family, 9) Compliance of the patient in taking his medications and 10) The social function of the patient.

The proposed accommodations were regarded as the first step towards a more advancing community cares. The resources of both Ministries of Health and Social Welfare and other agencies were put into account in the assessment at the present economic circumstances.

Results

I. Characteristics of the sample:

The sociodemogrphics of the patients are demonstrated in table 1. Age ranged from 22-69 years and its mean was 40.3 year (median=43). The majority of them were single. Out of the 21 employed patients before admission there were 8, clerks 7 police and army personnel and 6 teachers. Forty-three patients belong to the Baghdad area while the rest of them came from other governerates.

Table 1: Sociodemographic characteristc of long-stay inpatients

Sociodemographic	No.
Age (years)	
22-29	12
30-39	37
40-49	33
50-59	11
60-69	7
Marital status	
Single	81
Married	8
Divorced	9
Widower	2
Occupation befor illness	
Unemployed	24
Unskilled unstable laborers	37
Students	9
Farmers	9
Regularly employed	21
Level of eduaction	
Illiterate	20
No formal education	15
Primary	23
Intermediate	21
Secondary	13
Institue & university	8
Residence (governerates)	
Baghdad	43
Middle	27
South	24
North	6

Table 2, shows the clinical characteristics of the sample. The majority of the patients (92%) were diagnosed as having schizophrenia. The mean duration of illness and of last admission were 19.3 years (Range = 5- 43 years, median 21) and 7.7 years (Range = 2-15 years, median=8.5) respectively. The mean number of admissions was 6 (median=9).

Table 2: Clinical charactersitics of the patients (n = 100)

Clinical characteristics	No.
Duration of illness (years)	
5-10	17
11-20	46
21-30	29
31-43	8
Duration of last admission (years)	
2-5	39
6-10	38
11-15	21
16-19	2
Number of admissions (times)	
1-5	52
6-10	33
11-15	11
16+>	4
Diagnosis	
Schizophrenia	92
Affective disorders	4
Mental retardation	3
Epilepsy with psychosis	1

II. Family presence, structure and attitude:
Seventy-seven patients had families and the rest had no family of any type.
i. Type of family structure is illustrated in table 3.

Table 3: Patients' families structure and their atitude (n = 77)

Type of families structure	No.	%
Parents and siblings	17	22
Mother and siblings	20	26
Father and siblings	8	10.4
Siblings only	23	30
Wife and children	8	10.4
Mother only	1	1.2

ii. Attitude of family towards the patient: Out of the 77 families there were 78% (N=60), rejected their patients to live with them. The reasons for their attitude were; low financial status, inability to tolerate the illness symptoms, no body to care for them and no room in their homes. The rest of the families (22%) were accepting their patients to live with them but had difficulties to do so for financial reason.

III. Patients attitude towards leaving hospital:
Sixty-nine patients expressed the wish to live outside the hospital, but only 41 of them were realistic and reasonable in their attitude as table 4 shows

Table 4: patients atitude towards leaving hospital (n = 100)

Patients atitude	No.
Wishing to leave hospital	69
For unrealistic reasons	(41)
For realistic reasons	(28)
Wanting to stay in hospital	24
Preferring hospital to comminity life	(10)
No other place to live in	(14)
Do not know	4
No answers	3

IV. Opinion of Nursing staff and social workers:
The nursing and the social staff reported that 56% of the patients were able to live outside the hospital. Their assessment was based on stability of the patient i.e. sociability, cooperation and appropriate behaviour and their fitness for rehabilitation. They reported that 58% of sample were stable.

Opinion of treating physicians:
The treating psychiatrists were more cautious. They reported that 39% of the patients were ready to live outside the hospital in three different types of accommodation. (Table 5).

Table 5: The appropriate accommodation for the long-stay inpatients. A compaion between treating psychiatrists and the researchers

Appropriate accommodation	Assessment by treating psychiatrists	Assessment by researchers
I. Mental hospital	61	54
II. alternatives for hospital	39	46
a. Hospital supervised homes	(31)	(10)
b. Less supervised homes (joint health and social authority)	(-)	(15)
c. Community homes (supervised by social authority)	(7)	(20)
d. Family homes	(1)	(1)
e. Living independtly	(-)	(-)

VI. The assessment of Researcher's team:
i. Psychiatric assessment of severity of illness showed that no symptoms in 28 patients. The rest of the patients suffered from mild (N=30), Moderate (N=14), marked (N=18) and sever (N=10) degree of symptoms severity, according to Andreason's scales (1984).
ii. Physical examination showed no physical problem in the majority of the patients (83%). Only 17 patients showed physical symptoms of diseases included; Anaemia (8), hypertension (3), urinary tract infection (2), hemiparesis (1), heart failure (1), fissure in anu (1) and tuberculosis (1).
iii. The appropriate accommodation for the long-stay inpatient sample included the following;
iv. Fifty-four patients needed further hospitalization, because they were unable to live outside the hospital, for reasons related to their illness severity, social dysfunction, physical health and the need for hospital rehabilitation (Group 1).
1. Forty six patients needed to live in alternative accommodation to hospital with different variety of services;

a. "Sheltered Homes" within the vicinity of the hospital are supervised by hospital nursing and social staff, " (N=10) (Group 2)
b. "Less supervised homes" in the community are close to hospitals with their psychiatric services. Nurses and social workers run them. The local health and social authorities join living facilities e.g. food and medicine (N=15) (Group 3)
c. "Community" homes" involve houses or hostels for patients who can live independently and able to work but have no accommodations. The local social authority help them and are run by social workers with the help of visiting psychiatric nurse to follow their compliance of maintenance medications on need (N= 20) (Group 4).
2. "Family home" with support from the local social services (N=1) (Group 5).
Table 5 shows comparison between treating psychiatrists and the researchers about the appropriate accommodate for the Long-stay inpatients.

Discussion

The most important finding of this study is the identification of the possible alternatives to mental hospital for the long-stay inpatients in the present critical national situation of Iraq. They represent the first practical steps towards humanizing those patients and to decrease the cost of mental care. The second important finding of this study is to shade some light on the attitude of families in an Arab country towards their mentally ill members.
This survey describes many issues brought out by previous similar studies in different parts of the world. It represents the step of evaluating the patients for the community mental health care program for the future in Iraq to avoid mistakes and failure already made by some western countries such as Turner and Priebe (2002)[14] pessimistic conclusion; "Forget community care reinstitutionalization is here".
Among the long-stay inpatient sample, it is possible to consider five groups (table 5). The first tow groups include those patients who are in need of hospital facilities. The third group of patients needs joint health and social authorities care. While the forth and the fifth groups need mainly social authority services and other voluntary and non-official or non-professional organizations help.
Comparison of these results should be done with the earlier studies of first steps of deinsitutionalization in the western countries and with those recent ones which include assessment reports of their experiences over more than two to three decades.
In this study there are 54% of the patients requiring further hospital care (group 1) and 36% of them can live in the community. These rates are less than the rates mentioned in other similar studies. In Bitain Mann and sproute in 1972[15] and Mann and Cree in 1975[16] found that 33% and 34% of the patients residents in mental hospitals required further care respectively. While 40% and 36% of them needed community accommodations in each of the two studies respectively.
However Leff in 1997[9] and Leff and Trieman in 2000[3] reported in their assessment of five year follow-up of discharged patients from two mental hospital to the community in London that over on-third of them were readmitted to hospital and 10% of the sample are inpatients.
Our higher rat in this study is probably explained by the long duration of the last admission of the sample, the illness severity and the absence of alternative care for the mentally ill. However McGrath and Tantum (1987)[1] concluded that there are patients who are too ill and too disturbed to function adequately in alternative setting to hospital. This also goes with Clifford *et al* (1991)[2] belief that there is a subgroup of patients which seems to be stable across cultures needs the hospital placement recommendation. Leff (2002)[4] also described those patient as 'difficult to place patient' who accumulate in traditional mental hospitals and can not survive in their own community.
As a cautious and experimental step towards community service a residential home within the vicinity of the hospital supervised by a nurse and a social worker is expected to be suitable for 10% of the inpatients (group 2). In this home patients can take care of themselves regarding; hygiene, cleanliness, preparing small and having access to the community with some freedom but main meals, medicines and other essential facilities should be given by hospital at their times. The benefits of this step involve helping the inpatient to separate from hospital

dependency and identifying those who are able to succeed in living in the community.

The third group involves those patients (15%) who reed independent life in less supervised homes. This step represents the introduction of patients to the social authority care with the supervision of general hospital psychiatric care. It is a halfway step between partial hospital care and local social authority care. This may go with Thornicraft and Tansella (2002)[8] aim of providing a balancing care for patients who are close to home and needing treatment.

Twenty percent of the total inpatients are found to be able to live independently and able to manage their own affairs with out medical support in community homes, which are fully supervised by local social authority. The third and fourth groups represent residential care of inpatients in the society which as described by Kunze (1985)[6] as a more normal environment which would allow patients to look after themselves as far as possible but also need social support.

The fifth group include 1% the patients who can live in their families they also need social authorities help. Support should be provided for families of the patients as it has been done in many western countries on closing mental hospitals e.g., Italy[10].

However the suggested alternatives for mental hospital would not be effective without other arrangements organized by both health and social authorities. These include hospitals, day centers, rehabilitation facilities, occupational therapy and jobs for those who can work as well as pocket money to prevent the possibility of beggary. The non-official and the non-professional organizations and agencies should be involved in the community care. They may include religious people, local politicians, and women union, housing department, community associates and others.

Despite the positive expectation in our culture that families make the necessary arrangements for the care of their member with psychotic disorder as Okasha (1990)[7] mentioned. This study shows that 78% of the families rejected their mentally ill member and the rest of them were hesitant to accept their patients. This negative attitude can be explained by the low financial level and the disturbing psychotic illness behaviour.

A generalization of the result of this study can be applied in practice despite its limitations. They include; the small randomized and not experimental sample, the criteria used, the view of others with different perception of informants in hospital about the alternation service, as well as the limited team of the study.

In reality there has been no existed thoughts about community care or the alternatives to mental hospital. Doubts may arise about the applications of this study suggested services, which may seem imaginative. But if they are compared with the previous successful care of the mentally retarded by the social authorities of the ministry of welfare, the success in the care of other mentally ill will makes it more possible and more realistic.

The implications of these results include the following: i.) Hospital sheltered home is a necessary step towards real practical community homes. ii.) Social authority is completely responsible for 20% and partial responsibility for another 16% of the long-stay inpatients. iii.) The cost of care in mental hospital can be much reduced, despite the controversy about this point. McGrath and Tantum (1987)[1] noticed that there is a reduction in the cost of about 40 %, while Thornicroft and Bebbington (1989)[17] found that adequate community provision is not cheaper than that inadequate hospital care. Later on Leff (1997) discovered that community based care is more cost-effective than long-stay care. iv) Health policy should focus on sharing the resources of other organizations such as social authority and other voluntary none-official and non-professional agencies. Ozarine (1976) and Thornicroft and Tansella (2002) had the same opinion. v.) Further researches on large scale for assessing the required need of community services in the country and follow-up assessments of this study proposals on application is necessary to test out its validity in practice.

In conclusion we need a systematized cooperation between health-social authorities to achieve community care for humanistic and cost benefits.

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NUTRITIONAL ASSESSMENT OF PATIENTS WITH ADVANCED CHRONIC RENAL FAILURE

Akeel J. Al-Bahadli**FICMS (Med.), CABM, FICMS (Neph.),* **Amal Swidan**** *FICMS,*
Khalid Abdulla* *FRCP*

ABSTRACT

Background: Malnutrition is an important risk factor for morbidity and mortality in patients with advanced chronic renal failure. Its prevalence has been estimated to range from 10 to 70% in patients on maintenance hemodialysis and 18 to 51% in patients treated by CAPD.

Objective: is to assess the nutritional status of patients with advanced chronic renal failure treated in the University Hospital including those on maintenance hemodialysis and those treated conservatively who underwent peritoneal dialysis as a life saving procedure.

Patients & Methods: Fifty patients (25 on regular hemodialysis and 25 with chronic renal failure in whom peritoneal dialysis was done as an acute procedure) were studied. Their state of nutrition was assessed clinically, biochemically and by anthropometric measurements.

Results: The dietary intake was inadequate in 44 (88%) patients. Thirty-eight (76%) patients had clinically evident muscle wasting.
Body mass index, triceps skin fold thickness and mid-arm muscle circumference were below the standard in 62%, 82%, and 74% of patients respectively. Forty-seven (94%) patients were anemic. Albumin level was less than 4.0 gm/dl in 32 (64%) patients.

Conclusion: Malnutrition is common in our patients with advanced chronic renal failure. Simple anthropometric measurements are valuable in its diagnosis.

Keywords: nutrition, malnutrition, chronic renal failure, and dialysis.

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Introduction

Maintaining body protein or lean body mass is difficult in patients with chronic renal failure because raising dietary protein causes nitrogenous waste products to accumulate, whereas an inadequate intake of essential amino acids leads to loss of body protein[1]. Most studies that evaluated the nutritional status of patients with end-stage renal disease (ESRD) reported some degree of malnutrition. The prevalence has been estimated to range from 10 to 70% in patients undergoing hemodialysis and 18 to 51% in patients treated by continuous ambulatory peritoneal dialysis (CAPD)[2-5].

Several factors related to the uraemic state may contribute to the high incidence of protein-energy malnutrition in these patients. Among these factors inadequate nutrient intake is the most important. Other factors include nutrient losses during dialysis and protein catabolism induced by metabolic acidosis, intercurrent illnesses, the use of bio-incompatible membranes, and endocrine disorders like insulin resistance and raised parathyroid hormone[2,6-9)].

Malnutrition is an important risk factor for morbidity and mortality. It is associated with an increased frequency of hospitalization with longer stay in hospital causing a three-fold increase in hospital costs. Malnutrition can result in more difficult dialysis treatments and an increased number of missed dialysis sessions[1,3,7,10,11].

The aim of this study is to assess the nutritional status of patients with advanced chronic renal failure in our practice in the University Hospital.

Patients & Methods

Fifty patients were studied. Twenty-five were patients with advanced chronic renal failure who underwent peritoneal dialysis once or more as a life saving measure (Group A). The other twenty five were patients on regular hemodialysis (Group B). Twenty-eight were males and 22 females.

Their protein intake was assessed by taking a dietary history from the patients or their close relatives. The intake was characterized as adequate or inadequate. Adequate intake was defined as consumption of at least 1 g protein/kg body weight/day. Consumption of less than this was considered inadequate. Clinical assessment also included looking for wasting in the facial and upper and lower limb muscles.

* Dept. Medicine, ** Dept. Community Medicine, College of Medicine, Al-Nahrain University.
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Address Correspondence to Dr. Akeel J. Al-Bahadli.

Anthropometric measurements included body mass index (BMI), triceps skin fold thickness (TSF), midarm circumference (MAC) and midarm muscle circumference (MAMC).

A single observer performed all measurements according to published techniques. Measurements were done at the end of hemodialysis sessions for regular hemodialysis patients and at the next visit after dialysis for peritoneal dialysis patients.

Body mass index (BMI) was calculated as weight (in kilograms) divided by height (in meters) squared:

BMI = weight (kg)/ height (m)^2

The normal BMI is 20 to 25 for males, and 19 to 24 for females. For purposes of classification, arbitrary limits were established to further define BMI in underweight patients. Males with BMI of 19-19.9, 18-18.9, and less than 18 were considered mildly, moderately, and severely underweight respectively. Comparable measures for BMI in females are 18-18.9, 17-17.9, and less than 17[12,13].

Triceps skin fold thickness (TSF) was measured by a skin fold caliper, usually when patients were at dry weight. Measurements were taken on the arm that does not contain the vascular access midway between the acromion and olecranon processes.

The midarm circumference (MAC) was measured using a tape on the same site used for TSF measurements[12-17].

The midarm muscle circumference (MAMC) was calculated from MAC and TSF as follows:

MAMC (cm) = MAC (cm) – 0.314 x TSF (mm)

These anthropometric measurements were compared with reference standards. Standards are defined as the 50th percentile according to combined Health and Nutrition Examination Survey (HANES) I & II normative values. Values below the normal and above the 15th percentile indicate mild reduction; those between 5th-15th percentiles indicate moderate reduction, and values less than 5th. Percentile indicates severe reduction[14-20].

Biochemical tests were performed in the same clinical laboratory. Fasting samples were used for serum cholesterol estimation. Predialysis samples were taken to estimate levels of urea, creatinine, hemoglobin and albumin.

Hemoglobin concentration below 13Gm/dl in males and 12Gm/dl in females was used to define anemia. Anemia was considered mild if the hemoglobin was 9Gm/dl or more, moderate if it was 7-8.9Gm/dl and severe if it was below 7Gm/dl.

Serum albumin was regarded as normal if 4 gm/dl or more; in mild deficit at 3.5-3.9 gm/dl; in moderate deficit at 2.8-3.4 gm/dl; and severe deficit if less than 2.8 gm/dl[2].

Serum cholesterol level less than 150 mg/dl (3.8 mmol/L) was regarded an index of malnutrition[2,6,13].

The vast majority of patients received the usual medications including multivitamins, folic acid, ferrous sulphate, calcium salts and one-alfa cholecalciferol in addition to drugs used for any concomitant illnesses. No patient received erythropoietin (not available) or anabolic steroids.

Statistical analyses were made using the chi square (x^2), and student *t* test.

Results

The mean age of patients was 50±13 years (range 20 to 72 years). The mean blood urea values were 253.6±63.22 mg/dl and 235.4±53.53 mg/dl for group A and group B, respectively. The corresponding serum creatinine values were10.19±2.67 mg/dl, and 8.31±2.17 mg/dl. The dietary protein intake was inadequate in 88% of patients. Thirty-eight (76%) patients had clinically evident muscle wasting. Tables 1 and 2 summarize the anthropometric measurements of the two groups of patients.

Table 1: Anthropometric measurements in group A patients

Data	Mean±SD	No. of patients with			
		Mild *	Moderate*	Severe*	Adequate+
BMI Kgm/m^2	18.36±4.28	4	5	8	8
TSF (mm)	8.48±2.77	6	7	8	4
MAMC (cm)	17.95±2.82	5	9	6	5

* = mild, moderate and severe nutrition, + = adequate nutrition, BMI =body mass index, TSF =triceps skin fold thickness, MAMC =mid arm muscle circumference.

Table 2: Anthropometric measurement in group B patients

Data	Mean±SD	No. of patients with			
		Mild *	Moderate*	Severe*	Adequate+
BMI Kgm/m^2	20.65±4.85	6	4	4	11
TSF (mm)	7.82±2.44	7	5	8	5
MAMC (cm)	19.36±2.98	8	6	3	8

* = mild, moderate and severe nutrition, + = adequate nutrition, BMI =body mass index, TSF =triceps skin fold thickness, MAMC =mid arm muscle circumference.

No statistical differences in anthropometric measurements were noticed between group A and group B patients. Out of 50 patients 36 (72%) had two substandard measurements out of three according to combined Health and Nutrition Examination Survey (HANES) I & II nomogram values.

Haemoglobin and serum albumen levels in the two groups of patients are shown in table 3 and 4.

Table 3: Hemoglobin and albumin levels in group A patients

Data	Mean±SD	No. of patients with			
		Mild *	Moderate*	Severe*	Adequate+
Hb (gm/dl)	7.68±1.69	3	11	9	2
Albumin (gm/dl)	3.45±0.67	12	3	4	6

* = mild, moderate and severe reduction, + = normal Hb and albumin levels.

Table 4: Hemoglobin and albumin levels in group B patients

Data	Mean±SD	No. of patients with			
		Mild *	Moderate*	Severe*	Adequate+
Hb (gm/dl)	7.13±2.06	2	9	13	1
Albumin (gm/dl)	3.73±0.42	7	4	2	12

* = mild, moderate and severe reduction, + = normal Hb and albumin levels.

Anemia was the most common abnormality, encountered in 47 (94%) patients. Three patients with normal haemoglobin levels were on dialysis for less than few months. Albumin level was reduced to substandard levels (less than 4.0 gm/dl) in 32 (64%) patients. Serum cholesterol level was subnormal in 26 (52%) patients, normal (150–200 mg/dl) in 17 (34%) patients, and above normal in 7 (14%) patients.

Discussion

Malnutrition is an independent risk factor of morbidity and mortality in chronic renal failure patients. The nutritional aspect should therefore be an important part of their management[9,11,18,21,22]. Baker *et al* concluded that clinical assessment is a reproducible and valid technique for evaluating nutritional status and suggested that carefully performed history taking and physical examination are sufficient for nutritional assessment[23].

Forty four of the patients in this study (88%) consumed an inadequate dietary protein (< 1.0 g/kg/day). In contrast, Blumenkrantz et al found that the average daily protein intake of their dialysis patients was 88±21 g/day i.e.1.1±0.1 g/kg/day[12]. One reason for the inadequate diet in our patients is self induced restriction due to a wide spread belief among lay people that protein should be totally avoided in the presence of renal disease. Anorexia due to inadequate dialysis, intercurrent illnesses and the emotional impact of the disease and dialysis therapy is another reason. Clinically evident muscle wasting was present in 76% of patients, which is higher than it is in other studies[3,5,12,24].

Thirty one (62%) patients had substandard body mass indices (BMI). BMI was higher in the group of patients on regular hemodialysis though the difference did not reach statistical significance. The presence of ascitis in six of the patients may have been responsible for the difference. The use of BMI as an indicator of nutritional status is known to be unreliable in edematous patients[13,20]. Stefanovic *et al* have shown that patients with BMI<20.0 kg/m^2 have significantly more frequent hospitalizations and more hospital days per patient than those with BMI > 25.0 kg/m^2. The low BMI was also associated with a significantly lower dialysis adequacy and more severe anemia[25].

Measurement of skin fold thickness is used widely to estimate body fat. It is inexpensive, reproducible, relatively easy to learn and perform and can be carried out quickly[14,15,16,19]. Triceps skin fold thickness (TSF) was below the standard in 41(82%) patients. Others reported a figure of 72%[13] and 62%[14] and found it directly related to other nutritional parameters.

Previous observations indicated that measurement of mid arm muscle circumference

(MAMC) reflected protein and muscle mass[14-16,19].

Thirty-seven (74%) patients had subnormal MAMC, seventeen (34%) of whom were on regular hemodialysis. Thunberg et al reported near-normal MAMC values in dialysis patients[13]. Mitchell and Lupschitz found significantly lower MAMC values in malnourished patients, and concluded that an MAMC below 60% of standard is suggestive of decreased muscle mass[26]. Blumenkrantz *et al* found that uraemic patients with low MAMC are more wasted, debilitated, and less rehabilitated[4,12].

The concentration of serum albumin has long been used as an index of protein nutrition, even though it responds relatively slowly to changes in protein stores because of a half-life of approximately 20 days. When hypoalbuminemia occurs in non-nephrotic patients with CRF, it should be viewed as a sign of malnutrition. Studies of dialysis patients indicated that hypoalbuminemia correlates with mortality[1]. Recent recommendations used a cut-off value of 4.0 gm/dl as the lower normal limit of serum albumin instead of 3.5 gm/dl[2].

Thirty-two (64%) patients had serum albumin level less than 4.0 gm/dl, thirteen of whom were on regular dialysis and nineteen on conservative measures. This may reflect a better dietary protein intake by patients on regular dialysis. Han et al found a reduced albumin level in 30% of their patients[27].

Serum albumin level seems to be influenced not only by nutritional factors but also by non-nutritional factors such as age and the presence of acute phase protein response manifested by C-reactive protein elevation.[1,2,28-30].

Using a cut-off value of 3.5 gm/dl, only 32% of patients had low serum albumin level despite the high proportion of subnormal anthropometric measurements. This supports the idea that a cut off point of 4 Gm/dl better represents the state of patients nutrition.

Serum albumin level is still by far the most commonly used nutritional marker in patients with CRF [2,29,31].

Anemia is a common complication of CRF[1,2,6,7,32]. Ninety four percent of our dialysis patients had reduced haemoglobin level, most of them in moderate and severe categories. Others had reported lower percentages[33]. A probable cause of this difference is lack of erythropoietin therapy.

Although there are many causes other than nutritional deficiency for low hemoglobin this measurement is useful in differentiating well-nourished from malnourished patients[32].

Serum cholesterol level was reduced in 26 (52%) patients. Other investigators found similar results[12,33]. Seven (14%) patients had an elevated serum cholesterol levels (>200 mg/dl). Both reduced and high serum cholesterol levels are associated with increased morbidity and mortality. The former indicates poor nutritional status, and the latter is associated with atherosclerosis and its complications.

The high prevalence of malnutrition in the present study and other studies is due to many factors. Severe dietary restrictions (patient induced or physician induced) is the most common cause[2,7,14,15]. Other factors include late diagnosis and management[21,34,35], inadequate dialysis (noncompliance or poor tolerability), anorexia, metabolic acidosis, release of cachetic factors (e.g. TNF alfa, IL-6) and intercurrent illnesses & infections[1,2,8,22,28].

There is ample evidence that patients should initiate chronic dialysis therapy when GFR declines to a level of 10 ml/min. Patients who start therapy at lower levels of GFR are more likely to have hypoalbuminemia, greater mortality rates, and greater hospitalization rates[10,34,35].

Mean serum creatinine value in hemodialysis patients was lower than that of patients treated conservatively reflecting the fact that the latter group have remained on conservative measures too long.

Therefore nutritional status should be monitored carefully in patients with chronic renal failure and declining nutritional status should be considered a clear indication for starting regular dialysis[22,31,32].

Conclusion

1. Malnutrition is common in patients with advanced chronic renal failure treated in the university hospital.
2. Careful instructions regarding adequate dietary intake must therefore be offered for every patient with chronic renal failure, as early as possible.

3. Many patients are staying too long on conservative treatment when properly they should have been on maintenance dialysis.

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PREVALENCE OF ASYMPTOMATIC SIGNIFICANT BACTERIURIA IN PATIENTS WITH DIABETES MELLITUS

Adnan Anoze *MRCP*, **Moayed A. Abode** *MBChB*

Abstract

Background: There are views that urinary tract infections are more common in diabetic patients but remain contentions because of varying study designs and end point.

Objective: This study was to assess the prevalence of significant bacteruria among diabetic patients with no urinary symptoms.

Subjects & Method: One hundred urine samples from diabetic patients (54 from patients with non insulin dependant diabetes mellitus (NIDDM), 46 from patients with insulin dependant diabetes mellitus (IDDM) and 80 urine samples from non diabetic control persons in an out patient clinic were screened for significant bacteriuria ($\geq 10^5$ colony forming unit/ ml).

Results: Nine percent (9%) of diabetic samples had significant bacteriuria (7=females and 2=males) while 2(2.5%) (both = females) of non diabetic samples had significant bacteriuria of those diabetics with significant bacteriuria 5(55.5%) were from NIDDM group and 4(44.5%) were from IDDM.

Conclusion: Analysis of the results showed significant high prevalence of significant asymptomatic bacteriuria in diabetic patients compared with non diabetic patients, (P value<0.05).

Key words: Asymptomatic Bacteruria, Diabetes Mellitus.

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Introduction

Diabetes mellitus and its attendant acute and chronic complications continue to carry a major health problem world wide[1]. There is evidence that diabetic are more prone to skin and chest infections than non diabetics[2]. There is also view that urine tract infections are more common, but remain contentions because of varying study designs and end point[3,4].

Under normal circumstances bacteria placed in the urinary bladder are rapidly cleared, partly through the flushing and dilutional effect of voiding, but also as a result of antibacterial properties of the urine and the bladder mucosa due to high urea concentration and high osmolarity. The bladder urine of many normal persons inhibits or kills bacteria; prostatic secretion poses antibacterial properties as well. Polymorphunuclear leucocytes in the bladder wall also appear to play a role in clearing bacteria. The role of locally produced antibody remains unclear[5].

Asymptomatic bacteriuria defined as $\geq 10^5$/ml organisms in the mid stream urine of person without urine symptoms (dysuria, frequency, haematuria, loin pain… etc.), there is no evidence that this condition causes chronic renal scarring in non-pregnant adults with normal urinary tracts. When it occurs in infants, pregnant women, immunocompromised and in abnormal urinary tract, investigations and treatment are required because of high risk of pyelonephritis in these settings[6,7].

Enumeration of the number and the type of bacteria in the urine is an extremely important diagnostic procedure. As a rule, quantitative estimation of the number of bacteria in voided urine specimens makes it possible to distinguish contamination from true bacteriuria and bacterial colony count of $\geq 10^5$/ml has been the criterion traditionally used for those purpose. However, in symptomatic women with pyuria, colony counts of 10^2-10^4 E-coli, proteus. Klabsiella or staph. Saprophyticus per milliliter of mid stream urine usually indicate infection, not contamination and should not be disregarded. In asymptomatic patients 10^5 or more bacteria of a single species/ml should be demonstrable in the specimen. In some circumstances (antibiotics, high urea concentration, high osmolarity, and low pH) inhibit bacterial multiplication, resu1ting in relatively low bacterial colony counts despite infection, for this reason; antiseptic solutions should not be used in washing the periurethral area before collection of urine specimen. Water diuresis or recent voiding also reduces bacterial count. Rapid methods of

Dept. Medicine, College of Medicine, Al-Nahrain University.
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Address Correspondence to Dr. Adnan Anoze

detection of bacteriuria have been developed as alternatives to standard culture methods. These methods detect bacterial growth by photometry, biolumiescence, or other means and provide results rapidly usually in 1-2 hours. These techniques generally exhibit a sensitivity of 95-98%, however, the sensitivity of these tests falls to 60-80% when 10^2-10^4 colony forming units/ml is the standard of comparison[8].

Microscopy of urine from symptomatic patients can be of great diagnostic value. Microscopical bacteriuria, which is best assessed with gram-stained uncentrifuged urine is found in more than 90% of specimens from patients whose infections are associated with colony counts of at least 10^5/ml, and this finding is very specific. However, bacteria cannot usually be detected microscopically in infections with lower colony count (10^2-10^4/ml). The detection of bacteria by urinary microscopy constitutes firm evidence of infection, but the absence of microscopically detected bacteria does not exclude the diagnosis[5,6,8].

When carefully sought by means of chamber-count microscopy, pyuria is highly sensitive indicator of urinary tract infections in symptomatic patients. Pyuria is demonstrated in nearly all acute urinary tract infections, and its absence calls the diagnosis in question. The leukocyte esterase "dipstick" method is less sensitive than microscopy in identifying pyuria but is useful alternative when microscopy not feasible[5,6,8].

Pyuria in the absence of bacteriuria "Sterile Pyuria" may indicate infection with unusual bacterial agents such as Chlamydia trachomatis, uroplasma urealyticum and mycobacteriurn tuberculosis or with fungi. Alternatively, sterile pyuria may be demonstrated in noninfectious urologic conditions such as calculi, anatomic abnormality, nephrocalcinosis, vesicoureteral reflux, interstitial nephritis or polycystic disease[5,6,8].

Aims of the study

1. Assessing the prevalence of significant bacteriuria among diabetic patients with no urinary symptoms.
2. To compare the results with non diabetic patients who also without urinary symptoms.

Patients & Methods

The study was carried out in diabetic clinic and medical outpatient clinic of Al-Kadhimiya Teachnig Hospital from March 2001 to September 2001.

Midstream urine samples were collected from 100 diabetic patients, age 15-71 years, attending the diabetic clinic, there were 53 females and 47 males. 54 were having NIDDM and 46 having IDDM. Also midstream urine samples were collected from 80 non diabetic patients attending the medical out patient clinic, there were 43 females and 37 males age 17-68 years.

The patients included in this study should have no symptoms of urinary tract infection; the females were not pregnant, not taking antimicrobial therapy within previous 2 weeks and not having functional or structural abnormalities of the urinary tracts.

General urine examination and cultures of each urine sample were done using the Standard Loop Technique. Urine cultures were done on nutrient agar medium and incubated for (24) hours for significant bacteriuria (colony count $\geq 10^5$/ml).

The antibiotic sensitivity patterns of identified isolates were determined using the standard disc diffusion method. The first requirement is fulfilled by taking good history from the patients asking about dysuria, polyuria, frequency, haematuria, loin pain, and frequency of sexual intercourse.

The second requirement is fulfilled by history taking ultrasound which has been done for all patients' diabetics and non diabetics included in this study. The third requirement has been achieved by good drug history which has been taken to be sure that the patient had not been on antibiotics for the last 2 weeks.

Results

Out of 100 diabetic urine samples examined, 9 (9%) had significant bacteriuria, while 2 out of 80 (2.5%) non diabetic urine samples had significant bacteriuria. The difference between the proportions of positive isolates was statistical1y significant ($p < 0.05$). In both groups, females more than males had significant bacteriuria (77.8% in diabetics and 100% in non diabetics).

Out of 9 positive isolates from diabetic urine samples, 5 (55.5%) were from NIDDM group and 4 (44.5%) were from IDDM group, this difference was statistically not significant. Three

different species of bacteria were isolated from the samples cultured in this study. Isolates include E.coli, Proteus, S.aureus. In both groups, E.coli was the most common isolates, 6 (66.7%) in diabetic samples while 2 (100%) in non diabetic samples.

Table 1: Number and percentage of samples with significant bacteriuria in diabetic and non-diabetic patients

Urine Culture	Diabetics	Non-diabetics
Positive	9 (9%)	2 (2.5%)
Negative	91 (91%)	78 (97.5%)

P = <0.05

Table 2: Distortion of isolates from urine samples of diabetic and non-diabetic patients

Organism	Diabetics	Non-diabetics
E.coli	6 (66.7%)	2 (100%)
Proteus	2 (22.2%)	-
Staph. aureus	1 (11.1%)	-
Total	9 (100%)	2 (100%)

Table 3: Antibiotic sensitivity of isolates from diabetic and non-diabetic patients

Organism	Gentamicin	Ampicillin	Nitrofurantoin	Nalidixic acid
E.coli	7=S(87.5%) 1=R(12.5%)	6=R(75%) 2=S(25%)	7=S(87.5%) 1=R(12.5%)	7=S(87.5%) 1=R(12.5%)
S.aureus	2= S(100%)	2=R(100%)	2=R(100%)	2=R(100%)
Proreus	S(100%)	R(100%)	S(100%)	S(100%)
Organism	**Cotrimaxzol**	**Cefotaxime**	**Tetracycline**	**Cephalothin**
E.coli	5=R(62.5%) 3=S(37.5%)	6=S(75%) 2=R(25%)	7=R(87.5%) 1=S(12.5%)	5=R(62.5%) 3=S(37.5%)
S.aureus	2= R(100%)	1=S(50%) 1=R(50%)	2=R(100%)	1=R(50%) 1=S(50%)
Proreus	S(100%)	S(100%)	R(100%)	R(100%)

There were no differences in sensitivity pattern of isolates from diabetic and non diabetic patients.

Table 4: Features of diabetic patients who had significant bacteriuria ($\geq 10^5$ organism/ml)

Sex	♀= 7(77.8%) ♂ = 2(22.2%)
Age	♀ = 4 > 50 years = 3 < 50 years ♂ = 2 > 50 years
Type of DM	IDDM = 4 (44.5%) NIDDM = 5 (55.5%)
o. of pus cells in GUE	All > 3 cells/hpf
Type of organism isolated	E.coli = 6(66.7%) Proteus = 2(22.2%) S. aureus = 1(11.1%)
Duration of DM	2 = 1-5 years 3 = 5-10 years 2 = 10-15 years 2 = > 15 years

Discussion

This study has revealed a higher prevalence of urinary tract infection among diabetic patients than non diabetic patients. Also it revealed that a higher prevalence of urinary tract infection in females in both group (diabetic and non diabetics).

E.coli is the most isolate in both groups which is sensitive to Gentamicin, Nitrofurantoin, Cefotaxime and Nalidixic acid. These results are in agreement with another studies had been done in Romania, Kenya, Canada and Nigeria[9-12]. While it is in disagreement with one study which had been done in Sweden in (1993), which shows that the prevalence of bacteriuria in diabetic out patients was not significantly higher than in non diabetic out patients, or healthy volunteers (P-value=0.07)[13]. The explanation of these results may be due to:

1. The presence of significant amount of glucose in diabetic urine, which serves as a favorable media for growth of bacteria[12].
2. A change in bacterial adhesion to the uroepithelium, partly as a result of abnormal intracellular calcium metabolism which lead to decrease in tamm horsfall protein which usually adhere to the bacteria and prevent attachment to the uroepithelium is involved in the pathogenesis of urinary tract infection in diabetic patients[14].
3. Also abnormal intracellular calcium metabolism lead to granulocytes dysfunction which leads to more attachment of bacteria to uroepithelium and more infection[14].

There are studies consistently document that the prevalence of asymptomatic bacteriuria is not influenced by type or duration of diabetic or by the quality of diabetic control[14] and this is in agreement with the results of this study.

The presence of pus cells in the GUE is sensitive for the presence of infection as in the patients in this study who had significant bacteriuria had>3 pus cell/ H.P.F. but presence of pus significant bacteriuria had >3 pus cell/H.P.F. but presence of pus cells less specific and it occurs in other conditions like nephrocalcinosis, interstitial nephritis, polycystic kidney disease, visico-ureteral reflux, anatomical abnormalities[6].

Conclusions & Recommendations

1. The prevalence of asymptomatic significant bacteriuria is higher among

patients with diabetic mellitus compared to non diabetic out patients.

2. It is not influenced by type or duration of diabetes.

3. It is more common in females than males.

4. Esherichia coli is the most common organism that causing asymptomatic bacteriuria in both diabetics and non diabetics.

5. All patients with diabetes mellitus should be screened for the presence of asymptomatic significant bacteriuria.

6. Patients with diabetes mellitus who have significant asymptomatic bacteriuria should be treated to prevent the complications of this condition such as chronic pyelonephritis, renal scarring and chronic renal failure.

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CAUSES OF CHRONIC RENAL FAILURE IN AN IRAQI GENERAL HOSPITAL

Wael l. Jabur**FICMS, CABM*, **Akeel J. Al-Bahadli*****FICMS(Med.),CABM, FICMS(Neph.)*, **Khalid Abdulla*****FRCP*

Abstract

Background: Causes of chronic renal failure may vary in different parts of the world and in the same place at different times. Knowing the causes is important in planning prevention and treatment.

Objective: Is to find the causes of chronic renal failure in Al-Kadhimiya Teaching Hospital (Baghdad), which may serve as a representative of other major general hospitals in the country.

Patients & Methods: We studied 145 patients (98 males and 47 females). Their ages ranged from 1 to 80 years. The cause of renal failure in each patient was defined according to preset criteria. When the cause could not be identified in spite of satisfactory clinical examination and investigations it was labeled unknown.

Results: The cause was unknown in 27.5% of patients. Known causes included: obstructive nephropathy (17.1%), diabetes mellitus (16.5%), primary hypertension (15.1%) and reflux nephropathy (13.1%). A definite diagnosis of glomerulonephritis could be ascertained in 6 patients only.

Conclusion: The cause of chronic renal failure could not be identified in a significant proportion of patients many of whom may have been suffering from undiagnosed chronic glomerulonephritis. Among identifiable causes urinary tract obstruction, diabetes mellitus, primary hypertension and reflux nephropathy (chronic pyelonephritis) were the leading causes.

Key words: Renal failure, glomerulonephritis, diabetes, hypertension.

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Introduction

Chronic renal failure leading ultimately to end stage renal disease (ESRD) is a major health problem resulting in increased mortality, decreased quality of life of people affected and high costs from renal replacement therapy. Some nephrologists believe that we are in the midst of an epidemic of ESRD[1]. The incidence of ESRD has been increasing relentlessly at an annual rate of about 6-8% in most European countries[2].

In the Middle East a survey based on retrospective data reported an annual incidence for ESRD of 90-110 per million populations[3].

There is no foreseeable end to the rapidly rising rates of ESRD due to aging of the population, and the positive association of age with two major renal disease risk factors, diabetes mellitus and hypertension[1].

The list of causes of chronic renal failure have changed overtime, partly due to changing incidence of some diseases, changing age of populations and changing diagnostic criteria of some renal diseases. Two decades ago[4] glomerulonephritis and pyelonephritis were the commonest causes of chronic renal failure, while in recent years diabetic and hypertensive renal disease have increased steadily so that they account now for more than 40% of all new cases in some places[5]. A report from this country two decades ago stated glomerulonephritis and pyelonephritis as the most common causes of chronic renal failure[4]. Knowing the causes is important in prevention and treatment of chronic renal failure.

The aim of the Study was to identify the causes of chronic renal failure and their proportions in the university hospital which is one of the major general hospitals in the country and may therefore serve as an example of other hospitals.

Patients & Methods

We performed the study in Al-Kadhimiya Teaching Hospital (Baghdad) during the period January to June 2002. One hundred forty five patients with chronic renal failure were included in the study (98 males, 47 females, age range 10-85 years). They included 100 patients treated in the medical department during the period of

* Nephrology Unit/ Al-Kadhimiya Teaching Hospital, ** Dept. Medicine, College of Medicine, Al-Nahrain University.
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Correspondance & request to: Dr. Akeel J. Al-Bahadli.

study plus reviewing the notes of 45 patients treated in the department in the preceding few months.

Forty patients were on regular dialysis, seventy patients had one or more acute dialyses and the rest were treated conservatively. Ten patients were excluded from the study because they did not complete their investigations.

Diagnosis of the causative disease was made according to the criteria cited below. When a diagnosis could not be made with confidence in spite of full clinical examination and all necessary investigations the cause was labeled as unknown. Renal biopsy was performed in 4 patients only.

Diagnostic criteria:

Chronic glomerular disease: Patients having a definite history of nephrotic syndrome, or having a renal biopsy showing glomerulonephritis were labeled as chronic glomerular disease.

Reflux nephropathy (Chronic pyelonephritis): Sonographic or radiocontrast studies demonstrating kidneys with irregular outlines, deformed pelvicalyceal system and significantly different in size were considered the main criteria for this diagnosis[6]. History of recurrent urinary tract infection since early life and urinalysis showing pus cells in excess of red cells or granular casts were considered supportive evidence but not diagnostic by themselves.

Obstructive nephropathy: Is classified in our study into stone related & non-stone related obstructive nephropathy.

Diagnosis of stone-related obstructive nephropathy depended on the presence of stones and signs of obstruction documented by imaging investigations or a history of stones treated surgically with enough anatomical disruption of the urinary tract to produce renal failure later.

Non-stone related obstructive nephropathy included patients with obstructive nephropathy secondary to benign prostatic hypertrophy, prostatic or bladder tumors and congenital anomalies of the urinary tract.

Hypertensive nephropathy: Points supporting a diagnosis of primary hypertension leading to renal failure were: an onset of hypertension between 25-50 years of age, a family history of hypertension, absence of a history suggestive of renal disease before the discovery of hypertension, and an interval of several years between the discovery of hypertension and the beginning of renal failure.

Analgesic nephropathy: The main criterion for this diagnosis was a long history of consuming analgesics supported by sonographic evidence of structural changes in the kidneys, pyuria and the absence of another cause for renal failure.

Polycystic kidney disease: Diagnosis depended on the usual finding of multiple cysts on sonographic examination and the presence of family history of the disease.

Results

The figure shows the distribution of the different causes of chronic renal failure.

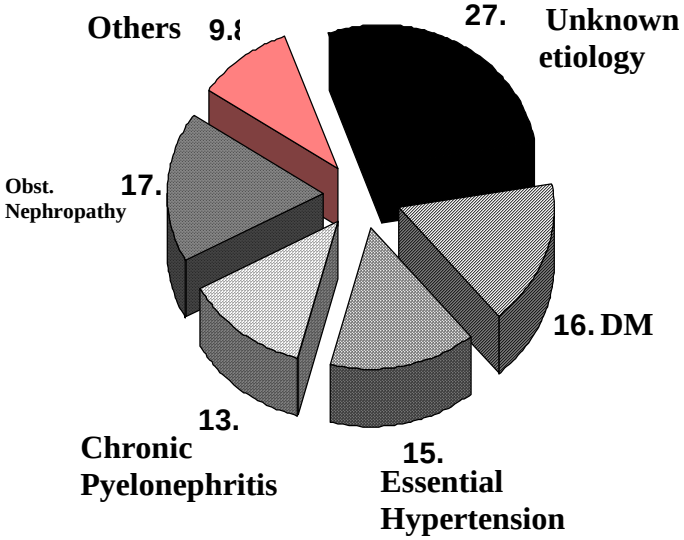

Figure: Causes of chronic renal failure their Percentages

The cause was unknown in 40 patients (27.5%), 30 (75%) males and 10 (25%) females.

Obstructive nephropathy was the commonest identifiable cause of chronic renal failure encountered in 25 patients (17.2%). The causes of obstruction were: urinary stones in 20 patients (80%) 12 males and 8 females, benign prostatic hypertrophy in 3 (12%) and bladder tumors in 2 (8%).

Diabetes mellitus (DM) was the second commonest cause encountered in 24 patients (16.5%). Sixteen of them (11 males and 5 females) suffered from type II and 8 (4 males and 4 females) from type I**.**

Essential hypertension was the cause in 22 patients (15.1%), 16 males and 6 females.

Nineteen patients (13%), 14 males and 5 females, fulfilled the criteria for the diagnosis of **reflux nephropathy (chronic pyelonephritis)**.

Only 6 patients, 4 males and 2 females, had a definite diagnosis of chronic glomerulonephritis based either on renal biopsy, or a definite history of nephrotic syndrome. Six patients, 3 males and 3 females were suffering from adult polycystic kidney disease. Three patients, 1 male and 2 female, had analgesic nephropathy.

Discusssion

Obstructive nephropathy was the commonest identifiable cause in this hospital. This may not accurately reflect the picture in the general population but it highlights the high prevalence of this condition in the country because this hospital is a large general hospital and it is probable that most other hospitals have a somewhat similar though not necessarily identical experience. This finding is important because obstructive nephropathy is a treatable condition when dealt with before the occurrence of extensive damage to the kidneys. In 80% of cases the obstruction was caused by stones, which stresses the importance of dealing with stones early and properly. Obstructive nephropathy was also one of the leading causes of chronic renal failure in another report from this country 2 decades ago[4]. Similarly urolithiasis related ESRD was high in Saudi Arabia (14.3%)[3] which was attributed to the high incidence of schistosomiasis in that country. These figures contrast with reports from western countries that show urolithiasis related ESRD to be rare (3.6-8%)[7]. This may reflect a lower incidence of renal stones or earlier and better management.

Most of the patients with urolithiasis related ESRD were males, in contrast to some recent reports suggesting that the female sex is a risk factor for urolithiasis related ESRD[7]. Most urinary stones in this country, like elsewhere, are calcium stones[8] which are thought to be more likely to produce ESRD than other types of stones[7].

Stones can damage the kidney by obstruction and infection. Since both elements usually coexist and it is not possible to separate them we included all patients with stone related chronic renal failure under the term obstructive nephropathy and did not use the term stone related chronic pyelonephritis.

Diabetes Mellitus was the second most common identifiable cause of chronic renal failure with type II accounting for two thirds of the cases. DM type II is the commonest cause of ESRD in USA[1]. This seems to reflect an increased incidence of type II DM allover the world and improved life span of diabetics making them more susceptible to long term complications of DM.

Essential hypertension was the third common cause of chronic renal failure encountered in 15.1% with a higher incidence in males. Control of hypertension remains the most important strategy to halt the progression of renal failure[7].

Reflux Nephropathy (chronic non-obstructive atrophic pyelonephritis) was a common cause of chronic renal failure in our patients (13.1%) with a higher incidence in males. This result is different from a previous report in this country which showed a higher incidence (22%) of chronic pyelonephritis[4]. This probably reflects a difference in diagnostic criteria.

In Yugoslavia reflux nephropathy forms a large percentage (43%) of young patients on haemodialysis[9]. In Middle East countries the incidence of reflux nephropathy is about the same as ours. In Saudi Arabia it accounts for 8.9% of cases[3]. In Pakistan it accounts for 11% of cases[10]. Reports of the European Dialysis and Transplant Association (EDTA) and the Austrian and New Zealand dialysis and transplant registry (ANZDATA) show that 10% of patients entering dialysis/transplant programs have reflux nephropathy[11] which is comparable to our result. The reported incidence is less in USA[12]. The preponderance of males is different from some other reports which show a slight preponderance of females[9].

Chronic glomerulonephritis was the cause in only 4.1% of our patients. This low incidence is almost certainly the result of the strict criteria used for diagnosis. It is very probable that many of the patients in the unknown group were cases of undiagnosed glomerulonephritis. There are wide variations in the incidence of glomerulonephritis in different countries. It accounts for 39.8% of cases in Japan and 34% of cases in Australia while it forms only 11% in USA and 12.4% in England and Wales[11]. At

least part of the reason for these differences is the different diagnostic attitudes of doctors and investigators in various places[11].

Polycystic Kidney Disease accounted for only 4.7% of cases, similar to results obtained in England and Wales (5.9%), USA (3.5%) and Australia (7%)[11].

Analgesic nephropathy was encountered in three patients with chronic deforming rheumatoid arthritis who had no other risk factor for renal disease. Two of them were females and one male.

The unknown cause group:

The cause of chronic renal failure could not be established in 27.5% of patients most of them presenting late in the course of their illness. The same is seen in many studies worldwide. In Saudi Arabia the unknown group forms 55.9% of patients[3]. In England and Wales it forms 17%[11]. Most of our patients in this group were young, with a negative history of renal disease, hypertensive and hypervolaemic. Their sonographic examinations showed small kidneys, with smooth outline and without abnormalities in the pelvicalyceal system. These features are consistent with chronic glomerular disease but could not be labeled so in the absence of a definite proof.

Conclusion

The etiology of ESRD could not be established in a significant proportion of patients. Obstructive nephropathy, mostly stone related was the commonest identifiable cause followed by diabetic nephropathy, hypertensive nephrosclerosis and reflux nephropathy (chronic pyelonephritis). A definite diagnosis of glomerulonephritis was made in a small proportion of cases but we cannot exclude the possibility that many of the unknown cases were in fact cases of undiagnosed glomerulonephritis.

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CORRELATION OF ENDOSCOPIC AND HISTOLOGICAL CHANGES IN PATIENTS WITH SUSPECTED CELIAC DISEASE

Tarik M. Al Hadithi* *CABM*, **Subh S. Al Mudallal**** *M.Sc., FICMS Haem.*

Abstract

Background: During endoscopic examination of the upper gastro-intestinal tract, some endoscopic changes in the duodenal mucosa may suggest Celiac disease.

Patients and method: We studied 102 patients, referred to the endoscopy unit for evaluation of the possibility of Celiac disease. All patients underwent upper gastrointestinal endoscopy and biopsy specimens were taken from the descending duodenum and sent for histopathological study.

Results: The main symptoms of patients were short stature and chronic diarrhea. Atrophic duodenal mucosal folds and scalloping of the valulae conniventes were found in 31 of 34 patients with subtotal villous atrophy. The sensitivity and specificity of this result were 91 percent and 75 percent respectively.

Conclusion: For early diagnosis of celiac disease biopsy study of the duodenal mucosa should be done in all patients when there are endoscopic changes in the duodenal mucosa like atrophic mucosal folds and presence of scalloping of the valvulae conniventes.

Key words: Celiac Disease, Endoscopy, Histological Changes

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Introduction

Celiac disease, also termed celiac sprue and gluten sensitive enteropathy is a disease in which there is malabsorption of nutrients by that portion of the small intestine, a characteristic, although not specific lesion of the small intestinal mucosa; and prompt clinical improvement after withdrawal of certain cereal grains from the diet.

It is likely that many patients are not diagnosed because symptoms are mild or absent[1,2], and because the indication for intestinal biopsy do not take account of the full range of presenting symptoms[3].

In fact studies have suggested that the majority of adults with celiac disease do not have symptoms of overt malabsorption[3-5], and diagnosis in such patients with only transient or unrelated symptoms is particularly difficult and elusive.

Despite the widespread use of fiberoptic endoscopy in the examination of the upper gastrointestinal tract for a variety of symptoms, reports of endoscopic observations in celiac disease are few[6-9] and endoscopically, no characteristic changes has been described. Scalloping or absence of duodenal folds has been noted in some patients with celiac sprue[10,11] and if present should alert the endoscopist to the possible diagnosis.

In this study we describe some of the endoscopic changes in the duodenal mucosa in patients with suspected celiac disease and correlate these changes with the histological alterations.

Patients & Methods

In the period between January 2001 to January 2002, we studied 102 patients referred to the endoscopy unit in Al-Kadhimiya Teaching Hospital with suspicion of celiac disease. History was taken from the patients regarding age, sex, main symptoms and associated diseases.

All patients underwent upper gastrointestinal endoscopy under local anasthesia and medozolam sedation, 5 mg given intravenously. Endoscopic findings were recorded and multiple biopsy specimens taken from the descending duodenum. The specimens were placed on a piece of filter paper and fixed in 10 percent formal saline. All specimens were routinely processed and embedded on edge in paraffin wax. Sections 4 to 5 micrometer (μm) thick were taken, and stained with hematoxylin and eosin and examined under a light microscope by observer unaware of the pattern of the mucosal folds in the patients. The slides were graded as normal (i.e. showing finger shaped or leaf shaped villi) or as showing partial villous atrophy (i.e. with the villous-like structure still

* Dept. Medicine, ** Dept. Clinical Pathology, College of Medicine, Al-Nahrain University.

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Correspondence and reprint request to: Prof. Tarik Mohammed Al Hadithi, Dept. Medicine, College of Medicine. Tel 5562881

detectable) or subtotal villous atrophy (i.e. with the villi no longer detectable)[12].

The sensitivity, specificity, and positive and negative predictability of this finding in celiac disease were calculated according to the methods of Foster *et al*[13].

Results

The demographic of the study group were listed in table 1, which showed that the mean age of patients were 16.1 year and the male/female ratio was 1.7:1, and the main symptoms were short stature and chronic diarrhea. Four of the patients were insulin dependant diabetes mellitus.

Table 1: Patients demographic data

Characteristics	Data
Total No. of patients	102
Mean age (range) years	16.1 (2.5-38)
Male/female ratio	64/38 (1.7:1)
Main Symptoms	
Short stature	71 (70%)
Chronic diarrhea	16(15.7%)
Weight loss	8(7.8%)
Anemia	5(4.7%)
Osteomalicia	1
Dermatitis herptiforms	1
Associated diseases	
IDDM	4
Turner's syndrome	1

Table 2 showed the endoscopic findings of all patients. Forty one patients had atrophic duodenal mucosal folds and seven had scalloped valvulae conniventes with patchy areas of pale mucosa alternating with more erythematous mucosa, the pale areas had a pronounced mosiac appearance.

Table 2: Endoscopic findings

Endoscopic Features	Number
Normal	43
Atrophic duodenal mucosal folds	41
Scalloped valvulae conniventes	7
Duodenitis	9
Duodenal Ulcer	2
Total	102

Table 3 showed the final histological diagnosis of the studied patients. Subtotal villous atrophy were diagnosed in 34 patients, partial villous atrophy in 27 patients, non specific duodenitis in 25 patients and 16 patients were reported as normal.

Table 3: Histological Findings

Histological Diagnosis	Number
Subtotal villous atrophy	34
Partial villous atrophy	27
Non specific duodenitis	25
Normal	16
Total	102

Table 4 demonstrated the correlation of the endoscopic and histological findings. Of the 48 patients with atrophic duodenal mucosal folds and scalloped valvulae conniventes on endoscopy, 31 had subtotal villous atrophy and the remaining had partial villous atrophy or duodenitis.

The loss of duodenal mucosal folds and the presence of scalloped valvulae conniventes were found in 31 of the 34 patients with subtotal villous atrophy and in 17 of 68 patients with partial villous atrophy, duodenitis and normal mucosa.

Table 4: Correlation of endoscopic to histological findings

Endoscopic findings	No.	Histological diagnosis	No.
Normal	43	Partial villous atrophy	18
		Normal	14
		Duodenitis	9
		Subtotal villous atrophy	2
Atrophic duodenal mucosal folds	41	Subtotal villous atrophy	27
		Duodenitis	8
		Partial villous atrophy	6
Duodenitis & duodenal ulacer	11	Duodenitis	7
		Normal	2
		Subtotal villous atrophy	1
		Partial villous atrophy	1
Scalloped Valvulae conniventes	7	Subtotal villous atrophy	4
		Partial villous atrophy	2
		Duodenitis	1
Total	102	Total	102

Table 5 showed the correlation of histological to endoscopic findings. From this table and table 4 we can calculate the sensitivity of the loss or

marked reduction in the duodenal mucosal folds and presence of scalloped valvulae connivente, for the diagnosis of subtotal villous atrophy to be 91 percent, and the specificity 75 percent. The procedure had a positive predictive value of 64.6 percent and a negative predictive value of 95 percent. The overall accuracy was 80 percent.

Table 5: Correlation of histological to Endoscopic findings

Histological diagnosis	No.	Endoscopic findings	No.
Subtotal villous atrophy	34	Atrophic duodenal muocosal folds	27
		Scalloped valvulae coniventes	4
		Normal	2
		Duodenitis	1
Partial villous atrophy	27	Normal	18
		Atrophic duodenal muocosal folds	6
		Scalloped valvulae coniventes	2
		Duodenitis	1
Non specific duodenitis	25	Normal	9
		Atrophic duodenal muocosal folds	8
		Duodenitis & duodenal ulcers	7
		Scalloped valvulae coniventes	1
Normal	16	Normal	14
		Duodenitis	2
Total	102	Total	102

Discussion

Few studies have been reported concerning the endoscopic appearance of the proximal duodenal mucosa in celiac disease. In the earliest report, which describes a patient with celiac disease and a gastrojejunostomy, the authors observed a diffusely erythematous mucosa without ulceration or friability[7]. No other mucosal abnormalities were noted, and the authors concluded that it was unlikely that a diagnosis of celiac disease could be made based solely on evidence obtained at duodenoscopy[7].

Stevens and McCarthy[8] have claimed that severe villous atrophy is detectable endoscopically, especially after scattering of contrast media; they noted severe atrophy of the mucosa in the duodenal cap and a mosiac pattern in 7 of 11 untreated celiac patients.

Other studies have confirmed the usefulness of duodenoscopy in obtaining biopsy specimens for the diagnosis of small bowel disorders including celiac sprue[14,15] but have not commented on the appearance of small intestinal mucosa at time of endoscopy.

In the study of Brocchi *et al*[10], 15 of 17 patients with subtotal villous atrophy had a loss of kerckring's folds in the descending duodenum or a marked reduction in their number, and in 8 of 48 patients with partial villous atrophy or normal mucosa. The sensitivity and specificity of a loss or reduction of folds for the diagnosis of subtotal villous atrophy were 88 percent and 83 percent respectively. This result is comparable with our result of the reliability of endoscopy for diagnosis of celiac disease. In our study the sensitivity and specificity for atrophic duodenal mucosal folds and scalloping of the valvulae conniventes for the diagnosis of subtotal villous atrophy were 91 percent and 75 percent respectively.

In Jabbari *et al* study[11] they stated that the scalloped configuration of the valvulae conniventes has served as a consistently recognizable feature marking the underlying mucosal changes.

The diagnosis of early celiac sprue may be difficult to establish and often requires a high index of suspicion, as the presenting clinical feature may be subtle[16]. This may relate in part to initially limited involvement of only the proximal small bowel[17], and the functional reserve of the ileum, which can compensate for malabsorption occurring in the proximal small bowel[18].

The main problem in our patient was short stature, 71 patients (70%), this is because most patients were referred from endocrinology clinic to exclude malabsorption syndrome.

Other indications were chronic diarrhea, 16 patients (15.7%), 4 of them were insulin dependant diabetes mellitus. The remainder presented with unexplained anemia. One patient presented with osteomalacia and another one with dermatitis herpitiformis.

Characteristic endoscopic mucosal abnormalities were noted in 59 (58%) of patients, 57 (96%) of them had histological abnormalities.

According to this result when there is characteristic endoscopic finding observed unexpectedly, biopsy evaluation of the mucosa should also be carried out. By doing so, the diagnosis of celiac disease will be reached earlier, and avoiding complications that may occur with advanced stage of the disease.

So we recommend that all patients undergoing upper gastrointestinal endoscopy, should have the second part of the duodenal mucosa examined for a loss or reduction of duodenal folds and for the presence of scalloping of valvulae conniventes.

If these changes observed, duodenal mucosal biopsy should be performed since according to our study will assist in diagnosis of 91 percent of the patients with subtotal villous atrophy.

Conclusion

Celiac disease has a characteristic endoscopical change in the duodenal mucosa like atrophic duodenal mucosal folds and scalloping of the valvulae conniventes. For early diagnosis of celiac disease biopsy evaluation of abnormal looking mucosal folds is essential.

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EXPERIENCE WITH THE OBJECTIVE STRUCTURED CLINICAL EXAMINATION AS A TOOL FOR STUDENT'S ASSESSMENT IN THE DEPARTMENT OF SURGERY IN THE COLLEGE OF MEDICINE, ALNAHRAIN UNIVERSITY

Hikmat A.R. Hatam *FRCS*, **Aktham R. Al-Salihi** *CABS*, **Mohammed Y. Hachim** *FICMS*

Abstract

Objectives: The objective of this study is to compare the student's performance in the objective structured clinical examination (OSCE) in surgery to the results of multiple choice questions and to the traditional clinical examination and to find out that OSCE is more valid , reliable , practical than the traditional clinical examination and similar to MCQs .

Subjects & Method: All 47 sixth-year medical students of the Medical College, Al-Nahrain University in the academic year 2001-2002 were enrolled in this study. There were 3 data sets from the result of OSCE, MCQs, and the traditional clinical examination. By using paired t-test (p) and the correlation coefficient of Pearson (r) the results were compared with each other.

Results: Analysis of the results of the three examinations revealed high correlation between OSCE and MCQs and a significant difference was noted between OSCE and the traditional clinical examination.

Conclusion: The result of this study support the previously reported finding of the low correlations between OSCE and the traditional clinical examination .The OSCE is similar to MCQs in its validity; reliability and it cover a wide range of knowledge and clinical skills and minimize the effect of both the examiners and the patients on the result of the examination.

Keywords: Objective structured clinical examination OSCE, Multiple-choice questions MCQs, Traditional clinical examination.

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Introduction

Many attempts are made to improve the reliability, validity and practicability of the clinical examinations especially those used to assess medical skills and clinical competence. To avoid many of the disadvantages of the traditional clinical examination, such as the variability of the examiners and the patients, availability of enough professional examiners, variation of the marking and its limited content, the objective structured clinical examination(OSCE) is nowadays used all over the world[1,2] as a reliable and valid method of assessment of medical students because the variables and the complexity of the examinations are more easily controlled, its aims can be more clearly defined and more of the student's knowledge can be tested and it allows very specific feedback, not only to the candidates , but also to those who taught them and to those who set the examination to a much greater extent than conventional clinical examination[3].

There is an extensive body of research documenting the reliability, validity and practicability of the OSCE in assessing fundamental clinical and practical skills in medical practice[4]. The OSCE procedure is known to serve in identifying the areas of weakness in the curriculum and teaching methods or both and thus serves as a mechanism to improve educational effectiveness. A well constructed OSCE is known to provide important information regarding the candidate's performance and quality of medical training[5].

The department of surgery of the College of Medicine has introduced the OSCE to assess the 6th year medical students at the end of their clinical practice in the academic year 2001-2002.

The aim of this study is to compare the student's performance in the OSCE in surgery to the result of multiple choice questions (MCQs) and to the result of tradition clinical examination and to prove that OSCE is more valid , reliable , practical than the traditional clinical examination and similar to MCQs .

Materials & Methods

During the academic year 2001-2002, 47 sixth-year medical students in the department of surgery underwent 12 week training course in

Dept. Surgery, College of Medicine, Al-Nahrain University.
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Address Correspondence to Dr. Aktham R. Al-Salihl.

different surgical specialties, at the end of which they were subjected to an objective structured clinical examination (OSCE), multiple choice questions (MCQs) and traditional clinical examination. The OSCE included 10 stations that were a mixture of clinical aspects. The MCQs included 60 questions; each contained 5 TRUE-FALSE questions related to a specific subject. In the traditional clinical examination the examiner cross-examined the student on the methods, results and interpretation of long case in the surgical ward.

In the OSCE, candidates rotate through a series of stations (Figure 1) spending 5 minutes in each one.

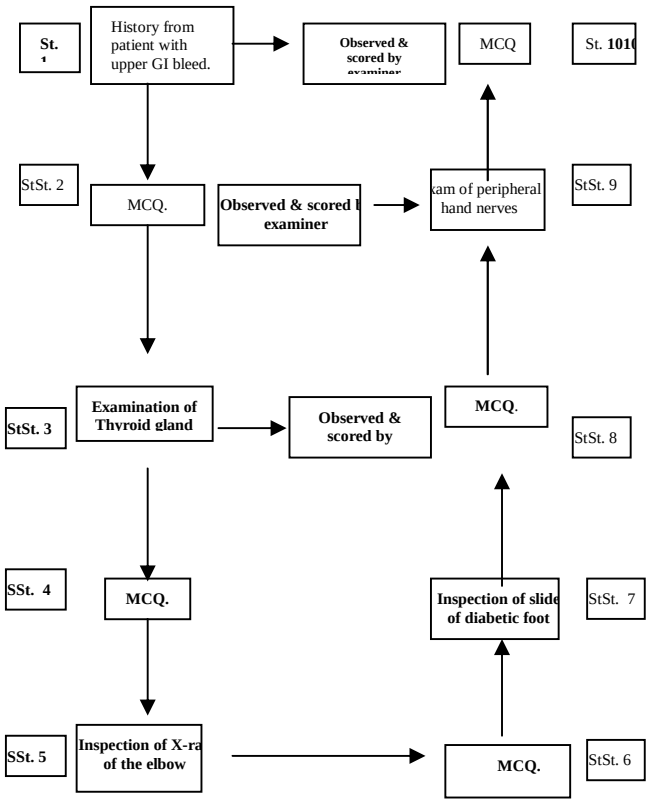

Figure 1: Complete OSCE using 10 stations

The stations are of two types; in the odd number station at which the student start, he is asked to carry out a clinical task such as history-taking or physical examination and observed by one examiner and scored as he carry out the task on a checklist (Figures 2 & 3).

Station ( )

Student's Name: -
Please tick one box for each line of students history

Question	Mention good	Mention fair	Not mention
1-Name of the patient.			
2-Age.			
3-No. of bleeding attack & amount.			
4-Duration of bleeding.			
5-Red or coffee ground color bleeding.			
6-Hx. Of syncope.			
7-Abd. Pain disappears with bleeding.			
8-Vomiting without blood followed by bleeding & pain.			
9-Passing dark colored blood per rectum.			
10-Any change in app. Or weight.			
11-Hx. Indigestion or heartburn.			
12-Did he have any attack previously.			
13-Any past Hx. Of peptic ulceration.			
14-Any Hx. Of drug intake aspirin, steroid.			
15-Hx. Of alcoholism, amount, duration.			
16-Hx. Of smoking.			
17-Hx. Of previous surgery.			
18-Any related medical disease.			

Figure 2: Example of examination check list for station at which student was asked to take a proper history from patient complaining of attacks of coffee-ground vomiting.

Station No. ( )

Student's Name: -
Instruction to the examiner: -
1. Introduction to the patient. 2. Please place one tick in one of the boxes for each line of the section of the student's examination.

Procedure	Attempted satisfactorily	Attempt but not satisfactorily	Not attempted
Exposure			
Instruction to the patient to lower the chin			
Lifting the arms up			
Turn the neck to either side			
Palpation, did he put the thumb in the nap of the neck			
Ask the patient to swallow			
Bend the neck to both sides			
Testing for shifting of the trachea			
Palpating carotid pulsation			
Palpating the supraclavicular lymph nodes			
Did he complete the palpation of the thyroid from front			
Percussion of chest wall			
Auscultation of lobe of thyroid			
Make a rapport with the patient			

Figure 3: Example of examiner's checklist for station at which student was asked to conduct examination of neck for thyroid enlargement.

The checklist is prepared and agreed by the examination committee before the exam[6]. In other stations the student may interpret clinical materials like a slide of patient with specific pathology or X-rays write notes or answer questions. In order to ensure that all candidates are tested on the same clinical material (patients), trained volunteers role-play as so-called standardized patients (SPs)[7], particularly for history-taking and for physical examination stations. Then the student moves to the next even number station where he answers open-end or multiple choice questions on his finding at the previous station, as he cannot go back to check on omissions, questions have a minimal cueing effect. At the end of examination, the examiners checklist and the students question answer are marked according to previously agreed scored.

There were 3 data sets considered, collected from the result of OSCE, MCQs result and traditional clinical examination. Data entry and analysis were carried out using Microsoft Excel (XP) for windows. Z-test was used to detect significant difference between 2 proportions. Paired t-test (p) was used to detect significant difference between the mean score in OSCE and that in MCQs and traditional clinical examination. Coefficient Correlation of Pearson (r) was used to detect significant correlation between the results.

A detailed analysis of the student's performance at each station was carried out. The discriminatory power of each part of the examination was determined and the marks in one part correlated with marks in another part and with the examination as a whole.

Results

The 6th year student's mean scores for OSCE was 67.8% which was approximately equal to the mean scores of MCQs (67.4%) while that of traditional clinical examination was 72%.

When the marks of the OSCE were compared with that of traditional long case clinical examination a significant difference was noted (Correlation Coefficient of Pearson; r = 0.037), which mean that the two exams did not correlate with each other. But when the OSCE result was compared with that of MCQs no significant difference was recorded and both exams looks highly correlated (Correlation Coefficient of Pearson; r = 0.68) (Figure 4).

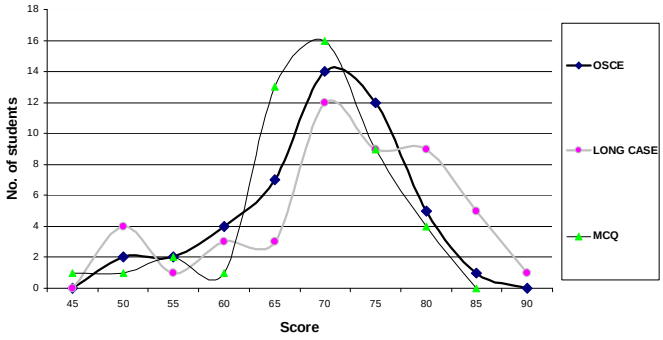

Figure 4: Relation between OSCE, MCQs and traditional clinical examination scores

The discriminatory power at each station of the OSCE was determined and the marks in each station correlate to the whole OSCE exam. These finding prove that both OSCE and MCQs results are equal and they are efficient, reliable, and objective and provide diagnostic information about both the students and the course.

During a survey done, most of the examiners and students were satisfied from OSCE as a reasonable and objective assessment tool in surgery and recommending it for the coming years

The use of a checklist by the examiner and the use of multiple choice questions in the OSCE results in more objective examination.

Discussion

In the clinical examination there are three variables, the student, the patient and the examiner[8]. From the result of our study, in the OSCE two variables, the patient and the examiner are more controlled and a more objective assessment of the student's clinical competence is made comparing to the tradition clinical examination. Moreover it is possible to control its complexity and to define more clearly what skills, attitudes, problem-solving abilities, and factual knowledge are to be assessed. Because the examination is more objective than the traditional clinical examination it is more easily repeatable and standards from year to year. The OSCE samples a wider range of the candidate's knowledge, skills and can include aspects seldom covered in the traditional clinical examination[9,10] for example , history-taking in a simulated emergency admission. The marking strategy for OSCE is decided by the examination committee in advance. Finally, the OSCE can provide feedback to both the staff and the students to a much greater extent than the

conventional examination this is useful in directing further studies for the students and in designing teaching programs for the staff.

The OSCE can be used both as a part of a final assessment and as a part of a more continuous assessment[11,12] as, at the end of each 12 week period during the academic year of the undergraduates course.

It was seen from our results that both the OSCE and the MCQs are equal in their evaluation of the student's knowledge and this confirms previously published relationship between types of assessments[12].

The main disadvantage is the increased preparation required. As with many educational advances the benefits are achieved in part by more effort. This effort, however, takes place before the examination, and on the day of the examination the examiner's time is used more efficiently .Another possible disadvantage of this approach may be the feeling that the student's knowledge and skills are being put into compartments and that he is being discouraged from looking at the patient as a whole. We believe that this can be obviated by testing the student's competence using communication skills and viva approach or assessing it with a tutor during his work on the wards.

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APPRAISAL OF THE MOST COMMON PRESENTING COMPLAINT & THE RISK FACTORS OF CA BREAST IN IRAQI FEMALES DURING THE EMBARGO

Taha H. Taha *DS, FICMS*, **Hussein T. Naji** *FICMS*

Abstract

Objectives: Breast cancer is the most common site-specific cancer in women and is the leading cause of death from cancer in females at 40-50 years of age. This is a retrospective study of 100 cases of carcinoma of the breast diagnosed by histopathology were analyzed to detect the most common presenting complaint & the risk factors of Ca Breast in Iraqi female patients during the Embargo.

Methods: The medical records of 100 patients with Ca breast that were diagnosed by histopathology were reviewed. The study was conducted in Al-Kadhimiya Teaching Hospital and involved patients who were admitted to this hospital during the period (January 1992-December 2001).

Results: The age of our patients range from 25-75 years, with a maximum age group distribution (48%) at 35-44 years. 64 patients with Ca breast presented with painless breast lump, 14 patients presented with painful lump and 10 patients presented with nipple discharge (bloody discharge).
71 patients with Ca breast are premenopausal & 29 of these (40.8%) have history of regular menstrual cycle while 42 of these (59.2%) have history of irregular menstrual cycle. There are 45 multifarious patients that breast fed their children, while another 47 multiparous patients that did not breast feed their children. Thyroidectomy was found to be submitted to 23 patients with Ca breast due to goiter prior to developing Ca breast. There are 33 patients got history of preexisting benign breast condition, while14% of our patients have positive family history of Ca breast.
The upper lateral quadrant of the breast is the common site of involvement with Ca breast (72%).

Conclusion: Breast cancer is the most common tumor of females with a general tends towards an increase in younger age group. It is really important for any female who indeed care about her general health to start self examination for her breast as early as possible starting at 18 years of age on certain time intervals, particularly when she feels any symptoms (like the presence of breast lump, pain, nipple discharge…etc.) must hurry to seek medical consultation.

Key words: Ca breast, presentation, embargo.

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Introduction

The breast or mammary gland is the distinguishing feature of the class mammalian[1]. The breast has always been a symbol of womanhood and ultimate fertility[2]. The breast is a modified sweat gland covered by skin and subcutaneous tissue[3]. The breast occupies a space within an envelop of superficial fascia[4]. The adult female breast has two components, these are: the epithelial elements responsible for milk formation and transport (namely the acini and ducts), and the supporting tissues, muscles, fascia and fat[4].
The epithelial elements consist of twenty or more lobes. Each lobe drains into mammary duct which lie behind the areola, each of which ends separately at the nipple. The lobe consists of lobules, the number of which is variable. Each lobule is a collection of (10-100) acini grouped around and converging on a collection of ducts[4]. The lobules occupy the more peripheral part of the breast.
From puberty to death the breast is subjected to constant physical and physiological alterations that are related to menses, pregnancy, lactation and menopause[4].

Patients & Methods

This is a retrospective study including 100 patients with Ca breast that diagnosed by histopathology, at Al-Kadhimyia Teaching Hospital, from January 1992 through December 2001. The medical records were reviewed and data were analyzed to detect the following: The most common presenting symptom and the age of presentation, pre-existing benign breast conditions, menstrual history, marital status,

Dept. Surgery, College of Medicine, Al-Nahrain University.
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Address Correspondence to Dr. Taha H. Taha.

parity and breast feeding, previous thyroidectomy due to goiter and its relationship with Ca breast, obesity in post menopausal female and its effect, the most common site (or quadrant) of the breast involved and family history of Ca breast.

Results

The age of our patients range from 25-75 years, with a maximum age group distribution (48%) at 35-44 years, as shown in table 1. The most common presenting symptom was painless lump in the breast (64%), while 14% presented with painful lump, another 10% with bloody discharge from the nipple, 4% with nipple retraction and 3% with skin ulceration (Table 2). 71 patients were premenopause, 29 of them (40.8%) had a history of regular menstrual cycle while 42 (59.2%) had irregular menstrual cycle (Table 3). The other 29 patients were post menopause, 4 of them (13.8%) had a history of post menopausal bleeding and 25 (86.2%) with no such a history (Table 4). In addition, 18 of the postmenopausal patients were obese (62.1%), while the other 11 patients (37.9%) were non-obese. Regarding breast feeding, 45 patients were multiparous and breast fed their children, 47 patients were multiparous but did not breast fed their children, 4 patients were nulliparous and 4 patients were single (Table 5). 23 patients with Ca breast had submitted to thyroidectomy due to goiter prior to developing Ca breast. There were 33 patients got history of pre-existing benign breast condition. Regarding the site of the breast involved by carcinoma, 72 patients presented with upper lateral quadrant involvement, 9 patients presented with lower lateral quadrant involvement, 8 patients with central quadrant involvement, 7 with upper medial quadrant involvement and 4 patients with lower medial quadrant involvement as shown in table 6. 14 patients had positive family history Ca breast (Table 7).

Table (1): Age group and Ca breast

Age group	No .	%
25-34	1	1%
35-44	48	48%
45-54	22	22%
55-64	19	19%
65-74	10	10%
Total	100	100%

Table 2: Presenting complaint of Ca breast

Complaint	No.	%
Painless lump	64	64%
Painful lump	14	14%
Bloody nipple discharge	10	10%
Nipple retraction	9	9%
Skin ulceration	3	3%
Total	100	100%

Table 3: Menstrual history in premenopausl patients with Ca breast

Menstrual history	No.	%
Regular menstrual cycle	29	29%
Irregular menstrual cycle	42	42%
Total	71	71%

Table 4: Post menopausal bleeding in patients with Ca breast

Postmenopausal bleeding	No.	%
Positive	4	13.8%
Negative	25	86.2%
Total	29	100%

Table 5: Marriage, parity, breast feeding and Ca breast

Patient group	No.	%
Married,multiparous,breast feeder	45	45%
Married, nulliparous	4	4%
Single	4	4%
Married,multiparous, not breast feeder	47	47%
Total	100	100%

Table 6: Site of involvement of Ca breast

Site	No.	%
1-Upper lateral quadrant	72	72%
2-Lower lateral quadrant	9	9%
3-Upper medial quadrant	7	7%
4-Lower medial quadrant	4	4%
5-Central quadrant	8	8%
Total	100	100%

Table 7: Family history of Ca breast

Family history	No.	%
Positive	14	14%
Negative	86	86%
Total	100	100%

Discussion

The impact of breast disease in western societies assumes greater importance as cancer of this organ continues to increase exponentially[1]. In Iraq, breast cancer had remained the most common tumor of female with a general tend towards an increase in younger age group[5]. Breast cancer forms 24.5%, 23.9%, and 27.2% of total cases of cancer in Iraqi females in 1992, 1993, and 1994 respectively[5]. Breast cancer is the most common site-specific cancer in women and is the leading cause of death from cancer in females at 40-44 years of age[1,10,11]. Experiences shown that it has not occurred before mature development of the breast, rarely before 20s and

usually before the age of 30s with maximum age distribution between 40-45 years[6].

Ca breast accounts for 27-32% of all female cancer and is responsible for 19% of cancer related death in women[7]. The incidence of new cases has been steadily increased since mid 1940s, were the incidence was 1 in 11 and at 1992 it was 1 in 9[1]. Despite the steady increase in incidence, the overall mortality almost remained static, because of detection of Ca breast at an early stage[8,9].

In our study the age of patients ranges from 25-74 years with a maximum distribution (48%) at (35-44) years age group. This coincide with other studies done in Saudi Arabia, which showed that 53% of Ca breast occurred at (31-50) years age group[10,11].

The most common presenting symptom was painless lump in the breast (64%) which coincides with other studies[11].

71 patients with Ca breast were premenopausal, 29 of them(40.8%) had history of regular menstruation, while 42 of them(69.2%) had history of irregular menstruation, thus more estrogen exposure occur with irregular menstruation and this was associated with more incidence of Ca breast[1]. The remaining 29 patients (29%) were postmenopausal and 4 of them (13.8%) got history of postmenopausal bleeding, while 25 of them (86.2%) got no such history.

45 patients with Ca breast were multiparous and breast fed their children, which concluded that breast feeding protection is not considered valid any more and this coincide with other studies[1].

There were 23 patients of Ca breast submitted to thyroidectomy due to goiter, and this agreed with presence of estrogen receptors in the thyroid tissue and therefore goiter was more common in patients with positive estrogen receptors[6]. For this reason, patients with estrogen receptors who developed goiter are in a great risk of developing breast cancer[1].

18 of the post menopausal patients with Ca breast (62.1%) were obese, this confirm the effect of estrogen that resulted from peripheral conversion of androgen to estrogen E1 then to estradiol E2 in the fatty tissue of obese patients during post menopausal period[1].

There were only 14 patients with positive family history of Ca breast, and this low percentage with the fact that all patients developed their complaint after the year 1991 (after Um-Al-Maarik or 2nd Gulf war) might give us a clue about the hazards of irradiation exposure that Iraqi people had suffered and still suffering in all fields of medicine as well as surgery.

Conclusion

Breast cancer is the most common tumor of females with a general tend towards an increase in younger age group. It is really important for any female who indeed care about her general health to start self examination for her breast as early as possible starting at 18 years of age on certain time intervals, particularly when she feels any symptoms (like the presence of breast lump, pain, nipple discharge…etc.) must hurry to seek medical consultation.

For those females with high risk factors or positive family history and those above 35 years old should stick to a regular annual check up by clinical and ultrasound examinations for early detection of any lump or malignant disease of the breast before its spread, beside the mandatory examination with mammography at 50 years of age.

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DIASTEMATOMYELIA (SPLIT CORD SYNDROME): A RETROSPECTIVE STUDY

Samir H. Abood *FRCS*, **Abdul Amir Jasim** *FICMS*, **Sarmad A. Ibrahim** *FICMS*

Abstract

Background: Diastematomyelia is the term used to describe the malformation in which the spinal cord is split into two hemi cords, by a bony or cartilaginous ridge, each has a single set of dorsal and ventral nerve roots and is contained within its own dural sheath. On the other hand, diplomyelia indicates that the two spinal cord segments are completely duplicated; four sets of dorsal and ventral nerve roots are present within a single dural sleeve.

Objective: To study the clinical, radiological and pathological patterns of diastematomyelia in Iraq, and to emphasize the importance of thorough radiological investigations in order to achieve adequate surgical treatment**.**

Methods: Five patients of proved diastematomyelia were studied retrospectively regarding age, sex, and clinical and radiological features. Four of them were treated surgically by removal of the ridge and release of the tethered cord.

Results: The patients were two male and three females. Four of them were below one year of age. Back deformity was the main presenting feature in the first few months of life, while delayed walking was the main presentation after one year of age. The commonest pathological findings were split cord with bony ridge associated with lipoma. CT and MRI provided excellent anatomical and pathological details. Two of the patients developed CSF leak following surgery and had to be reopened. All children made good recovery**.**

Conclusion: Closed spinal midline developmental defect occurs more readily in girls than in boys. Multiple and complex abnormalities are observed: diastematomyelia, diplomyelia, and vertebral malformations. There are three groups of structures involved in the pathological process, skin, bone and neural tissues. CT and MRI provide excellent radiological diagnosis, and should obviate the need for myelography in this group of patients. Surgical treatment is the only way to correct the multiple deformities and defects, and to release cord tethering.

Key words: Diastematomyelia, Diplomyelia, Split cord malformation (SCM), Tethered cord syndrome, Bony cartilagenous spur, Fibro cartilagenous spur, Lipoma, Meningomyelocele.

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Introduction

Diastematomyelia (Type I SCM) is the term used to describe the malformation in which the spinal cord is split into two hemi cords and each has a single set of dorsal and ventral nerve roots and is contained within its own dural sheath, separated by a dural-sheathed rigid osteocartilagenous (or bony) median septum. The name is derived from a Greek word meaning separation and marrow (i.e., spinal cord). On the other hand, diplomyelia (Type II SCM) indicates that the two spinal cord segments are completely duplicated; four sets of dorsal and ventral nerve roots are present within a single dural sleeve and separated by a non rigid fibrous median septum[1]. More recent investigations have revealed that diastematomyelia and diplomyelia represent opposite ends of a continuum with few, if any, "true" examples at either end[1]. Because this group of malformations appears to have a common embryological disorder, Pang *et al*[1] made a good argument that the terms diastematomyelia and diplomyelia should be abandoned in favor of calling these lesions collectively split-cord malformations (SCM).

The error in embryological development that produces split-cord malformations is subject to continuing debate. Where as failure of primary neurulation can explain dorsal abnormalities regardless of whether they are open or closed, a ventral disruption in normal spinal cord formation is needed to produce a split-cord malformation. One theory that unifies the spectrum of this group of neural tube defects (NTD) states that the disordered mechanism occurs during gastrulation, when all three germ layers are in proximity[1,2]. Investigators presume that a second neuroenteric canal becomes invested with mesenchyme to form an endomesenchymal tract that splits the notochord and neural plate and that the timing and

Dept. Surgery-Divsion of Neurosurgery, College of Medicine, Al-Nahrain University.
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Address Correspondence to Dr. Samir H. Abood.

severity determine the extent of the resultant malformation. Although often the two hemicords are approximately the same size, significant discrepancies can occur. The spinal cord often reunites distal to the cleft. Also, two separate areas of clefting have been reported. Sometimes a syrinx can be seen and is usually confined to one of the hemicords (When two dural sheaths are present, a bony or fibrocartilaginous spur exists at the caudal end of the cleft and may be attached to the surrounding bone dorsally, ventrally, or both. The spinal cord is tethered by this spicule as well as medially to the dura mater surrounding the spur. Frequently, the conus medullaris is low lying and tethered by a thickened filum terminale. Other NTDs, especially myelomeningoceles and neurenteric cysts, can be seen along with split-cord malformations and, a bony spur also would be expected in the presence of a hemimyelomeningocele, which combines an open NTD and a closed NTD. The anterior component of this embryological disorder results in a high incidence of bony vertebral column abnormalities that include failure of vertebral body segmentation; hemivertebrae; butterfly vertebrae; a widened spinal canal diameter, fusion of the pedicles, transverse processes, and laminae.

The clinical presentation of diastematomyelia is related to the group of tethered cord malformation as listed in table (1)[3,4].

Table 1: Clinical presentation

Parameter	Children	Adults
Pain	Uncommon complaint: when present, is usually in back and legs, anal-perianal pain is not noted.	Present & most often localized to anus & perineum: diffuse & bilateral, occasional shock like sensation
Foot deformity	Common: early sign of neuromuscular imbalance: usually progressive cavovarus deformity. Common: usually worsening scoliosis.	Not seen as a presenting or progressive symptom.
Progressive spinal deformity	Present in most as walking difficulties, gait abnormalities, and regression in gait training.	Not seen as a presenting or progressive symptom.
Urological symptoms	Common: usually as absence of dry periods between diapers. Continuous drippling, delayed toilet training, recurrent infection and enuresis.	Also common: urinary frequency, urgency, felling of incomplete voiding, stress incontinence, overflow.
Trophic ulceration of the legs and feet	Relatively common	Uncommon
Cutaneous stigmata of dysraphism	Common	< 50% of adults have external signs of spinal dysraphism
Aggravating factors	Growth spruts	Many factors precipitate acute symptom onset: trauma, maneuvers associated with starching of conuc, spinal stenosis.

Treatment is usually surgical aiming at eliminating the septum and release the tethered spinal cord. The absolute surgical indication for diastematomyelia is the existence of a progressive neurological deficit, and as a preliminary to the surgical correction of scoliosis. Other indications are relative, treated expectantly; many children with diastematomyelia who are initially asymptomatic eventually require operation on account of backache, painful or spastic lower limbs, or sphincter troubles[4]. Neurological improvement following an operation is usually modest and is restricted to symptoms and signs of recent onset. Children with dysraphism never improve beyond their degree of congenital neurological deficit. Recurrence of symptoms due to secondary adhesions of the spinal cord to the dura at the site of the operation is an uncommon late complication[5].

Aims: To study this congenital deformity regarding: the clinical presentation, pathological findings, radiological features, and the technique and outcome of surgical treatment.

For many years complicated cases of NTD were treated surgically without adequate radiological investigations, due to the unavailability of CT and MRI. Adequate myelographic study is difficult to obtain in this group of patients because of their age and the often infected back deformity. Consequently no details of anatomy were available during surgery, which often consisted only of obtaining skin cover of the defect.

Material & Methods

The material of this study included 5 patients with diastematomyelia .The patients files were reviewed and all biographic, clinical, radiological, and treatment data uniformly collected according to previously designed data sheet. The collected data includes; patients age, gender, duration of illness, the presenting symptom, and physical signs.

The diagnosis depended on CT with bone study in the axial and sagital planes, and MRI. Patients suspected to have SCM and recommended for radiographic examinations included patients with: signs and symptoms suggestive of tethered cord syndrome, cutaneous stigmata of occult spinal dysraphism without neurological symptoms and

history of an open myelomeningocele repaired at birth with recent progression of neurological deficits. The radiological findings by spiral CT scan and MRI are seen in figure 2, such as diastematomyelia associated bony or fibrocartilaginous spur, lipoma and myelomeningocele were also recoded.

Surgical technique[4]:

The aim of surgical treatment is to eliminate the septum, and release the spinal cord. In type I (SCM), the bony septum is always enclosed with in a dural sleeve. The bone is frequently fused with the neural arch dorsally. A laminectomy is performed carefully around the attachment of the septum until only a small island of lamina is left attached to the dorsal end of the septum. This permits subperiosteal dissection of the septum from its dural sleeve deep within the median cleft. Once the dorsal attachment of the septum is eliminated, it is no longer rigidly anchored at both ends, and can be resected.

All other tethering and associated lesions such as thickened filum terminale, lipoma, dermal sinus tract, and adhesions from previous surgery were also treated.

The operative data were documented including the surgical finding, the extent of spur resection and freeing of the tethered cord. Follow-up notes were reviewed and the patient's clinical findings were documented. The outcome of treatment was considered good if the patient has stable neurological function and poor if he is worse for any reason.

Results

Tables 2, 3, 4 & 5 summarize the age and gender distribution, the clinical, radiological, operative findings and complications: respectively. The back deformity is usually in the form of cystic swelling, partially covered by skin. Sometimes skin pigmentation or a tuft of hair is seen (Figure 1). Foot deformity a talipes equino varus, usually involves one leg (Figure 2).

Table 2: Age & sex distribution and presenting symptoms

Age	Sex	Presenting symptom	Duration
3 months	Female	Low back deformity (Myelomeningocele)	Since birth
7 months	Female	Low back deformity (Meningocele)	Since birth
7 months	Male	Low back deformity (Meningocele)	Since birth
24 months	Male	Limping	1 year
60 months	Female	Limping	6 months

Table 3: Clinical Features

Symptom	< 1 year	1-2 year	> year
Pain	No	No	No
Foot deformity	Yes (Rt. Foot)	Yes (Rt. Foot)	Yes (Rt. Foot)
Progressive spinal deformity	Yes (Kyphoscoliosis)	No	No
Motor deficit	Yes (Rt. Foot)	Yes (Rt. Foot)	Yes (Rt. Foot)
Urolog. symptoms	?	No	No
Trophic ulcers	No	Yes (Rt. Foot)	No
Cutaneous stigmata	Lumber or lower dorsal meningocele with assoc. tuft of hair	Lower lumber tuft of hair & skin pigmentation	Lower lumber skin dimple associated with tuft of hair
Aggravating factors	No	Growth spurt	Growth & activities

Table 4: Operative findings

Pathology	No.
Bony ridge	3/4
Fibrocartligenous ridge	1/4
Associated lipoma	3/4*

* one still not operated on

Table 5: Operative Complications

Complication	No.
Cerebrospinal fluid leak	2/4*
Hydrocepalous	0
Wound infection	0

* both were re-explored, one required lumbo-peritoneal shunt

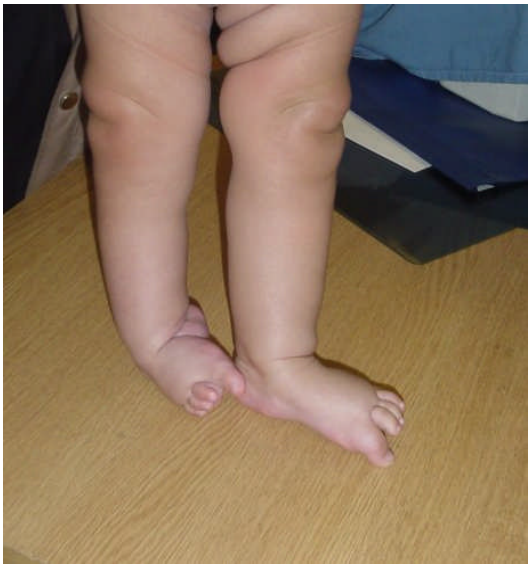

Figure 1: Foot deformity in a 7 months old child

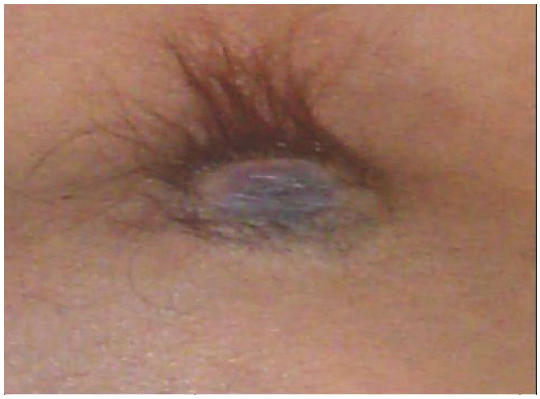

Figure 2: Back deformity, cystic swelling and tuft of hair in the lumbosacral region of a 7 months old child

Radiological findings:

Figures 3-6 of spiral CT and MRI clearly demonstrated the split cord, the bony spur, associated lipoma and other evidence of cord tethering.

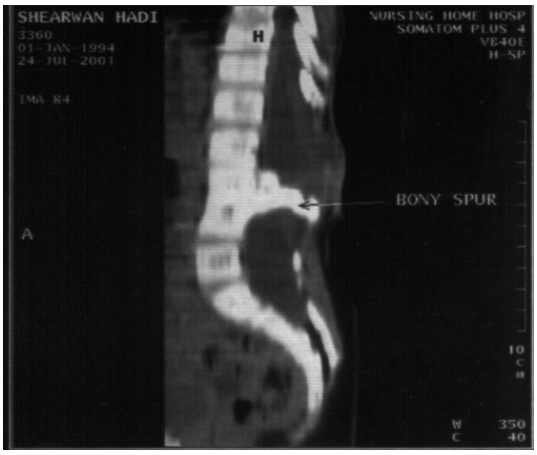

Figure 3: Spiral CT. Sagital reconstruction showing the bony spur attached to the back of the vertebrae

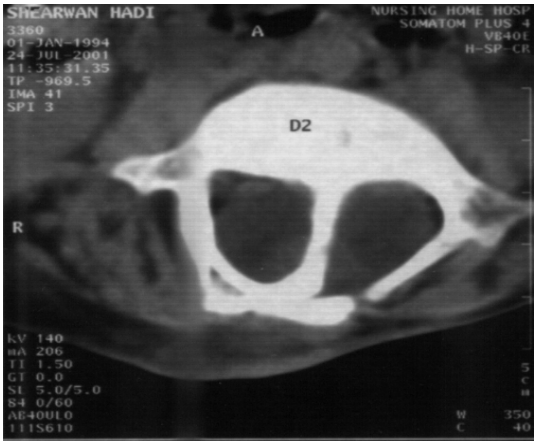

Figure 4: Spiral Ct. Axial view: showing the complete division of the spinal canal by the bony spur

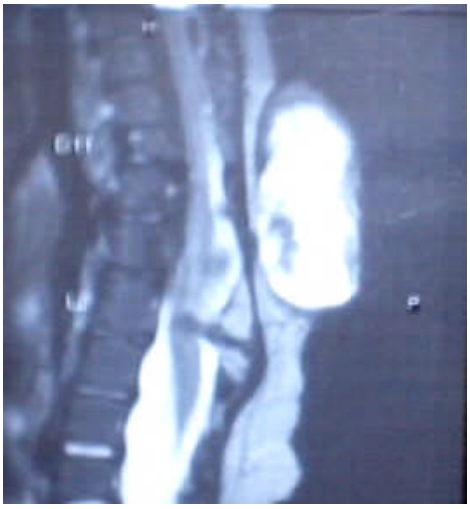

Figure 5: Sagital MRI showing the bony spur, and an associated lipoma

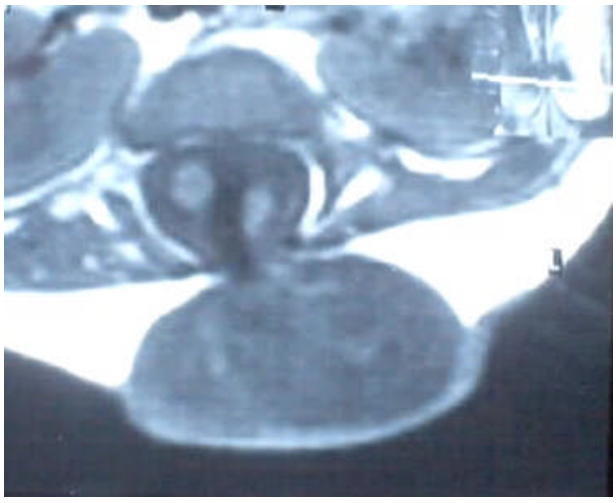

Figure 6: Axial MRI showing diastematomyelia, the Rt. Is closed and the Lt. is open in to the cyst

Follow up:

All children who were operated on made good postoperative recovery. Three of the patients were followed up for six months, two had CSF leak and had to be re-operated. The result of surgery was considered good in the three cases. The two eldest children showed improvement in gait and foot deformity.

Discussion

Diastematomyelia is an uncommon dysraphic state usually seen in infants and young children, and is a rarity in adults[4,6]; only 19 reports have been published in the literature so far. In this study all patients were below 5 years of age. The clinical manifestations of split cord malformation are

similar to those seen for other forms of closed neural tube defects. Split cord malformations are seen approximately twice as often in females[6,7,8] which is some what similar to the results in this study, where females comprised 60% of patients. In children the onset of symptoms is usually insidious, only rarely a definite precipitating event is recognized. Depending on the age of the child and the location of the split cord lesion, the signs to look for are definite leg or arm weakness, deteriorating gait or regression in gait training in toddlers, and decreased spontaneous movement in the lower extremities in infants[6,7]. In this study three patients below one year (60%) were accidentally found to have split cord lesion in association with myelomeningocele, another two patients (2, and 5 years old) presenting as delayed walking and limping respectively. Trophic changes of the lower extremities from sympathetic denervation, for example smooth shiny skin; hair loss, nail changes, and non healing ulcers in the toes are seen occasionally in older children[4,6,7]. In this study one patient, two years old had trophic skin ulcer in the leg.

Foot deformity most likely results from neuromuscular imbalance at a time when the tarsal, metatarsal, and phalangeal bones are actively growing in early childhood, and aligning with each other along closely set joint surfaces[9]. In this study more than 1/2 of the cases had foot deformity.

Almost all children with tethered cord syndrome have some cutaneous stigmata of underlying dysraphism, but less than 50% of adult do. Midline hairy patches are highly correlated with split cord malformation[4,6-8]. Two clinical points need to be emphasized even though type II split cord malformations do not present a dramatic radiographic picture as type I malformation[10-13], a stiff fibrous septum was found in all type II lesion explored. Usually in the symptomatic group of patients, there were almost equal number of patients having type I and II lesion[8]. In this study bony septum (type I) was found in three patients and fibro cartilaginous septum in two with associated lipoma in three patients.

Postoperative CSF leak was seen in two cases, this was due to dural tear during dissection of the dura from the bony spur. In this study two cases of CSF leak were re explored, and one required lumboperitoneal shunt. In both patients the leak stopped. Thus, this study strongly argues that both types of SCM are cord tethering lesions likely to cause neurological damage, and both should be treated. All Type II SCMs should be explored, even if imaging studies did not reveal a definite median septum. The entire neuraxis should be studied to look for other tethering lesions, which should also be treated. Surgery is excellent for improving or stabilizing the neurological status.

The association between SCM and opened myelomeningocele has been shown to be between 26 and 80 percent[12,14-16] and the wider use of screening MRI on children with myelomeningocele will be likely to turn up with even more cases of SCMs before they become symptomatic.

Conclusion

1. The signs and symptoms of SCM are similar to those described for the tethered cord syndrome. Children commonly present with gait disorder and less so with pain and progressive spinal and foot deformities.
2. MRI and CT scan are useful screening tests for SCMs in delineating anatomical details of the splitcord lesion and in predicting associated lesions. With these two tests, all SCMs can be accurately classified into Type I or II lesions preoperatively, with no crossover ambiguities.
3. Even with the most sophisticated CTscan and MRI, many Type II SCMs will not be shown radiographically to possess a definite fibrous septum even though one is always present to tether the hemicords. As with Type I lesions, all Type II SCMs should be surgically explored regardless of whether a definite septum is found on neural imaging.
4. Although longer follow up is needed. The surgical outcome for SCM appears to be excellent.

Recommendation

All patients with suspected spinal dysraphism, should have full radiological evaluation with spiral CT and MRI in order to discover SCM early. For better evaluation of the result of surgery, electro-physiological and urological studies and longer follow up is required.

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ANALYSIS OF THYROID SURGERY FOR 100 PATIENTS IN AL-KADHIMIYA TEACHING HOSPITAL

Hussam A.K. Ahmed *FRCS*, **Taha H. Taha** *FICMS*, **Hussein T. Naji** *FICMS*

Abstract

Background: Goiter is a common entity in this part of the world. The objective of this study was to analyze the clinical presentations, operative findings and histopathological results of 100 patients with goiter.

Subjects & Methods: This study was conducted on 100 patients who were presented with goiter, and were operated on in Al-Kadhimiya Teaching Hospital during the period from January 2000 through January 2001.
The diagnosis of goiter has been based on the clinical examination, thyroid function tests, ultrasonography and thyroid scan. The thyroid specimens obtained by surgical intervention where sent for histopathological study. The data obtained were analyzed and the results were evaluated.

Results: Depending on clinical examination the thyroid swellings were classified into solitary nodule 30%, multinodular goiter 50% and diffuse goitre 20%. Subsequent classification of goiter on the bases of intraoperative findings and histopathological examination revealed an increase in the number of multinodular goiter to 72%. The total number of patients with confirmed solitary nodule is 20 (20%). The histopathological examination showed that simple cyst constituted 50% of solitary nodules, adenoma 40% and malignancy 10%. The total incidence of malignancy in goiter is 4%. The overall correct prediction of histopathological diagnosis by FNA is 75%.

Conclusions: The true diagnosis of MN goiter should be based on clinical examination, intraoperative findings and histopathological confirmation. More than 33% of patients with solitary thyroid nodule under clinical examination were found to have additional nodules at operation and by histopathological examination. The incidence of malignancy in goiter in general is 4%. The diagnostic accuracy of FNAC was 75%.

Key words: Goiter, Thyroid surgery, FNAC, Histopathology.

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Introduction

The thyroid gland was described by Galen (130-200A.D) but the name was applied to it after Wharton (1656) named it (Thyroid) from its proximity to the thyroid cartilage. The cartilage was named thyroid (Shield like) by Galen because of its characteristic shape[1].

Thyroid enlargement is usually due to a variety of underlying pathologic conditions either neoplastic or non-neoplastic. Clinical distinction between these two pathologies is not usually possible[2]. Clinical distinction between these two pathologies is not usually possible. Several diagnostic modalities have been used such as thyroid function test, scintigraphy and ultrasonography. Fine needle aspiration of thyroid nodules has revolutionized the diagnostic approach to nodular goitre and is widely used in identifying malignant nodules and selecting patients for surgery[2].

Dept. Surgery, College of Medicine, Al-Nahrain University.
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Address Correspondence to Dr. Taha H. Taha

By the end of 1996, 14 countries had carried out a survey of iodine deficiency disorders to assess this deficiency was a problem in their countries.
As a result they have identified iodine deficiency as a public health problem and have decided to ionize their salt[3].

Patients & Methods

One hundred patients complaining of goiter have been operated on during the period from January 2000 till January 2001. The operations where done at Al-Kadhimiya Teaching Hospital.

All the patients underwent a full history and clinical examination plus laboratory investigations including thyroid function tests, thyroid scan and Ultrasonography. Fine needle aspiration cytology is done for some of the patients.

Perioperative preparation is done for thyrotoxic patients using neomercazole and propranolol. Propranolol is given alone in some of the cases.

All the resected thyroid tissues were sent for histopathological study.

During exploration, identification of the recurrent laryngeal nerve on both sides is done to

prevent nerve damage. In some patients Redi-Vac suction drains were left behind at the operative site and removed after 48 hours.

Postoperative treatment with thyroxine is given to the patients with non-toxic goiter, after receiving the histopathological report, starting with 0.1 mg daily and changing the dose depending on the clinical examination and on T3, T4 and T.S.H levels while no thyroxine replacement therapy was given to the patients with toxic goiter postoperatively until checking of their thyroid function tests at least 6 months postoperatively.

Results

In this prospective study, the data of 100 patients who underwent thyroid surgery at Al-Kadhimiya Teaching Hospital during the period of one year is analyzed. The prospective diagnosis of goiter supported by either ultrasonography or isotope scan. The thyroid swellings were classified into solitary nodule 30%, multinodular goiter (MN) 50% and diffuse goiter 20% as shown in table (1). Subsequent classification of goiter on the bases of intraoperative findings and histopathological examination revealed an increase in the number of multinodular goiter to 72% while the solitary nodule and diffuse goiter dropped to 20% and 8% respectively as shown in table (2).The incidence of multinodular goiter in females is 72% while in males it is 71% as shown in table (3).

The family history in multinodular goiter is positive in 56% of males, while it is positive in 59% of female patients as shown in table (4).

The total number of patients with confirmed solitary nodule is 20 (20%). The histopathological examination showed that simple cyst constituted 50% of solitary nodules, adenoma 40% and malignancy 10% as shown in table (5).

The total number of patients with toxic goiter is 20 cases which represent 20% of all cases of goitre (table 6). 14 patients were with multinodular toxic goiter and representing 70% of the total number of toxic goiters and 6 patients were with diffuse toxic goiter and representing 30% of toxic goiters (table 7).

The total incidence of malignancy in goiter is 4%, the incidence of malignancy in multinodular goiter is 2.7% (2 patients) and in solitary nodules is 10% (2 patients) (table 8).

Fine needle aspiration is done for 8 patients with solitary nodule and the results were correlated with that of the histopathological reports to show the accuracy of FNA cytology in correlation with the final histopathological results. In 6 cases the FNA cytology was correctly predicted with final histopathological results. In two cases the FNA cytology results were suspicious (false positive) in correlation with final histopathological report. The overall correct prediction of histopathological diagnosis by FNA is 75% (table 9).

All the 100 patients in this study underwent thyroid surgery. The extent of thyroid surgery performed for patients with MN goiter, solitary nodule and diffuse goiter is shown in table (10). The duration of operations was ranging from 60-120 minutes .In cases with multinodular goitre, 62 patients underwent subtotal thyroidectomy. In patients with solitary nodule 18 patients underwent lobectomy and isthmectomy.

Near total thyroidectomy was done where the FNA cytology has showed papillary carcinoma and the histopathology of the specimen confirmed it. In diffuse goitre, near total thyroidectomy was done in 4 patients and subtotal thyroidectomy for the other 4 patients.

Postoperatively, the mortality rate was zero. Two patients got thyroid storm but they survived, other two patients got seroma, while only two patients got stitch abscess. In adddition, 12 patients (12%) developed atelactasis as shown in table (11).

Table 1: Types of goiter based on clinical examination aided by ultrasonography or isotope scan

Types of goiter	No. of patients	%
Solitary nodule	30	30
MN goiter	50	50
Diffuse goiter	20	20
Total	100	100

Table 2: Types of goiter based on operative and pathological findings

Types of goiter	No. of patients	Percentage
Solitary nodule	20	20
MN goiter	72	72
Diffuse goiter	8	8
Total	100	100

Table 3: Demography of 72 patients with MN goiter according to sex

Sex	No of patients	Percentage
Male	18	71
Female	54	72

Table 4: Types of MN goiter and family history incidence

Sex	No of patients	Toxic	Non toxic	Family history	%
Male	18	2	16	10	56
Female	54	12	42	32	58
Total	72	14	58	42	58.3

Table 5: Types of solitary nodules based on operative and pathological findings

Solitary nodule	No of patients	Percentage
Adenoma	8	40
Colloid cyst	10	50
Carcinoma	2	10
Total	20	100

Table 6: Total incidence of toxic goiter

	No of patients	Percentage
Toxic goiter	20	20
Non toxic goiter	80	80
Total	100	100

Table 7: Types of toxic goiter

	No of patients	Percentage
MN goiter	14	70
Diffuse goiter	6	30
Solitary nodule	0	0
Total	20	100

Table 8: The incidence of malignancy in different types of goiter

	No of patients	No of malignancy
M.N goiter	72	2 (2.7%)
Solitary nodule	20	2 (10%)
Diffuse goiter	8	
Total	100	4 (4%)

Table 9: The accuracy rate of FNAC for solitary nodules in correlation with histopathological results

No of patients with FNAC	FNAC correctly predicted with histopathology	Suspicious (False positive)	Accuracy rate
8	6	2	75%

Table 10: The extent of thyroid surgery in different types of goiter

Type of goiter	Total No. of patients	Hemithyroi-dectomy	Total thyroid-ectomy	Near total	Sub total	Isthme ctomy
MN Goiter	72	-	-	10	62	-
Solitary Nodule	20	18	-	2	-	-
Diffuse goiter	8	-	-	4	4	-

Table 11: Early postoperative complications

Complications	No. of cases
Thyroid storm	2
Seroma	2
Recurrent laryng.n.injury	-
Stitch abscess	-
Atelactasis	2
Mortality	12

Discussion

The World Health Organization (WHO) estimated that there are more than 200 million people in the world with goitre[15]. It occurs in almost every country in the world. It is still endemic in various parts of Iraq especially in the north. It is also frequently met within the middle of Iraq[16]. More than 33% of our patients with solitary thyroid nodule on clinical examination are found to have additional nodule at operation and by histopathological examination. This is not surprising since the sensitivity of clinical examination is reported to be as low as 54%[5]. The sensitivity of clinical examination in this study was 66%. We believe, like others, that the true diagnosis of multinodular goiters should be based on clinical examination, intraoperative findings and confirmation of the histopathological studies. In this study 72% of the patients were found to have multinodular goiter, and this incidence is comparable with that reported by others[5,6]. The family history is positive in more than 58% of our patients with multinodular goiter and it may be due to the interplay of many factors; such as the severity of iodine deficiency, the rate of iodine loss from the body, the relative efficiency of iodine trapping mechanism of the gland and its biosynthesis activity. This suggests a genetic factor which needs to be proved, although two patients with MN goiter included in this study were with Pendred's syndrome, where they were presented with multinodular goiter, sensorineural deafness and they were euthyroid and there were a positive family history.

Although most of the patients with Pendred's syndrome are euthyroid, some of the patients are hypothyroid. The etiology of the sensorineural deafness is not known and the disease is inherited with an autosomal recessive pattern[8].

The incidence of 20% solitary nodules is similar to that in other studies which varies from (10%-20%)[2,17]. The types of solitary nodules based on intraoperative and histopathological findings were as follows: - colloid cyst forming 50%, adenoma 30% and malignancy 10%.

The incidence of thyroid malignancy in goiter is still controversial. In this study, the total incidence in solitary thyroid nodules is 10% and in MN goiter is 2.7%. The incidence of 4%

malignancy in goiter is comparable to a study in Iraq, where they reported an incidence of malignancy in 5.7% of the thyroid specimen which they studied[11]. The incidence of 10% carcinoma of solitary thyroid nodules in this study is comparable to that reported by others 12.7%[4,6].

The incidence of 2.7% carcinoma in MN goiter in this study is lower than that reported by others (5%-30%)[5]. This discrepancy may be due to difficulties of interpreting the very varied histological pattern which may present in different parts of the gland. Further confusion has arisen from the fact that most statistics showing the incidence of carcinoma are based on examination of glands that have been removed, and taking no account to the large number of nodular thyroids that are not operated upon[10].

The incidence of hyperthyroidism among patients with thyroid swelling in this study is 20%. Seventy percent of patients with hyperthyroidism have multinodular goiter and 30% have diffuse toxic goiter (Graves' disease).

Comparison of toxic goiter incidence in different studies is shown in table 12[9,10,11].

Table 12: The incidence of toxic goiter in different studies

Study	Period	Country	Incidence
Furzyfer	1935-67	USA	19.8
Thjodleiffson	1938-67	Iceland	12
Thommesen	1964-68	Denmark	22
Mogenson	1972-74	Denmark	27
Haraldson	1980-82	Iceland	23
Barker	1982	UK	22
Adel M. Ahmed	1993	Iraq	19
Our study	2002	Iraq	20

The incidence of Graves' disease appears to differ in our locality compared with 80% incidence in western countries[17]. A study in Saudi Arabia showed that 20% incidence of Graves' disease among the patients with thyrotoxicosis[12].

This low incidence could be due to the fact that our patients consult their doctors late, and that diffuse goiter in some cases progresses to MN goiter over a period of 10-20 years[14].

The results of FNA cytology were correlated with the histological results of the thyroid specimens. The accuracy of FNAC in this study was 75%, while 25% was suspicious (false positive), which is similar to the results in Saudi Arabia[2]. In other studies, the accuracy of FNAC varies from 83% to 99%[4]. Criteria for papillary carcinoma are non-specific and can occur in other lesions[12].

All our patients underwent thyroid surgery, and in the majority of them, subtotal thyroidectomy was done, but none of them is subjected to total thyroidectomy.

Regarding the postoperative complications, the mortality rate is zero. Two patients has got thyroid storm, but they survived though it is mentioned that the incidence of thyroid crisis is rare. In this study the incidence is high because some of our patients with toxic goiter are prepared with propranolol alone, due to the non availability of carbimazol in some circumstances.

Two patients have got seroma, the serous fluid was aspirated and the patients became well. None of our patients has got hemorrhage, and this is due to the precise ligation of thyroid vessels and perfect hemostasis.

The incidence of tetany is zero. This result not reflects the true incidence of hypocalcemia, as we did not do serum calcium measurement postoperatively. Other studies reported incidence of 2.8% postoperative hypocalcemia[13]. It is stated that ligation of the inferior thyroid artery distal to the end arteries supplying 90% of the parathyroid glands, will prevent the postoperative parathyroid insufficiency.

After total thyroidectomy the incidence of hypothyroidism is up to 29%[17].

Postoperative recurrent laryngeal nerve injuries, is not reported in this study, possibly due to meticulous dissection and identification of the recurrent laryngeal nerves during operation. Furthermore, none of our patients where subjected to total thyroidectomy. After total thyroidectomy, the recurrent laryngeal nerve damage is reported at an incidence of up to 23% of patient with thyroid malignancy[14].

Conclusion

The true diagnosis of MN goiter should be based on clinical examination, intraoperative findings and histopathological confirmation. More than 33% of patients with solitary thyroid nodule under clinical examination, ere found to have additional nodules at operation and by histopathological examination.

On the bases of surgery 72% of the patients with goiter had MN goiter, while 20% of them had

solitary nodules and 8% of them had diffuse goiter.

The incidence of malignancy in goiter in general is 4% based on the findings that the incidence of malignancy in solitary nodules was 10% and in MN goiter was 2.7%. No malignancy was found in diffuse goiter.

The incidence of thyrotoxicosis among patients with goiter in general was 20% .Seventy percent of them were with toxic MN goiter and 30% of them had diffuse toxic goiter. The diagnostic accuracy of FNAC was 75%.

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COLORECTAL CANCER: REVIEW OF 94 CASES IN AL-KADHIMIYA TEACHING HOSPITAL

Hikmat A. Hatam *FRCS*, **Hamid H. Sarhan** *FICMS CABS*, **Aktham R. Al- Salihi** *CABS*

Abstract

Objectives: The aim of this study is to determine the preliminary epidemiologic and pathologic features of the tumor, to review patterns of presentation, to present operative management and compared to current international standards.

Subjects & Methods: The records of 94 patients with colorectal and anal canal tumors presented to our unit in the third floor of Al-Kadhimiya Teaching Hospital, between 1995-2002 were reviewed and analyzed regarding age, sex, tumor site, histopathology, degree of differentiation, stage (Duke) and type of operations.

Results: Fifty six (60%) patients were males and 38 (40%) females; male to female ratio was 1.5:1. The peak age incidence was between 40-50 years (30.85%) with 23 (24.46%) patients were under the age of 40 years. The commonest presenting symptom was bleeding per rectum, followed by change in bowel habits. The rectum was the most common anatomical site affected. The most common histopathological type was adenocarcinoma. Most of the tumors were moderately differentiated. The majority of tumors at presentation were in Duke stage B and C. The two most common operations performed were abdominoperineal resection and right hemicolectomy

Conclusion:

I. Colorectal cancer is not as uncommon in Iraq as has been believed, and the incidence could well be increasing, especially since the life style is rapidly becoming more westernized.

II. There is a particularly high incidence in younger people and for pathologically aggressive tumors.

III. Health education, especially of the warning signs of cancer, and increased awareness of the seriousness of the disease, both among the public and medical practitioners are essential for early diagnosis.

IV. Any screening program, if started, may need to start at a younger age group.

Key words: colorectal malignancies, epidemiology, pathology, presentation, surgery.

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Introduction

Cancer of colon and rectum is a common malignancy. It represents the second most commonly occurring visceral malignancy in the United State[1]. It is second only to the malignant lung tumor as the leading cause of death from cancer in UK[2]. It is the seventh cause of death from cancer in Iraq[3].

Although some differences exist between the disease in Iraq and west, it would appear from this relatively large study that, in general, the disease is similar to the disease that has been described elsewhere.

Although the tumor registry is not population based, Al-Kadhimiya Teaching Hospital is the primary referral hospital in Baghdad distinct, therefore, the registry probably documents the majority of the patients with colorectal tumor in this distinct.

Dept. Surgery, College of Medicine, Al-Nahrain University.
Received 29th October 2003: Accepted 22nd December 2003.
Address Correspondence to Prof. HIkmat A. Hatam,
Email d.Hikmat@uruklink.net, P.O. Box 70012 Kadhimiya Baghdad, Iraq

Factors related to the western environment, mainly diet and hereditary, are believed to be the major influences in the development of colonic tumor. It is usually believed that in country such as Iraq, where the lifestyle is natural, these tumors are rare or at least uncommon. Though we believed that carcinoma of large bowel occur more frequently than expected, with many patients presented late and in advanced stages, and that a significant number of young patients are affected.

The objectives of this study were to determine the preliminary epidemiologic and pathologic features of the disease, to review patterns of presentation, to present operative management and compared to current international standards.

Patients & Methods

The records of 94 patients with colorectal and anal canal tumors presented to our unit in the third floor, Al-Kadhimiya Teaching Hospital, between October 1995 to October 2002 were reviewed. There were 56 males and 38 females with a mean age of 55.5 years ranging from 4-87

years. Patients included in this study come from south, middle and north of Iraq.

The extent of spread of tumor was determined using clinical and operative records and the histopathological reports of the specimens and all of the cases were classified according to Duke's classification.

History, operative, pathologic reports and follow-up documents were reviewed, the data obtained were grouped and analyzed regarding age, sex, tumor site, histopathology, degree of differentiation, Duke's stage and type of operations. The period of follow up was limited, for few months in most of cases, because of poor compliance of patients.

Results

Ninety four patients were registered with malignant colorectal and anal canal tumors. The male to female ratio was 1.5:1. Twenty three (24.46%) patients were below the age of 40 and 16 (17%) were below 30 (Table 1).

Table 1: Distribution of patients according to age & sex

Age (years)	Males	Females	Total	%
0-10	1	0	1	1.06
11-20	1	1	2	2.12
21-30	8	3	11	11.7
31-40	3	6	9	9.57
41-50	14	15	29	30.85
51-60	16	7	23	24.46
61-70	9	3	12	12.76
71-80	3	3	6	6.38
>80	1	0	1	1.06
Total	56	38	38	100

Youngest age = 4 years, oldest age = 87 years, mean age = 55.5 years, M:F ratio = 1.5:1

The most common presentations in decreasing frequency were: rectal bleeding (40%), change in bowel habits (32%), pain (perianal or abdominal) (23%) and intestinal obstruction (22%), (Table 2).

Table 2: Symptomatology

Symptoms	Number	%
Bleeding		
Alone	31	32.97
With other	6	6.38
Pain		
Alone	12	12.76
With other	12	10.63
Bowel irregularity		
Alone	22	23.4
With other	8	8.51
Intestinal obstruction		
Alone	15	15.95
With other	6	6.38

Some of patients got more than one symptom

The single most common site for large bowel malignancy was the rectum (28.72%), followed by sigmoid colon (25.53%), (Table 3).

Table 3: Distribution of cancer according to the site

Site	Number	%
Appendix	1	1.06
Cecum	5	5.31
Ascending colon	10	10.63
Hepatic flexure	1	1.06
Transverse colon	9	9.57
Splenic flexure	4	4.25
Descending colon	3	3.19
Sigmoid colon	24	25.53
Colon (multiple primary)	3	3.19
Rectosigmoid	4	4.25
Rectum	27	28.72
Anal canal	2	2.12
Anus	1	1.06
Total	94	100

There were 81 (86.17%) simple adenocarcinoma, 3 (3.19%) lymphoma and a variety of other rare histological types (Table 4).

Table 4: Histological findings

Histology	Number	%
Adenocarcinoma	81	86.17
Adinocarcinoma in villous adenoma	2	2.12
Mucinous	1	1.06
Signet-ring	2	2.12
Squamouss	2	2.12
Epidermoid	1	1.06
Melanoma	1	1.06
Lymphoma	3	3.19
Carcinoid	1	1.06
Total	94	100

Most of the tumors were moderately differentiated (71.3%), (Table 5).

Table 5: Grade (Differentiation)

Grade	Number	%
Well differentiated	5	5.31
Moderately differentiated	67	71.27
Poorly differentiated	21	22.34
Undifferentiated	1	1.06
Total	94	100

No patient had disease localized to the organ of origin. Thirty six (38.3%) patients had disease which extent beyond the colonic wall but without nodal metastasis. Forty eight (51.06%) patients had nodal metastasis and 10 (10.6%) patients distant metastasis mainly to liver (Table 6).

Table 6: Duke stage

Duke stage	Number	%
Stage A	0	0
Stage B	36	38.3
Stage C	48	51.06
Stage D	10	10.63
Total	94	100

The two most common operations performed were abdominoperineal resection (19.14%) and right hemicolectomy (18.08%), (Table 7).

Table 7: Surgical procedures

Surgical procedures	Number	%
Abdominal perineal resection	18	19.14
Anterior resection	7	7.44
Right hemicolectomy	17	18.08
Left hemicolectomy	4	4.25
Total colectomy with anastomosis	3	3.19
Hartman's operation	10	10.6
Local resection	13	13.82
Preliminary resection	10	10.06
Appendicectomy	1	1.06
No surgery	4	4.25
Palliative procedures		
Palliative colostomy	4	4.25
Palliative bypass	3	3.19
Total	94	100

Follow-up of patients has been poor because of poor patient compliance. During period of hospitalization the commonest complication was wound infection (20.21%), (Table 8).

Table 8: Postoperative complications

Complication	Number	%
Wound infection	19	21.21
Cardiopulmonary	13	13.82
Fistula	5	5.31
Intra-abdominal sepsis	5	5.31
Dehiscence	3	3.19
Renal failure	3	3.19
Total	48	51.06

Discussion

World-wide cancer of the colon and rectum emerges as the second most frequent form of cancer in males after lung cancer and in females after breast cancer[4]. The male to female ratio in west is about equal (1:0.9)[5], while this study showed higher incidence of the disease in males (the ratio 1.5:1). Sex ratio was similar in other series in Arab countries[6-9]. This finding may represent a true difference in the disease between Arab and west or it may simply be a function of referral bias.

The peak incidence of colorectal cancer was between 40-50 years age group (30.85%), like other series in Arab countries[6-9], while it was between 60-70 years age group in other studies[10-12].

The high incidence of the disease at a younger age group, below the age of 40 years was surprising finding in our series (24.46%) and other series in Arab countries[6-9]. The highest number seen in the literature, in the western studies (15%)[13]. This could be due to the different pyramidal age distribution in Iraqi and Arab population, the young people (below age of 40 years) constituting the majority of the Iraqi and Arab population. This fact should be born in mind when the physician sees a young patient with large bowel symptoms-very frequently the establishment of the diagnosis of colorectal cancer is significantly delayed as such as a possibility is not properly entertained.

The youngest age reported in our study was 4 years while the youngest age reported world-wide was in a premature infants[14].

Generally the clinical presentation is not much different from other studies[4,6,9]. Intestinal obstruction occur in (22%) of patients, which is similar to other studies (20%)[15,16].

The rectum was the single most common site for colorectal cancer in our study (28.72%). A similar rectal preponderance has been reported[6,7,15,17].

The tumor type in the majority of the cases was adenocarcinoma (88.29%). However, the incidence of lymphoma (3.19%), sequamous cell carcinoma (2.12%), signet-ring (2.12%) and carcinoid tumor (1.6%) were very uncommon. This is nearly similar to other studies[6-8,15,18-20].

The frequency of finding moderately differentiated tumors in this study (71.27%) was similar to that reported from other studies[4,6,7,9,13,15,18,20].

In our study staging of these malignancies were: 0% were in stage Duke's A, 38.30% were in Duke's B, 51.06% were in Duke's C and 10.63% were in Duke's D (metastasis). In a national series from New Zealand, these figures were 16.4%, 37.3% and 31.3%, respectively[15]. Data from the Lahey clinic showed 22.3%, 32.9% and 20.2%, respectively[21]. Data from Saudi Arabia showed 31.6%, 28.9%, 28.9% and 5.2% respectively[9] while data from Qatar showed 7%, 35.5%, 35.5% and 13% respectively[6].

These results suggested that colorectal cancer presents at an advanced stage in Iraq and that this is a function of poor patient education and poor patient awareness of the disease and late referral of patients by general practitioner.

The two most common operations performed were abdominoperineal resection (19.14%) and right hemicolectomy (18.08%). Similar types of operations were done to colorectal cancer cases in other studies[14,18,21,22].

The follow-up of patients has been poor because of poor patient compliance. Survival data do not exist and this does not seem to be unique to this study[7,8,17].

It is felt that the present series is probably representative of the disease at present time in Iraq and that it may be used as basis for further prospective studies in future.

Conclusion

1. Colorectal cancer is not as uncommon in Iraq as has been believed, and the incidence could well be increasing, especially since the life style is rapidly becoming more westernized.
2. There is a particularly high incidence in younger people and for pathologically aggressive tumors.
3. Health education, especially of the warning signs of cancer, and increased awareness of the seriousness of the disease, both among the public and medical practitioners are essential for early diagnosis.
4. Any screening program, if started, may need to start at a younger age group.

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MEASURMENT OF C-PEPTIDE IN BLOOD AND SALIVA IN CHILDREN WITH TYPE 1 DIABETES MELLETIS

Nashiet A. Nashiet* *CABP,* **A.W.R. Hamad**** *B.Sc., Ph.D.,* **W.K. Jawad****

Abstract

Background: C-Peptide is a polypeptide hormone (31 amino acid residues) with molecular weight of 3.018 Dalton. It is a part of the pro-insulin molecule. Determination of C-peptide is useful in all cases in which the insulin assay would normally be used; antibodies and exogenous insulin therapy interfere with the insulin immunoassay.

Aim: To determine the relation between the level of C-peptide in blood and saliva in children with Type 1 Diabetes Mellitus.

Material & Method: Our study conducted in the Pediatric Diabetic Clinic of Al-Kadhimiya Teaching Hospital, Baghdad, Iraq, between March 2000 to April 2001. Fifty patients were involved in the study, blood aspiration and saliva samples were taken at morning from fasting known diabetic patients registered in diabetic clinic for measuring C-peptide level by using radio immunoassay kit (Cis, France), also serum glucose was measured.

Results: The level of C- peptide in serum was about 6-7 times higher than saliva.

Conclusion: The measurement of C-peptide in saliva is easy and reliable, with no disturbance or panic in pediatric age group.

Keywords: C-peptide, Diabetes Mellitus, Saliva, Serum.

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Introduction

C-peptide is a polypeptide hormone (31 amino acid residues) with molecular weight of 3,081 Dalton. It is a part of the pro-insulin molecule, the connecting peptide splits out, leaving two amino acids chains of 21 and 30 AAS (A-and β-chains, respectively) connected by sulphur bridges. This splitting out of C-peptide occurs as the pro-insulin is packed into vesicles in the Golgi apparatus when the beta cell is stimulated to release insulin and secretary granules are brought to its surface for discharge, the hormonally inert connecting peptide passes together with insulin into the adjacent capillary.

In the pancreatic β-cells, pro-insulin is enzymatically cleaved into insulin (A chain and β chain) and the C-peptide molecule. Both are simultaneously secreted in equimoalar concentrations into blood, insulin have rather a short half-life of approximately 5 minutes, while the half life of C-peptide is approx. 30 minutes. Therefore, the molar ratio between C-peptide and insulin in the peripheral blood ranges between approximately 3:1 and 5:1[1,2].

The main degradation site for C-peptide is the kidney. Therefore patients with renal dysfunction exhibit a longer life and elevated basal values[3]. Determination of C-peptide is useful in all cases in which the insulin assay would normally be used, in which, however, the presence of circulating insulin antibodies and exogenous insulin therapy interfere with the immunoassay[4].

The C-peptide has no known biological activity. It is a distinct molecule from an antigenic stand point. Thus C-peptide immunoassay can distinguish insulin secreted endogenously from insulin administrated exogenously and can quantities the former when anti-insulin antibodies preclude the direct measurement of insulin[5,6].

The C-peptide of different species have a high rate of amino acid substitution and observation which under scores the statement that this fragment probably has no biological activity[5,6,7].

Material & Methods

The study included fifty patients with type 1 Diabetes Mellitus attending Pediatric Diabetic Clinic in Al-Kadhimiya Teaching Hospital, during the period from March 2000 to April 2001, their ages were between 5-26 years. Two milliliters of fasting blood and about 2 milliliters of saliva were taken for the measurements of C-

* Dept. Pediatirics, ** Research Center, College of Medicine, Al-Nahrain University.

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Address Correspondence to Dr. Nashiet A. Nashiet,
E-mail naazna2003@yahoo.com.

peptide and blood glucose .C-peptide was measured by radioimmunoassay.

The collection of saliva was done by washing the mouth with distilled water twice and then the saliva was collected by disposable pipette. The method used to determine the level of C- peptide in blood and saliva was by taking patient sample add to it C- peptide antiserum + I 125- C-peptide +1 bead and then incubated at room temperature for 3 hours and then washing and measure the level and C-peptide in Gamma counter.

Statistical analysis: Students (t)-test was used to estimate the significance of the variations in the results obtained for the test two groups.

Results

The total number of samples collected for one year (March 2000-April 2001) was 50 samples of serum and saliva for determination of the level of C-peptide and fasting serum glucose.

Table 1 shows the level of C-peptide in serum, saliva and mean fasting serum glucose. In the first group (age 5-6 years), the number of patients were 10, serum level of C-peptide 1.376 with standard deviation ± 0.201 while that of saliva was 0.234 with standard deviation ± 0.034 and fasting blood sugar 94 mg/dl. The second group (age 7-8 years) (n=8), the mean value of C-peptide in serum was 0.659 with standard deviation $\pm$ 0.096 and that in saliva was 0.106 ± 0.017 and fasting blood sugar 91 mg/dl. The third group (age 9-10 years), (n=10) and serum level of C- peptide in serum 0.498 with standard deviation $\pm$ 0.080 and that of saliva was 0.081 $\pm$ 0.13 and fasting blood sugar 89 mg/ dl. The forth (age 11-12y), (n=6). The level of C-peptide in serum 0.868 ± 0.127 while in saliva was 0.139 ± 0.022 and fasting blood sugar 84 mg/dl.

The fifth group (age 13-14y), (n=10). The level of C-peptide in serum 0.934 ± 0.137 with that in saliva 0.138 ± 0.022 and fasting blood sugar 95 mg/dl. The last group (age 15-16y), (n=6). The level of C= peptide in serum 1.632 ± 0.24 with that of saliva 0.223 ± 0.35 and fasting blood sugar 99 mg /dl.

The conclusion from the table 1, and Figure 1, it appeared that the concentration of C-peptide in blood was 6-7 times higher than that of saliva and there was no significant difference between age groups in both C-peptide levels in serum and saliva.

Table 1: Serum and salivary C- peptide and serum glucose in different age groups of children with type I DM

Age (years)	No. of samples	Serum C-peptide	Saliva C-peptide	Serum fasting glucose
5-6	10	1.376±0.201	0.234±0.034	94
7-8	8	0.659±0.096	0.106±0.017	91
9-10	10	0.498±0.08	0.081±0.031	89
11-12	6	0.868±0.127	0.139±0.022	84
13-14	10	0.934±0.137	0.138±0.022	95
15-16	6	1.632±0.24	0.0223±0.035	99

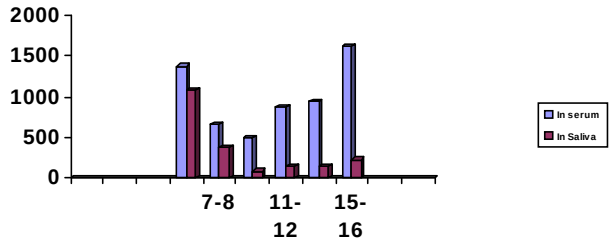

Figure 1: Level of C-peptide in serum and saliva

Discussion

Determination of C-peptide is useful in all cases in which the insulin assay would normally be used in which, however, the presence of circulating insulin antibodies and exogenous insulin therapy interfere with the immunoassay[1,4]. Moreover C-peptide is used in classification of diabetes and can be measured in other body fluids[7,8].

In this study the samples were taken from children early diagnosed with type 1 diabetes mellitus and some of them were in the honeymoon period. Patients with uncontrolled D.M or had acidosis, dehydration and febrile illness were excluded.

The radioimmunoassay method used for assessment of C-peptide in serum and saliva of children with type 1 D.M is one of the most sensitive methods available for the analysis of various types of organic compounds from complex biological fluids. Following a rapid development of RIA procedures in clinical chemistry, the method has been introduced during the last few years into the analysis of plant assay of serum insulin in diabetic patients[9,10].

In this study the measurement of C-peptide level in serum was about 6-7 times that of saliva in different age groups and there was no significant difference between ages in both C-peptide levels in serum and saliva.

Measurement of C-peptide exhibits a number of advantages over insulin measurement. Because hepatic metabolism is negligible, C-peptide levels are better indicators of β-cell function than perhaps insulin concentration. Furthermore, C-peptide assays do not measure exogenous insulin and do not cross-react with insulin antibodies, which interfere with insulin immunoassay[1,11,12].

So we can conclude that measurement of C-peptide in saliva is reliable, easy, accurate and cheap in pediatric age group, for the … etc.

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CHILDREN MORTALITY RATE AND CAUSES OF DEATH IN AL-KADHIMIYA TEACHING HOSPITAL

Tariq S. Al-Karagully *CABP*, **Abdul-Kareem J. Al-Bahadily** *DCH*

Abstract

Background: The reduction of under-five, and particularly infant, mortality to its biological minimum is regarded as a universally desirable goal. Specific targets for reducing the infant mortality rate have been set by many governments and international organizations.

Objectives: To identify the mortality rate and causes of death among the children admitted to Al-Kadhimiya Teaching Hospital throughout a 5 years period from Jan. 1997 to the end of Dec. 2001.

Methods: A retrospective study was done in AL-Kadhimiya Teaching Hospital. It included all the children died during the study period. The age range was since birth till 14 years of age. Information was obtained from reviewing the medical records including age, sex, and cause of death as documented in the death certificate. They were classified into 5 age groups.
Statistical analysis was done using chi square, any P value greater than 0.05 was regarded to be not significant.

Results: The over all mortality rate was 80 per 1000 hospital admissions. Male constituted 59.48% of deaths and female 40.52%.
The mortality rate increased from 75.97/1000 in 1997 to 83.27/1000 in 2001.
The leading causes of death were: In the neonatal period (29.08% of all deaths), sepsis (37.07%), prematurity (23.60%) and congenital anomalies (19.66%). In the infancy period (23.37% of all deaths), congenital anomalies (26.57%), pneumonia (21.68%), and sepsis (18.88%). In the age group 1-5 years (20.75% of all deaths), congenital anomalies (25.20%), diarrhea (20.47%) and pneumonia (17.32%). In the age group 6-10 years (15.68% of all deaths), malignancy (22.92%), congenital anomalies (21.88%) and diarrhea (20.83%). In the age group 11-14 years (11.12% of all deaths) malignancy (26.47%), congenital anomalies (22.07%) and diarrhea (19.12%).

Conclusion: Death in children below 5 years of age represents about 73.2% of total deaths. The average children mortality rate was 80 per 1000 which was more than that in 1997 (75.97 per 1000). The mortality rate among male children was more than that in female with a ratio of 1.5:1.

Key words: Mortality rate, Children, Death.

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Introduction

Mortality rate expresses the incidence of death in a particular population during a period of time and is calculated by dividing the number of fatalities during that period by the total population. This can be expressed as either total mortality, or the number of deaths from a particular disease or event[1].
Assessment of the state of health of any community must begin with a description of the incidence of illness and must continue with studies that show the changes that occur with time and in response to program of prevention, case finding, therapy and adequate surveillance[2].

By pointing on the major problem we can plan to identify the causes underlying it in order to prevent, or improve the conditions that lead to it and this will lead to decrease in the mortality rate as shown in a study in USA which showed that death rates of children from all major causes declined in 1998; a large proportion of childhood deaths, however, continued to occur as a result of preventable injuries[3].
Children mortality rate also reflects the socio-economic status, environmental factors and health status of children in a specific country.
In our country two wars and sanction have shattered the Iraqi economy, setting back healthcare half a century[4]. We can classify the effect of these events in two main directions:
First: it affects the nutritional status of children and this will lead to increased incidence of malnutrition. It is well known that malnutrition impairs the immune systems of at least 100 million young children and several million

* Dept. Pediatrics, College of Medicine, Al-Nahrain University, ** Al-Kadhimiya Teaching Hospital.
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Address Correspondence to Dr. Tariq Al-Karagully, E-mail: Karagoly@uruklink.net

pregnant women, none of them infected by HIV. But unlike the situation with AIDS, the cure for immune deficiency due to malnutrition has been known for centuries[5].

Although malnutrition is rarely listed as the direct cause, it contributes to more than half of all children deaths. Malnutrition and infectious diseases are linked in downward spiral, each exacerbating the effect of the other and it is found that one in four children in the developing world suffers from malnutrition, as well as the misery of constant hunger, malnourished children are far more likely to succumb to infections[6]. At 1995 food and agriculture organization (FAO) report suggested that more than half a million Iraqi children may have died as a result of the sanction between 1991 and 1995[4].

Second: it increases the incidence of congenital anomalies and cancer in children. High numbers of children were born with cancer in the areas of Iraq where the Gulf War took place, this increased fears that the weapons used by the allies may be responsible. There are reports of children developing cancers at rates that doctors in the area have never seen before. Basra Children's Hospital experienced a death rate for children with leukemia 10 times higher than normal. The increase in cancers along with mutations and congenital abnormalities has been seen particularly in the areas which were desert battle field, the border towns between Iraq and Kuwait, which saw some of the heaviest fighting at the end of the Gulf War in 1991. One theory which was yet to be tested scientifically is that depleted uranium was used, thought to be dangerously radio active, and has found its way into the water supply[7].

Aim of the Study

To identify the mortality rate and causes of death among the children admitted to Al-Kadhimia Teaching Hospital during the study period.

Patients & Methods

A retrospective study was done in AL-kadhimiya Teaching Hospital included all children who died over five years period from Jan. 1997 to the end of Dec. 2001. Information was obtained from reviewing the medical records including age, sex, and cause of death as documented in the death certificate. The dead children were classified according to the following age groups: Neonatal period (1-28day old), infancy (1 month-1 year old), third group (1-5 years old), forth group (6-10 years old), and the fifth group (11-14 year old).

Statistical analysis was done using chi square and any P value greater than 0.05 was regarded to be not significant.

Results

During the five years period of the study (from Jan. 1997 to the end of Dec. 2001) the total number of children admitted to the hospital was 7650 and the results were:

1. -Total number of deaths during this period was 612, and the average children mortality rate was 80 per 1000 (Table 1). Also this table shows an increase in mortality rate from 75.97 per 1000 in 1997 to 83.27 per 1000 in 2001.
2. There was slight increase in mortality rate among male children (59.48%) than female (40.52%) and the ratio of male to female mortality rate was 1.5/1 (Table 1).

Table 1: Distribution of deaths according to the year and gender with mortality rate per year and per 1000

Year	No. of admission	No. of deaths male	No. of deaths female	Total no. of deaths/ year	Mortality rate/year
1997	1211	58(60%)	34(40%)	92	75.97
1998	1710	80(57.55%)	54(42.45%)	134	78.36
1999	1468	74(62.71%)	44(37.29%)	118	80.38
2000	1724	77(55%)	63(45%)	140	81.2
2001	1537	75(38.6%)	53(41.4%)	128	83.27
Total	7650	364(59.48%)	248(40.52%)	612	80

3. Death rate according to age groups was: (table 2).

* During neonatal period: total number of deaths was 178 (29.08% of total deaths).
* During infancy (1 month-1 year) total number of deaths was 143 (23.37% of the total deaths).
* In the age group (1 year-5 year) total number of deaths was 127 (20.75% of total deaths).

The total number of deaths in children below 5 years of age was 448 and it represents about 73.2% of total deaths.

* Total number of deaths in children 6-10 years old was 96 (15.68% of total deaths).
* In the age group (11 years-14 years) total number of deaths was 68 (11.12% of the total deaths).

Table 2: Distribution of deaths according to the age groups and

gender

Age group	No. of deaths male (%)	No. of deaths female (%)	Total no. of deaths (%)
0-28 days	106 (59.55%)	72(40.45%)	178(29.08%)
1 month-1 year	84(58.74%)	59(41.26%)	143(23.37%)
1-5 years	75(59.05%)	52(40.95%)	127(20.75%)
6-10 years	54(56.25%)	42(43.75%)	96(15.68%)
11-14 years	45(66.17%)	23(33.83%)	68(11.12%)
Total	364	248	612

X^2 0.983 P<0.02

4. During the neonatal period, sepsis (37.07%), prematurity (23.60%) and congenital anomalies (19.66%) were the leading causes of death and they comprised 80.33% of total deaths in this age group followed by pneumonia (11.24%), meningitis (6.74%) and other causes like kernicterus and birth trauma (1.69%) as show in (table 3).

Table 3: Causes of death in the neonatal period

Cause	No. of deaths male	No. of deaths female	Total no.	%
Sepsis	37	29	66	37.07
Prematurity	31	11	42	23.6
Congenital malformation	15	20	35	19.66
Pneumonia	13	7	20	11.24
Meningitis	7	5	12	6.74
Others	3	0	3	1.69
Total	106	72	178	100

X^2 = 15.57 P>0.001

5. During infancy congenital anomalies (26.57%), pneumonia (21.68%) and sepsis (18.88%) were the leading causes of death and they comprised (67.12%) of total deaths in this age group followed by meningitis (13.99%), diarrhea (9.09%), malignancy (6.99%) and other causes like Guillain-barre syndrome, liver failure and Kala-azar (2.80%) (table 4)

Table 4: Causes of death in the age group between 29 days-1 year

Cause	No. of deaths male	No. of deaths female	Total no.	%
Congenital malformation	23	15	38	26.57
Pneumonia	19	12	31	21.68
Sepsis	15	12	27	18.88
Meningitis	12	8	20	13.99
Diarrhea	7	6	13	9.09
Malignancy	5	5	10	6.99
Others	3	1	4	2.8
Total	84	59	143	100

X^2 = 3.254 P>0.05

6. In the age group (1-5) years old. Congenital anomalies (25.20%), diarrhea (20.47%) and pneumonia (17.32%) were the leading causes of death followed by malignancy (14.17%), meningitis (12.60%), sepsis (5.51%) and other causes like hepatic failure and poisoning (4.73%), (Table 5).

Table 5: Causes of death in the age group 1-5 year

Cause	No. of deaths male	No. of deaths female	Total no.	%
Congenital anomalies	20	12	32	25.2
Diarrhea	10	16	26	20.47
Pneumonia	15	7	22	17.32
Malignancy	12	6	18	14.17
Meningitis	12	4	16	12.6
Sepsis	2	5	7	5.51
Others	4	2	6	4.73
Total	75	52	127	100

X^2 = 10.14 P>0.05

7. In the age group (6-10) years old the main causes of death were malignancy (22.92%), congenital anomalies (21.88%) and diarrhea (20.83%) followed by pneumonia (19.79%), meningitis (8.33%) and other causes like poisoning hepatic and renal failure (6.25%), (Table 6).

Table 6: Causes of death in the age group 6-10 years

Cause	No. of deaths male	No. of deaths female	Total no.	%
Malignancy	7	15	22	22.92
Congenital anomalies	9	12	21	21.88
Diarrhea	14	6	20	20.83
Pneumonia	13	6	19	19.79
Meningitis	6	2	8	8.33
Others	5	1	6	6.25
Total	54	52	96	100

X^2 = 16.62 P<0.01

8. In the age group (11-14) years old malignancy (26.47%), congenital anomalies (22.06%) and diarrhea (19.12%) were the leading causes of death followed by pneumonia (16.18%), meningitis (10.29%) and others causes like renal failure, heart failure (5.88%), (Table 7).

Table 7: Causes of death in the age group 11-14 years

Cause	No. of deaths male	No. of deaths female	Total no.	%
Malignancy	11	7	18	26.47
Congenital anomalies	10	5	15	22.06
Diarrhea	5	8	13	19.12
Pneumonia	9	2	11	16.18
Meningitis	6	1	7	10.29
Others	4	0	4	5.88
Total	45	23	68	100

X^2 = 9.31 P>0.05

Discussion

This study shows that the average children mortality rate for all age groups was 80 per 1000 which is much higher than that of developed countries like USA which was 7 and Russia

which was 17 and it is less than that of some African countries like Ethiopia 116[8].

This study shows an increase in the mortality rate from 75.97 per 1000 in 1997 to 83.27 per 1000 in 2001. This goes with the report of the WHO in 1998 which shows a similar increase in the mortality rate from 72 in 1990 to 122 in 1996 in the whole Iraq[9]. These results can be explained by serious shortage of essential health services and medicine requirements resulted in sharp increase in the mortality rate.

It was found that there is slight increase in the mortality rate in male (59.48%) than female (40.52%) and the ratio of male to female mortality rate was 1.5:1. This is not comparable to that found in other developing countries in which female infants experience higher death rates, but it is comparable to that found in developed countries in which male infants experience higher death rates than female. (10) This could be explained by increase in the incidence of RDS, pneumothorax, congenital anomalies and x-linked diseases in males, also male have approximately two folds higher incidence of sepsis than females[11].

The highest incidence of mortality rate was found in the neonatal period and it represents 29.08% of all deaths, this is because that the neonatal period is a highly critical time for an infant, who is completing many of the physiologic adjustments required for extra-uterine existence. In the United States, of all deaths occurring in the first year of life, two thirds are in the neonatal period[12].

The leading causes of death during this period were sepsis (37.07%) followed by prematurety (23.60%) and congenital anomalies (19.66%). This is different from the study done in Saudi Arabia by Asindi, who found that the major causes of neonatal death were prematurity, respiratory distress syndrome, congenital anomalies and lastly sepsis[13].

This increase in the incidence of sepsis in our hospitals is due to the shortage of medicines and change from one antibiotic to another according to the availability and poor medical supply which is attributed to the effect of embargo imposed on Iraq for more than II years.

During infancy congenital anomalies were the leading cause of death (26.57%) followed by pneumonia (21.68%), sepsis (18.88%), meningitis (13.99%) and diarrhea (9.09%).

These results were similar to those found in a study done in Syria by Nidal-Abu-Rashid, Samir AL-Jirf and Hyam Bashour which showed that in infancy congenital anomalies were the leading cause of death (24.2%) followed by pneumonia (19.5%) and diarrheal diseases (15.6%)[14].

The presence of any congenital anomaly increases the risk of mortality many folds compared to normal, even non lethal anomalies increase the mortality rate up to 8-9 folds[15].

In the age group 1-5 years, the study showed that congenital anomalies (25.20%) were the first leading cause of death, followed by diarrhea (20.47%); pneumonia (17.32%) and malignancy (14.17%). This result was similar to another study done in Baghdad (1998) by EL-Bayoumi which showed that the percentage of congenital anomalies increases in this age group by about 2.5 times[16]. While the WHO study showed that the congenital anomalies were the forth leading cause of death in this age group[9].

This increase in the incidence of congenital anomalies in this age group could be explained by the use of depleted uranium during the Gulf War in 1991 as an environmental predisposing factor.

In the age group 6-10 years it was found that the common cause of death was malignancy (22.92%), which is similar to that found in USA as cancer is still the chief cause of death in children aged 1-14 years[17].

Our hospital is not a centre for malignant diseases but in spite of that cancer was the leading cause of death in this age group, this increase in incidence of malignancy may be due to environmental pollution and uses of depleted uranium. It was found that radiation dose and the frequency of leukemia were related in a linear fashion, also leukemia developed quickly with a peak rate of occurrence 5 years after exposure[18].

The second leading cause of death in this age group was congenital anomalies (21.88%), while in USA it was the third leading cause of death in this age group[19].

The third leading cause of death was diarrhea (20.83%), followed by pneumonia (19.79%), meningitis (8.33%) and others like poisoning, hepatic and renal failure (6.25%). These results were statistically significant ($P < 0.01$) .

In the age group 11-14 years It was found that there was great similarity between this group and the previous one (6-10 years) where malignancy was the leading cause of death (26.47%), which is similar to that found in USA, but in spite of high incidence of malignancy in USA the survival rate improved specially children with acute lymphoblastic leukemia, largely owing to the decrease in relapses[20].

This study showed that infectious diseases like pneumonia, diarrhea and meningitis represent (45.59%) of total deaths in this age group, while in developed countries like USA the leading causes of death shifted from infectious to noninfectious diseases. In 1990, infectious respiratory diseases and diarrhea account for nearly a quarter of all deaths in USA, while in 1998 the leading causes of death were respectively, heart disease and cancer followed by stroke and chronic obstructive pulmonary disease[21].

The UNICEF report said that children are bearing the brunt of economic hardship in Iraq; and the number of malnourished children represents an increase of 72% since international sanction was imposed on Iraq[22].

Conclusion

1. Death in children below 5 years of age represents about 73.2% of total deaths.
2. The average children mortality rate was 80 per 1000.
3. The mortality rate increased from 75.97 per 1000 in 1997 to 83.27 per 1000 in 2001.
4. During the neonatal period, infection and prematurity were the leading cause of death.
5. Malignancy was a prominent cause of death in the older age groups.
6. The mortality rate among male children was more than that in female with a ratio 1.5/1.

Recommendations

1. Much more attention should be paid to maternal health services, many of the above mentioned causes of death especially in the neonatal period can be averted by implementation of adequate, prenatal and delivery care.
2. Encourage breast feeding in order to decrease frequency and severity of diarrheal diseases.
3. Improve the socioeconomic state of general population to decrease incidence of malnutrition and consequently improve the immunological state.
4. Proper use of antibiotics regarding the type, dose and duration is important for reducing infectious causes of death in children.

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FAMILY HISTORY AND SEX INCIDENCE AND RELATION TO SEVERITY IN CHILDHOOD ASTHMA

Hussam M. Al-Alwany *DCH, CABP*, **Nasheit A. Nasheit** *CABP*, **Lamia Abdul-Karim** *DCH, CABP*

Abstract

Background: Asthma is the most common chronic illness in children and its still raising a lot of concern regarding mortality and morbidity which are still high regardless of the advance of management. Family history of asthma and sex incidence is an interesting issue to be discussed.

Aim: Aim of the study is to measure the percentages of positive and negative family history of asthma, sex incidence of asthmatic children and the relation of those two factors to severity.

Patients & Method: A total number of 110 patients subjected to study about their family history of asthma and sex of patient and assessment of severity of the attacks of asthma according to specific clinical criteria.

Results: The results show that 52.7% were male and 47.2% were female with male/female ratio of 1.115 and there is an increase in moderate to sever asthma in male. Also the results show that 61.8% of patients gave family history of asthma and other allergies and there is no relation between severity and family history of asthma.

Conclusion: The prevalence of asthma is more in males and they are more liable for more sever attacks. The asthmatic patients usually have positive family history of asthma but this history does not reflect on severity of asthma.

Key words: Asthma, Family History, Sex, Severity

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Introduction

The lighted candle respires and we call it flame and the body respires and we call it life and asthma in Latin means difficult respiration so it may lead to difficult life[1].

Asthma is a leading cause of chronic illness in childhood and its responsible for significant proportion of school days lost because of chronic illness[2,3]. Asthma is the most frequent admitting diagnosis in children hospital[2,3].

Data on inheritance of asthma are most compatible with polygenic or multifactorial determinants, a child with one affected parent has abut 25% risk of having asthma , the risk increases to about 50% if both parents are asthmatic, however asthma is not universally present among monozygotic twin. The liability of bronchoconstriction with exercise is concordant in identical twins but not in dizygotic twin. Bronchial liability in response to exercise testing also has been demonstrated in healthy relatives of asthmatic children[2,3].

A genetic predisposition combined with environmental factors may explain most cases of asthma[3]. The family history of asthma, hay fever, atopic dermatitis and eczema in parents or siblings is important predictors of subsequent obstructive airways problems.

Airway obstruction in asthma is due to bronchoconstruction, hypersecretion of mucous and mucosal edema due to inflammatory cells. Various allergic and non-specific stimuli and wide variation of factors can cause bronchoconstrition leading to asthmatic attack[4].

Patients & Methods

A total number of 110 asthmatic patients were interviewed in out patient clinic and in pediatrics ward of Al-Kadhymia Teaching Hospital and subjected to cross sectional study since February 2001 to February 2002.

Questionnaire about their sex and family history of asthma and /or other allergies (hay fever, a topic dermatitis and eczema).

These patients also subjected to study to asses the severity of their asthma, whether mild, moderate or sever according to the following parameters.

Mild asthma:

Children with mild asthma have less frequency of attacks good exercise tolerance, good school attendance, little on no interruption of sleep and good response to treatment. They have normal chest X-ray and no hyperinflation of the chest

Dept. Pediatrics, College of Medicine, Al-Nahrain University.
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Address Correspondence to Dr. Hussam Al-Alwani, B.O Pox 70088.

and patient is symptoms free between the attacks[3].

Moderate Asthma:

Children of moderate asthma have more frequent attacks than the mild disease and often have cough and mild wheezing between more sever exacerbations, school attendance may be impaired, exercise tolerance will be diminished and child may generally lose sleep at night during attacks. Such children will generally require continuous rather than intermittent bronchodilator therapy and sometimes steroid to control the symptoms. Hyperinflation may be evident clinically and roentgenoggraphically[3].

Sever asthma:

Children with sever asthma may have daily wheezing and more frequent and more sever exacerbation and require recurrent hospitalization which is rarely required for mild or moderate asthma. They miss significant days of school have their sleep interrupted by asthma and have poor exercise tolerance. They have chest deformity as a result of chronic hyperinflation. Bronchodilator is required continuously and steroid regularly[3].

The number and percentage of male and female patients was recorded and the patients classified according to the mentioned parameters as mild, moderate or sever asthmatic.

Also the severity of asthma in patient with positive family history was assessed, compared with patients with negative family history. These data statistically analyzed by chi-square and P value was estimated.

Results

The results shows that 58 patients (52.72%) are male and 52 (47.27%) are female patients (Figure 1), with male to female ratio of 1.115. Fourteen patients (24.14%) of male patients were found to be sever asthmatic in comparison with 4 (7.69%) of female patient (Figure 2, Table 1). Also 14 (24.14%) of male patients were mild asthmatic in comparison with 32 (61.5%) of female patients as shown in figure 2 and table 1. Also 30 (51.7%) of male patients found to be of moderate asthma compared with 16 (30.76%) of female patients (Figures 2, Table 1).

These results showed that the increased percentage of moderate to sever asthma in male patients more than female patients (P value less than 0.05). The data show 68 (61.8%) of patients with positive family history of asthma and other allergies of 42 (38.2%) of patients with negative family history (Figure 3).

The results show that 27 (39.7%) of patients with positive family history found to be of mild asthma compared with 17 (40.47%) with negative family history (Figure 4, Table 2).

Also 12 (17.65%) patients with positive family history presented with sever asthma compared with 5 (11.9%) of patients with negative family history (Figure 4, Table 2), the P value > 0.05 (not significant). These results show that there is no relation of positive family history of asthma and other allergies to severity of asthma in contrary to sex.

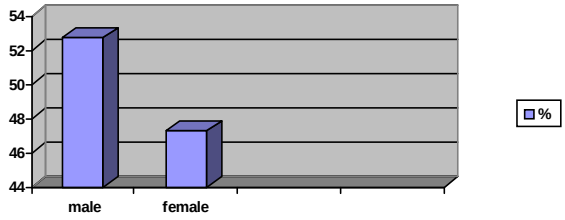

Figure 1:- Sex prevalence of asthmatic patient

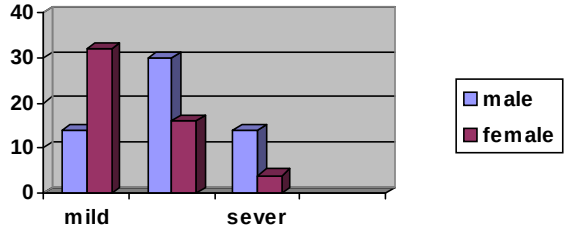

Figure 2:- Severity of asthma in male and female patient
No =number

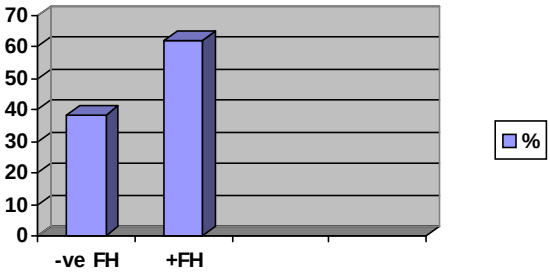

Figure 3:- Percentage of positive and negative family history of asthma
FH =Family history

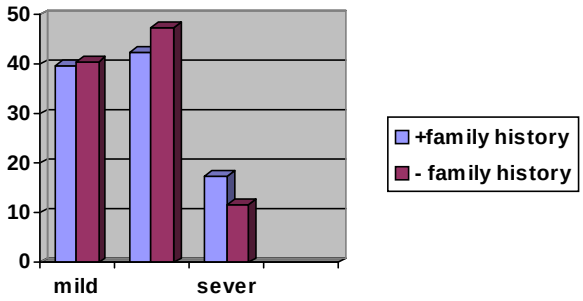

Figure 4:- Severity of asthma in patient with positive and negative family history

Table 1: Severity of asthma in relation to age

Severity	Male %	Female %
Mild	14 (24%)	32 (61.5%)
Moderate	30 (50.7%)	16 (30.76%)
Severe	14 (24%)	4 (7.69%)

Table 2: Severity of asthma and family history of asthma

Severity	+ve family history %	-ve family history %
Mild	27 (39.7%)	17 (40.47%)
Moderate	29 (42.64%)	20 (47.6%)
Severe	12 (17.65%)	5 (11.5%)

Discussion

The estimation of severity of asthma is best completed by pulmonary function test (PFT) which is difficult to be done for most of our patients in our circumstances because of the need for cooperation of patients which is difficult in younger patients and also the poor compliance of patients and the technical difficulties because the spirometer available is for adult patients.

Tuchinda[5] study estimated that more prevalence in boys and 25 % of patients have family history of asthma. Skogen and Slodrohl study[6] shows 71% of asthmatic patients have positive family history and 69% were male.

Gniazdowska[7] estimated that there is an increase of severity of disease in patients with positive family history in contrary to our study. Matodancy study[8] estimated male/female ratio of 1.36/1 and 95.2 % with positive family history of atopy. Younng study[9] estimated that there is relationship between positive family history of asthma and the severity.

Mercer and Vas-Niekerk study estimated that there is male predominance in asthma and there is 90% positive family history of asthma[10]. Inove *et al* study[11] shows male/female ratio of 1.4 /1 of 20 % has positive family history.

Roorda *et al* study[12] estimated 62% of asthmatic patients with positive family history and no effect of family history on severity which goes with our study. The asthmatic patients who are admitted usually get moderate to sever asthma which may give statistical bias so we depend more on outpatients.

The clinical criteria for the assessment of severity are rough and not accurate as pulmonary function test results; this fact also may give some bias because there are no sharp lines for assessment of severity.

Conclusions

1. The prevalence of asthma is more male than female.
2. The male asthmatic patients are more liable for moderate to sever attacks.
3. The asthmatic patients usually have positive family history of asthma and/or atopy.
4. There is no correlation between the severity of asthma and the family history of asthma.

Recommendations

1. The assessment of severity is of vital important for asthmatic patient because it guide the treatment and follows up and especially for severe asthma.
2. The clinical criteria and pulmonary function test are the best method for assessment of severity and we recommend distribution of pediatric spirometer in every health center for optimal assessment.
3. The questionnaire in the family history should include the family history of atopy and not only asthma because usually the parents denied such a history.

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CHILD SAFETY PRACTICES OF A GROUP OF IRAQI PATIENTS

Shatha H. Ali* *CABP*, **Namir G. Al-Tawil**** *FICMS*, **Nashiet A. Nashiet*** *CABP*

Abstract

Background: Accidents are the cause of death and disability for millions of children every year.

Objectives: To study safety practices in a group of Iraqi parents, and its association with some demographic factors.

Methods: A total of 360 parents of children aged 1-6 years were interviewed using a questionnaire form designed by the authors.

Results: Majority (80%) of families keep medications in unsafe places, in addition to that 52.3%, 6.2% and 76.6% of parents keep antiseptics, kerosene and match boxes in unsafe places respectively. There was a significant association between keeping antiseptics in safe places with educational level of both parents and type of home ($p<0.05$). Higher rates of road-traffic accidents were reported among families who allow their children to play with bicycle in the street (15.6%) or play unsupervised in the street (16%) than those families who don't (7.4% and 3.6% respectively). More road traffic-accidents were detected within families with more number of children. Poisoning histories were detected more within extended (17%) than nuclear families (6.5%), and more among children whom mothers don't work outside home than children with working mothers (12.3% vs. 2.9%).

Conclusion: Child safety mal practices are still common among our parents.

Key words: Child safety, Poisoning, Child injuries

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Introduction

Accidents are the cause of death and disability for millions of children every year in low income countries, and for both sexes[1-4]. Because communicable diseases and nutritional problems continue to rank higher as causes of child mortality and morbidity in most of developing world, injury is perceived as a less serious problem[1].

Injury is considered as one of the main causes of hospital admissions for children; motor vehicle traffic crashes and poisoning were major contributors for these injuries[5]. It is estimated that 53% of injuries occurs at home, 13.5% on the road, 13% at school, and 4.7% during sports[6]. Risk factors for injuries includes: low social class, parents who didn't graduate from high school, unemployment, psychological stress, unsafe environment, and child developmental disorders[4,7]. Also challenging living conditions, heavy traffic, a lack of safe play places combine to put children at high risk[1]. The study aims at:

* Studying the safety practices in a group of Iraqi parents.
* Studying some demographic factors and its association with unsafe behaviors.

* Dept. Pediatrics, ** Dept. Community Medicine, College of Medicine, Al-Nahrain University.

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Address Correspondence to Dr. Shatha H. Ali

Patients & Methods

A total of 360 mothers or fathers attending the pediatric out-patient clinic of Al-Kadhimiya Teaching Hospital were interviewed. A questionnaire form designed by the researchers was used for this purpose. Parents were interviewed by the doctors' in-charge in the out-patient clinic. Those doctors were instructed by the authors about the proper ways of gathering information. Only families with children aged 1-6 years of age were included in the study. In this cross-sectional study, socio-demographic data (parents age and education, family type, number of children, type of home, working mother outside home, residency, crowding index) was collected from parents, then they were asked about some safety practices, history of poisoning and road traffic accident. Crowding index was measured by dividing the number of people living in a house by the number of rooms except kitchen and bathroom. The EPI6 computer program was used for data entry and processing.

Results

Results showed that 223 out of 360 parents (65%) reside in Shula city, Rihmaniya, and other adjacent places; 22.5% live in Baghdad suburbs, and the rest (12.5%) live in different places of

Baghdad. The mean mothers' age (±sd) was 30.1±6.6 years, and the mean fathers' age (±sd) was 35.4±7.3. Table 1 showed that around one quarter of mothers were both illiterate or just read and write, compared with 13.4% of fathers. Around half (50.3%) of father work during day time only, 4% work during night, while the rest work during day and night. Regarding the mothers, only 19.5% of them work outside home, with mean work-time of six hours. More than half (60.6%) of families live in separated houses, 21.3% live in apartments, while 18.1% live in room(s) within the house. The mean (±sd) of crowding index was 2.74±1.4. Results showed that 60.4% of families were nuclear while the rest were extended families.

Table 1: Distribution of mothers and fathers by educational level

Educational Level	Mothers		Fathers	
	Number	%	Number	%
Illiterate	34	9.4	11	3.1
Read & Write	54	15.0	37	10.3
Primary	87	24.2	70	19.6
Secondary	82	22.8	84	23.4
Institute	46	12.8	60	16.8
College & above	57	15.8	96	26.8
Total	360	100	358	100

$X^2 = 28.58$ P = 0.000028

Table 2 shows the distribution of children aged 1-6 years, where it is evident that most of families have one or two children between 1-6 years of age.

Table 2: Distribution of children aged 1-6 years old among 360 families

No. of Children	Number	%
1	163	45.3
2	153	42.5
3	39	10.8
4	5	1.4
Total	360	100

Table 3 showed the places where families keep medications, antiseptics, kerosene, and match boxes. Only 20% of parents keep medications on high places or locked cabinet, while the majority put them in unsafe places (including refrigerator) that are within reach of children. More than half (52.3%) of parents keep antiseptics on the floor while the rest put them in safe places. Regarding kerosene, 3.4% of parents keep it in empty soft drink or food containers and 2.8% of them keep it in unlocked container. More than half (51.7%) of parents put match boxes on table or counter and 24.9% put them in drawers, both are unsafe places. Results showed that keeping medications in unsafe places had no relation to any of the following factors (family type, children number, type of home, educational level of father and mother and their ages, family residency, and home rented or not. While statistical analysis showed a significant association between keeping antiseptics in safe places with the educational level of mother (P=0.02), educational level of father (P=0.018), and type of home (P=0.016). On the other hand keeping kerosene in safe places had no significant relation with any of the previous factors. Results showed that families living in room(s) within a house keep match boxes in safe place more than families living in separated homes or apartments (P=0.002). Results showed that 45.4% (163/359) of parents allow their children to play in the street and 25.7% (90/350) allow their children to play with bicycle in the street. Results showed that 9.2% (33/358) of children had history of road traffic accident (RTA) and 10.6% (38/359) of parents had history of poisoning as stated by parents.

Table 3: Distribution of parents according to places of keeping medications, antiseptics, kerosene, and match boxes

Places for Medication	Number	%
Refrigerator	226	63.7
High place*	47	13.2
Drawer	30	8.5
Table of counter	28	7.9
Locked cabinet*	24	6.8
Total	355	100
Places for antiseptics		
Floor of Bathroom	183	52.3
High place*	109	31.1
Locked cabinet*	57	16.3
Counter	1	0.3
Total	350	100
Places for kerosene		
Barrel with tap*	199	55.9
Locked container*	135	37.9
Empty soft drink or food container	12	3.4
Unlocked container	10	2.8
Total	356	100
Places for match boxes		
Table or counter	185	51.7
Drawer	89	24.9
High places*	75	20.9
Locked cabinet*	9	2.5
Total	358	100

* safe place

Table 4 showed that 15.6% of children whom parents allow them to play with bicycle in the street had history of RTA compared with 7.4% for children whom parents don't allow them to play with bicycle in the street (P=0.022). Also higher rates of RTAs were found among children

whom parents allow them to play unsupervised in the street. More RTAs were detected among families with more number of children. Other factors found not to be related to history of RTAs were mother and father's education, residency, working mother outside home, crowding index, family type whether nuclear or extended, and type of home (separated, apartment, or room(s) within a house).

Table 4: Factors associated with history of road traffic accident

The factor	History of RTA				Total	
Allowances to play with bicycle in the street	Present		Absent			
	No.	%	No.	%	No.	%
Yes	14	15.6	76	84.4	90	100
No	19	7.4	239	92.6	258	100
$X^2 = 5.22$ P = 0.022						
Allowances to play in the street						
Yes	26	16	137	84	163	100
No	7	3.6	187	96.4	194	100
$X^2 = 16.08$ P = 0.00006						
No. of children						
1	17	10.6	144	89.4	161	100
2	8	5.2	145	94.8	153	100
3-4	8	18.2	36	81.8	44	100
$X^2 = 7.48$ P = 0.023						

Table 5 showed that more poisoning histories were found among children of extended families and among children of mothers who are not working outside home (P<0.05). Other factors studied and found not to be related to development of poisoning were residency, educational levels of mother and father, type of home, crowding index, and number of children.

Table 5: Factors associated with history of poisoning

Family Type	History of Poisoning				Total	
	Present		Absent			
	No.	%	No.	%	No.	%
Nuclear	14	6.5	200	93.5	214	100
Extended	24	17	117	83	141	100
X2 = 9.77 P = 0.0017						
Working mother						
Working	2	2.9	67	97.1	69	100
Not working	35	12.3	249	87.7	284	100
X2 = 5.26 P = 0.021						

Discussion

Most of our families keep medications in unsafe places; refrigerator was regarded as unsafe because children beyond infancy especially preschool children can reach the door of it and open it and gain access to the medications inside especially when put in the lowest part. This is in contrast to a study from Saudi Arabia which showed that 74% of families had medications cabinets; however in both studies there was no association between keeping medications in safe places and all the socio-demographic factors studied[8]. Al-Nouri *et al* study reported that the medications were kept in possibly safe places in only 20 out of 105 cases of poisoning[9].

More than half of our families kept antiseptic solutions and powders on the floor of bathroom or kitchen, this unsafe practice would make it easy for the young child to handle these products and put it in his mouth within very short time. Interestingly (in our study) this unsafe practice was noticed among families living in separated homes more than those living in limited rooms whom kitchen and bathrooms may be shared with other families living in the same house, so logically they will not keep their antiseptics on the floor of kitchen and bathrooms. In our study, keeping medications on the floor was associated with low educational levels of both mothers and fathers. Illiterate parents or with low level of education will pay less attention to safe practices, and even can not read the instructions written on the antiseptics containers.

In a study from Saudi Arabia, 89% of families keep detergents in high places or locked cabinets and this practice was not related to socio-demographic factors[8]. The majority of parents in our study keep kerosene in safe locked containers or barrels with locked tap; still kerosene poisoning is a common pediatric problem in our society as most families use kerosene for heating and cooking. Al-Nouri (1970) reported that 55% of families keep kerosene in unsafe places like barrels without tap, soft drink or milk bottles or other containers[9]. In our study, this increment in percentage of families using safe places for kerosene keeping may be related to better knowledge and attention of parents for kerosene poisoning as a common problem in our society regardless of any socio-demographic factor studied.

Abu-Ekteish in his study from Jordan to evaluate children with kerosene poisoning on 4 years period reported that the main containers used were soft drink bottles, water Jugs, and glasses[11].

More than half of our families keep matchboxes in unsafe places like table or unlocked container. This may lead young children to play with them especially if unsupervised by mother or other caretaker and may lead to burns. Ying *et al* in his study on 50-burned children reported that

playing with fire wax and fire works were recognized as the two major causes for burn in these 50 children[12]. High percentage of our families allow their children to play unsupervised in the street; this unsafe phenomenon is a risk factor for road traffic accidents for young children especially in crowded streets or narrow streets.

Lower percentage of allowance for children to play in the streets came from the study done by Jan *et al* in Saudi Arabia[8]. This difference may be related to differences in types of homes between the two countries; in the Saudi Arabia study, 73% of families lived in apartments compared to only 21.3% of Iraqi families in our study. Living in apartments makes it more difficult for the child to go and play unsupervised in the street. A considerable proportion of parents in our study allow their children to play with bicycle. This is another unsafe behavior which may lead to crashes and accidental injury to the child. A study from Kenya about road traffic accident fatalities reported that pedestrians comprised 42%, passengers 38%, drivers 12%, and cyclists 8% of fatalities[13].

In a recent study from USA, they found that despite the existence of laws in all fifty states requiring the use of safety practices for children, more children are still killed as passengers or by car crashes than from any other type of injury[14]. In our study 9.2% of families had RTA history and found to have significant association with allowing their children to play in the street, play with bicycle in the street, and with more number of children. Mohammed Jan found that parents with three or more children were more likely to allow their children to play unsupervised in the street three time than families with less number of children 8. In a recent study from France, a significant relationship had been observed between injury recurrence and problems related to education[15]. Another study from Sweden reported that children with more than two siblings had a slightly increased risk of all injuries[16].

In Jan *et al* study from Saudi Arabia, none of the parents had a previous poisoning accident; while in our study 10.6% of families reported previous poisoning which was found more in extended families, and when mothers do not work outside home. Extended families usually involve large number of children, so less chance to look after each child.

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EFFECTIVENESS OF DESMOPRESSIN AND OXYBUTYNIN HCL IN THE TREATMENT OF NOCTURNAL ENURESIS

Shatha H. Ali *CABP*, **Tariq S. Al-Karagoly** *CABP*

Abstract

Background: Nocturnal enuresis is an innocent but distressing disorder occurring in many children which may lead to poor self-esteem.

Objectives: To evaluate the response of a group of children with nocturnal enuresis to intranasal Desmopressin or oral Oxybutynin HCl, and compare the response to both drugs.

Subjects & Methods: This prospective study was done over 4 weeks period. Patients were 25 children aged 6-13 years with severe nocturnal enuresis; they were divided into two groups. First group = 17 children received intranasal Desmopressin 20 μg; if no response, increased to 40 μg. Second group = 8 children received Oxybutynin HCl orally one tablet (5 mg), if no response; increased to 2 tablets. Response was regarded as a decrease in number of wet nights per week, and divided into 3 categories: full responders with 0-1 wet night /week, intermediate with 2-3 wet nights/ week and non-responders with > 3 wet nights / week.

Results: The response rate to Desmopressin was 82.4%; 53% of them were full responders, while the response rate to Oxybutynin HCl was 50%; 25% of them were full responders. The mean number of wet nights/week for the total 4 weeks therapy for the Desmopressin group was (2.1±1.9) and for the Oxybutynin HCl group was (3.8±2.8). There was a highly significant difference before and after therapy in the Desmopressin group (P<0.001). None of the children developed side effect to Desmopressin, one child had side effect to Oxybutynin HCl.

Conclusion: For short-term therapy over 4 weeks, Desmopressin was safe and highly effective in the treatment of nocturnal enuresis. Oxybutynin HCl was less effective with some side effect. Further studies for longer periods are needed.

Key words: Nocturnal enuresis, Desmopressin, Oxybutynin HCl

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[1]Introduction

Nocturnal enuresis (NE) is an innocent but distressing disorder occurring in many children. It can negatively affect early childhood and can last until adulthood, this may result in emotional stress, behavioral problems and poor self-esteem[1,2]. Nocturnal enuresis arises through the ill-functioning of one or more of the following three mechanisms: a lack of Vassopressin release during sleep, bladder instability, and/or an inability to arouse from sleep to bladder sensations[2-5]. Genetic factors are the most important in the etiology of NE, but somatic and psychological environmental factors have a major modulatory effect[6]. The treatment approach for NE is controversial due to lack of consensus to the exact causes of NE, despite various treatment modalities; pharmacotherapy still appears to be the common choice[7]. The drugs used for the treatment of NE are mainly Tricyclic antidepressants, Anticholenergics and synthetic Vassopreessin (Desmopressin)[8].

Aims of the Study: On a short-term period of 4 weeks therapy:

1. Evaluate the response of a group of children with NE during administration of intranasal Desmopressin or oral Oxybutynin HCl.
2. Compare the response to the two mentioned drugs.

Patients & Methods

Twenty five children with primary NE (PNE) formed the bases of this prospective study for the period between October 2001 to July 2002, they all attended the pediatric nephrology clinic in Al-Kadhimiya Teaching Hospital, their age ranged from 7 years to 13 years, all suffered from sever PNE, defined as minimum of 3 wet nights per week[9], all of our patients had daily bed wetting; so the mean number of wet nights per week = 7.0±00, and they were enuretic since birth so regarded as primary type of enuresis[8,10].

Dept. Pediatrics, College of Medicine, Al-Nahrain University.
Received 10th November 2003: Accepted 19th January 2004.
Address Correspondence to Dr. Shatha H. Ali.

A complete case history was taken, physical examination, urinalysis, specific gravity and urine culture were performed to all patients, and telephone number (if present) was taken. Patients were excluded who had daytime incontinence, urinary tract infection or urinary tract abnormalities. The patients had not been taken any medications two weeks before entry to the study. The patients were studied during a period of 4 weeks; they were randomly divided into 2 groups:

First group: consisted of 17 children who received intranasal Minirin (which contains Desmopressin, a structural analogue of the natural hormone Arginine Vassopressin, Ferring AB, Sweeden). Initial dose was 20 μg, increased when no response to the maximum of 40 μg, as a recommended effective dose[11].

Second group: consisted of 8 children who received anticholenergic oral tablets (Oxybutynin HCl), initial dose one tablet of 5 mg, increased when no response to a maximum of two tablets (10 mg)[12].

All patients were assigned diary cards, and recording dry and wet nights was done by the parents. For both groups, each patient was given the lowest dosage of the drug that reduced the number of wet nights by 50% or more, if this aim was not achieved, the dose of either drug was increased to the maximum recommended effective dose of that drug.

Throughout the whole study, the response to both drugs was registered as the decease in the number of wet nights per week. According to their response, the patients in both groups were divided into three categories:

Full responders: with one or none wet nights per week.

Intermediate responders: with 2- 3 wet nights per week.

None responders: with more than 3 wet nights per week.

Patients were followed during the study and watched clinically for adverse effects of the drugs. Final results were returned by either parents of the patients, and some results were obtained by phone calls.

Paired t test was used to compare between the number of wet nights per week before and after therapy for both groups, P value was considered significant if (<0.05).

Results

Patients were 25 children, males were 14 and females were 11. Male to female ratio was (1:0.78). Age range of the study group was 6-13 years. Family history of enuresis was recorded in 20 children (80%), and was negative in 20%.

Results of the first group: All the 17 children were started with 20 μg intranasal Desmopressin at bed time, at the end of 1st week, 4 of them had no response, so increase the dose for them to 30 μg. At the end of 2nd week of therapy, 2 of those 4 children still had no response so increase the dose further to maximum of 40 μg, but by the end of 4th week of therapy, those 2 children still had no response. We had one patient who was intermediate responder at the start of therapy so no further increase in the dose was given to her, but she turned to be non- responder at the 4th week of therapy.

So in total at the end of 4 weeks therapy, 3 children (17.6%) were non responders, the rest of 14 children were responders (82.4%), 9 of them (53%) were full responders and the other 5 (29.4%) were intermediate responders (Table 1).

Table 1: Response rate to intranasal Desmopressin of 17 children in the first group

Response	Number	%
Full responders	9	53
Intermediate responders	5	29.4
Non responders	3	17.6
Total	17	100

Results of the second group: All 8 patients were given Oxybutynin HCl 1 tablet (5 mg) orally at bed time, by end of 1st week of therapy, 5 of them were non – responders, so increase the dose for them to maximum of 2 tablets (10 mg), at end of 2nd week of therapy, one of those 5 children became full responder while the other 4 children still were non – responders and continue so to the end of 4th week of therapy.

So in total at the end of 4 weeks therapy, 4 children were responders (50%), 2 of them were full responders (25%) and the other 2 were intermediate responders (25%) while the rest of 4 children (50%) were non responders (Table 2).

Table 1: Response rate to oral Oxybutynin HCl of 8 children in the second group

Response	Number	%
Full responders	2	25
Intermediate responders	2	25
Non responders	4	50
Total	8	100

In the 1st group on Desmopressin, the mean number of wet nights /week decreased significantly in the 1st week of therapy from 7±00 before therapy to 2.6±2.2 (P<0.05). Further results showed that the mean number of wet nights/week for the 2nd, 3rd and 4th weeks of therapy decreased significantly to 1.8±1.9, 1.8±1.8 and 2.2±2.3 respectively (P<0.05 for all).

Results of the 2nd group on Oxybutynin HCl showed a decrease in the mean number of wet nights/week from 7±00 before therapy to 4.2±2.4, 3.9±2.9 and 3.9±2.9 in the 1st, 2nd and 3rd weeks respectively, however statistically were non-significant (P>0.05), but there was a significant decrease in the number of wet nights on the 4th week to 3.6±2.7 (P<0.05), (Figure 1).

The mean number of wet nights/week for the total 4 weeks therapy for the 1st group was 2.1±1.9, which was highly significantly different from the mean observed before Desmopressin therapy (P<0.001), (Figure 2).

On the other hand, the mean number of wet nights/week for the total 4 weeks therapy for the 2nd group was 3.8±2.8 which gave a significant difference from the mean before oxybutynin therapy (p<0.05), (Figure 2).

None of the children treated with Desmopressin had any side effect, only one girl 6 years old treated with oxybutynin HCl developed tachycardia and flushing when received 2 tablets and she was non responder so the drug was stopped.

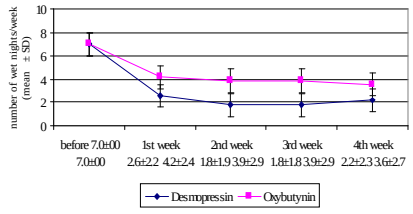

Figure 1: Mean No. of wet nights per week before and during first, second, third, and fourth weeks of therapy for both Desmopressin and Oxybutynin HCl groups

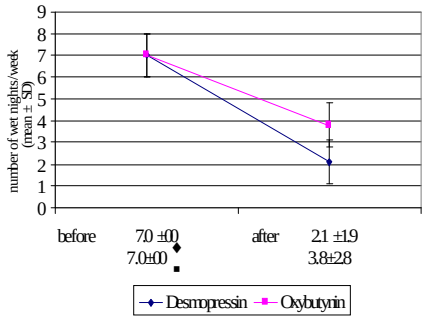

Figure 2: Mean No. of wet nights per week before and total 4 weeks therapy for both Desmopressin and Oxybutynin HCl

Discussion

Similarly to most studies, we had male predominance over females[8,10,12,13]. Compared to our results, lower percentages of family history of enuresis was recorded by other reports[9,10,14]. The high percentage of family history of enuresis among our cases might be explained by high incidence of marriages between relatives in our society, it was estimated that as the closeness of the genetic relationship decrease, the incidence of enuresis diminishes[12].

In our study, the response rate to intranasal Desmopressin was (82.4%), this high response rate was agreed upon by many other studies from different regions in the world with percentages ranging between (70%-85%)[15-21]. The effect of Desmopressin on NE is due to it's antidiuretic properties and reduction of nocturnal urine output[22].

More than half of the patients in the 1st group were full responders to Desmopressin (53%), 2 other studies reported nearly similar figures[9,23]. In the 1st group, a highly significant difference in the mean number of wet nights per week before and after Desmopressin therapy was detected. In a literature search which was performed for the period Jan. 1966 to August 1992 including 14 studies; 11 of them showed a significant decrease in the mean wet nights per week on Desmopressin therapy[13], also it was reported in a recent large search on 21 randomized trials involving 948 children from 1985-1996 treated with Desmopressin, that it was effective in reducing bedwetting in a variety of doses and forms[24].

Among the 2nd group, the response rate to Oxybutynin HCl was obtained in only half of the patients, a response rate to Oxybutynin HCl of 54% was recorded in a study from Italy[21], and a response rate of 10%-50% was reported by a recent study from Tokyo[25].

Oxybutynin HCl effect in NE is due to it's anticholinergic activity and some direct muscle relaxant properties and inhibits the muscarinic action of acetylcholine on smooth muscles and increased bladder retention[8,12,14,22]. Although the difference between mean number of wet nights per week of the total 4 weeks therapy before and after Oxybutynin HCl therapy was statistically significant, but it was not highly significant as the difference obtained in the Desmopressin group as shown in Figure 2 .

Varan *et al* reported that Oxybutynin HCl did not cause a significant difference in the number of dry nights among his study group[26].

Kosar *et al* in their study found that the majority of patients (88.3%) responding to Oxybutynin HCl; were those with inadequate bladder storage function (IBSF), while the treatment in patients with normal bladder function was generally unsuccessful, also he found a significant decrease in mean number of wet nights per week of the two groups after Oxybutynin HCl therapy compared to the pretreatment value, but the difference was highly significant in the group with IBSF[14].

Similarly in a wide study from Sweden, they found that children responding to Oxybutynin HCl have small bladders and probably hyperactive detrusor muscles[27].

Most studies from different regions reported no adverse effect to Desmopressin intranasal therapy[13,15,16]. Side effects to Oxybutynin HCl therapy was recorded in 5 of 9 patients in Varan *et al* study[27].

Kosar *et al* in their study reported dryness of the mouth in 50%, constipation in 11.8% and flushing in 5.9% of treated patients with Oxybutynin[14].

Neveus *et al* in their study reported that two main types of NE can be discerned: (1) Diuresis dependant enuresis in which children void because of excessive nocturnal urine production and impaired arousal mechanism, (2) Detrusor dependant enuresis, those children void because of detrusor hyperactivity and impaired arousal mechanism. The main clinical difference between the two groups is that Desmopressin usually effective in the former but not in the later type, accordingly Desmopressin was applied as first line therapy, anticholinergic drugs as the second line treatment[5].

Conclusion: Intranasal Desmopressin; when used daily for a period of 4 weeks in the treatment of nocturnal enuresis was safe, useful and highly effective in reducing the number of wet nights of enuretic children. Oxybutynin HCl was less effective in the treatment of NE with less significant decrease in wet nights than Desmopressin with few side effects.

Recommendations: Further studies for longer periods of treatment are needed in order to assess the long term efficacy of both drugs.

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الملخصات العربية

مقالات مبتكرة

ذوّي الخلايا الليمفاوية مع نتيجة الحمل المعاكسة

اسراء فائق السامرائي، ملكة السعدي، ابتسام العبوسي (كلية الطب- جامعة النهرين)

الخلاصة

خلفية الدراسة: ذوي الخلايا الليمفاوية يلعب دور مهم في علم الأحياء ومرض الخلايا بضمنها دراسات في تطور الأجنة ومسيرة الأمراض واستجابة الخلية للعلاج.

هدف الدراسة: لتوضيح العلاقة بين ذوي الخلايا وجهد الاكسده في مختلف مراحل الحمل خصوصا" الإجهاض وتسمم الحمل.

طريقة العمل: تضمنت الدراسة ٣٠ امرأة حامل: ١٠ نساء مصابات بتسمم الحمل و١٠ إجهاض (قبل الأسبوع العشرون من الحمل).

تم تشخيص التغيرات الشكلية والسطحية على ذوي الخلايا الليمفاوية بواسطة المجهر العاكس

تم قياس نتائج أكسدة الدهون باستعمال الأصناف الفعالة لحامض ثايو باربتيوريك (مالون داي الديهايد)و كلوتاثايون الكريات الحمر بطريقة **لانج** ، وتم قياس نسبة الزنك والنحاس بواسطة Atomic absorption spectrophotometer)). الإحصاء تم بواسطة اختبار T للطالب و معامل الارتباط.

النتائج: وجدنا زيادة معنوية في ذوي الخلايا الليمفاوية لمرضى تسمم الحمل ($P<0.05$) مقارنة بالحمل الطبيعي وكانت زيادة ال MDA معنوية جدا" $P<0.005$ ونفس الشيء بالنسبة لاستهلاك الكلوتاثايون في مرضى تسمم الحمل. وكان هناك علاقة ايجابية بين زيادة عملية الذوي ومتغيرات جهد الاكسده. في الإجهاض كانت زيادة معنوية في ذوي الخلايا اللمفاوية مقارنة بالحمل الطبيعي ($P<0.05$).وكذلك كان هناك علاقة ايجابية قوية بين عملية الذوي وجهد الاكسده $r=0.92$.

الاستنتاج:ذوي الخلايا اللمفاوية وجهد الاكسده ازداد زيادة معنوية في مرضى تسمم الحمل و الإجهاض وهذا يعني إن جهد الاكسده يستطيع التسبب في تسمم الحمل و الإجهاض في النساء الحوامل.

مفتاح الكلمات: ذوي الخلايا اللمفاوية، نتيجة الحمل العكسية

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٣ــ٧ـ

الملخصات العربية

دراسة نسبة معدنَي النحاس والزنك عند المرضى المصابين بأمراض الغدد اللمفاوية الخبيثة

صبح سالم المدلل، راجي الحديثي (كلية الطب-جامعة النهرين)
مروان النمر(كلية الطب-الجامعة المستنصرية)

الخلاصـــة

خلفية الدراسة: ان مرض سرطان الغدد اللمفاوية هو من الامراض الذي يشمل مجموعة متباينة من أنواع الاورام التي تختلف فيما بينها في سيرة المرض. وقد وجد ان بعض المعادن الموجودة في الجسم بكميات ضئيلة وخصوصاً معدني النحاس والزنك واللتان تعتبران من المواد المهمة لنمو وصحة خلايا الجسم بشكل عام والخلايا اللمفاوية بشكل خاص. لذا وجد ان قياس نسبة هذه المواد في داخل الخلايا اللمفاوية يمكن ان يعتبر كمؤشر مهم في دراسة شدة المرض وقابلية المريض على مقاومة المرض.

الهدف من البحث: قياس نسبة كل من معدن الزنك والنحاس في داخل الخلايا اللمفاوية عند مرضى سرطان الغدد اللمفاوية.

طريقة العمل: تضمن البحث دراسة ٤٢ مريضاً مصاباً بالاورام اللمفية الخبيثة، منهم ٢٣ مصاباً بالاورام اللمفية اللاهودجكن (معدل أعمارهم ٥–٧٥ سنة) و ١٩ مريضاً مصاباً بالاورام اللمفية من صنف هودجكن (معدل اعمارهم ٦–٧٠ سنة). وقد تمت مقارنتهم بـ ١٩ شخصاً سوياً عوملوا كمجموعة طبيعية. وقد كان جميع المرضى مشخصين حديثاً ولم يتسلموا أي نوع من أنواع العلاج. وقد تم قياس نسبة كل من النحاس والزنك في داخل الخلايا اللمفاوية بواسطة مقياس الطيف الضوئي.

النتائج: لقد تم قياس نسبة كل من النحاس والزنك في داخل الخلايا اللمفاوية بواسطة مقياس الطيف الضوئي (Flame Atomic Absorption Spectrophotometer (Perkin-Ewer 400)) وقد وجد ان نسبة النحاس في الخلايا اللمفاوية الموجودة في الدم كانت مرتفعة وذات اهمية احصائية عند المرضى المصابين بأورام الغدد اللمفاوية الخبيثة بنوعيها مقارنة بالمجموعة الضبطية. كما ان هذا الارتفاع كان متناسباً مع درجة خبث الورم عند المرضى المصابين بأورام الغدد اللمفاوية عدا اللاهودجكن. وبالرغم من ان نسبة الخارصين عند مرضى الاورام اللمفاوية الخبيثة (كلا النوعين) منخفض مقارنة بالمجموعة الضبطية الا انه لم يكن ذا دلالة احصائية مهمة ولم يتناسب مع درجة خبث الورم اللمفي، في حين عند قياس نسبة النحاس الى الخارصين في الخلايا اللمفاوية للمرضى المصابين بالاورام اللمفاوية الخبيثة (كلا النوعين) وجد ان هذه النسبة مرتفعة وذا أهمية احصائية مقارنة بالمجموعة الضبطية الا انها لم تتناسب مع درجة خبث الورم اللمفي.

الاستنتاج: من هذا نستنتج ان نسبة قياس النحاس ونسبة النحاس الى الخارصين في الخلايا اللمفاوية يمكن أن يستعمل كمؤشر تشخيصي للمرضى ومتابعة تطوره، بينما نسبة الخارصين لم تكن ذو أهمية في التشخيص. كما ان نسبة النحاس قد تفيدنا في معرفة درجة خبث الورم وتقدمه وفي معرفة مدى استفادة المريض من العلاج بينما وجد ان قياس نسبة الخارصين ونسبة النحاس الى الخارصين في الخلايا اللمفاوية لم تكن ذا أهمية في تثبيت درجة خبث الورم اللمفي.

مفتاح الكلمات: سرطان الغدد اللمفاوية،المعادن الضئيلة، النحاس، الزنك

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٨ ــ١٣

الملخصات العربية

مستوى الزنك و النحاس و المغنيسيوم في المرضى المصابون بأورام الدماغ

يحيى يحيى زكي فريد، حسين عبد الكاظم حسين، سرمد عزيز الكروي
(كلية الطب-جامعة النهرين)

الخلاصة

المقدمة: تعتبر العناصر الضئيلة في الجسم مثل النحاس و الزنك و المغنيسيوم من المواد ذات الأهمية من الناحية الكيماوية و الحياتية. في الآونة الأخيرة وجدت أنماط متنوعة من التغيير في تركيز هذه العناصر في أمراض السرطان المختلفة اعتماده على مراحل تطور وانتشار المرض في الإنسان ومن هذه الأمراض سرطان الدماغ .

طريقة العمل: اشترك في هذه الدراسة ٩٣ شخصا (٢٨ يعانون من سرطان الدماغ الحميد ؛ و٣١ يعانون من سرطان الدماغ الخبيث؛ واخذ ٣٤ إنسان سليم لغرض المقارنة). تم قياس تركيز النحاس والزنك و المغنيسيوم في المصل قبل إزالة الورم جراحيا وبعد أسبوع من إزالته .

النتائج: أظهرت النتائج أن مرضى سرطان الدماغ الخبيث لديهم تركيز من النحاس في المصل أعلى من مرضى السرطان الحميد وهاتين المجموعتين من المرضى لديهم فرق معنوي عند مقارنتهم بمجموعة السيطرة من الناس الأصحاء. بينما يوجد فرق معنوي في تركيز الزنك في المصل عند مرضى السرطان الخبيث مقارنة بالناس الأصحاء. هناك انخفاض معنوي في تركيز المغنيسيوم في المصل عند مرضى سرطان الدماغ الحميد عند مقارنته بمجموعة السيطرة أو مرضى سرطان الدماغ الخبيث. أن إزالة الورم جراحيا أدت إلى نقصان في تركيز النحاس وزيادة في تركيز الزنك لدى المرضى عند مقارنتها بمستوياتها قبل إجراء العملية حيث يقترب تركيزها من تركيز هذه العناصر لدى الناس الأصحاء.

الاستنتاج: توجد اختلافات في مستويات العناصر الضئيلة التي درست في مصل مرضى أورام الدماغ الخبيث والحميد عند مقارنتها بالناس الأصحاء وكذلك بين المرضى أنفسهم قبل وبعد إزالة الورم جراحيا. هناك حاجة لمزيد من البحث للتوصل إلى الأسباب الدقيقة التي تسبب هذه التغييرات .

مفتاح الكلمات: زنك؛ مغنيسيوم؛ نحاس؛ سرطان؛ ا ورام الدماغ؛ العناصر الضئيلة.

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ١٤ ــ ١٧

الملخصات العربية

تقيم مستوى بعضالانزيمات فى مصول مريضات سرطان الثدى

نضال عبد المهيمن (كلية الطب-جامعة النهرين)
بشرى محمود، فاروق خالد حسن (كلية الطب-الجامعة المستنصرية)

الخلاصة

خلفية الدراسه: يعتبر سرطان الثدى من اكثر الانواع شيوعا عند النساء. كما انه المسبب الرئيسى للوفاة.هناك الكثير من العوامل الداخليه و الخارجيه التى تساهم فى نشوء المرض و تطور ه منها الانزيمات قيد الدراسه.

الهدف: التحرى عن بعض عوامل تطور المرض فى مصول المرضباجراء دراسة مصلية للانزيمات (Lactate Dehydrogenase LDH) و (Adenosine Deaminase ADA) فى مريضات سطان الثدى.

المرضى و طرائق العمل: شملت هذه الدراسة ثلاثة وسبعون مريضة مصابة بورم في الثدي، (٦٢) منهن مصابات بورم الثدي الخبيث (١١) منهن مصابات بورم الثدي الحميد.

قسمت مجموعة المرضى المصابين بالورم الخبيث واعتماداً على تقارير الفحص النسيجي الى ثلاث مجموعات ، شملت الأولى (٨) مريضات مصابات بـ السرطانه القنوية غير الغازية Intra)(Ductal Carcinoma ، شملت الثانية (٥) مريضات بـ سرطانة الفصيص (Lobular Carcinoma) أما الثالثة والأخيرة فقد شملت (٤٩) مريضة سجلت تقاريرهم النسيجية السرطانة القنوية الغازية (Infiltrative Ductal Carcinoma) .المجموعة الثالثة بدورها قسمت الى ثلاثة مجاميع وهي (١٢) مريضة بـ السرطانة متوسطة التفريق) Moderatly Differentiated Ductal Carcinoma MDC)، (٢٦) مريضة بـ السرطانة الفقيرة التفريق (Poorly Differentiated Ductal Carcinoma PDC)، (١١) مريضة بـ السرطانة جيدة التفريق (Well differentaiated Ductal Carcinoma WDC).سجل جميع المرضى دخول الى مستشفى اليرموك التعليمي ، المدينة الطبية ، مستشفى العربي الخاص ، للمدة من كانون الاول ١٩٩٩ الى كانون الثاني ٢٠٠١ .تم سحب نموذج الدم من المرضى بالإضافة إلى (٢٠) نموذج دم من نساء أصحاء ، كمجموعة سيطرة .

النتائج: اظهر انزيم الـ LDH ارتفاعاً معنوياً في نوع الـ MDC، في حين اظهر ارتفاعاً طفيفاً في النوع LC .كمااظهر انزيم الـ ADA، ارتفاعاً معنوياً في النوع PDC ، وارتفاعاً طفيفاً في النوع LC.

الاستنتاجات: أظهرت هذه الدراسه اهمية هذه الانزيمات كعوامل متابعه للحاله المرضيه وتطور المرض.

مفتاح الكلمات: سرطان الثدى، ADA، LDH

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ١٨ ـــ ٢١

الملخصات العربية

اعتلال عمل البطين الأيمن و الأيسر في المرضى المصابين بالأمراض الرئوية المزمنة: دراسة باستخدام فحص الأيكو

هاشم مهدي هاشم، نبيل عبد الأحد انطوان، عباس فاضل هلاهل
(كلية الطب-جامعة النهرين)

الخلاصة

الهدف: تقييم عمل البطينين الأيمن و الأيسر في المرضى المصابين بالأمراض الرئوية المزمنة بواسطة فحص الأيكم للقلب.

طريقة العمل: تم فحص ٥٠ مريضا مصابين بالأمراض الرئوية المزمنة (الأنسدادية و التحددية و امراض الأوعية الدموية) الذين ادخلوا الى مشفى الكاظمية التعليمي. تم تقييم المرضى سريريا بالأضافة الى اجراء بعض الفحوصات كالفحص الشعاعي، تخطيط القلب، فحص الأيكو، و فحص تركيز الأوكسجين في الدم لتقق ييم عمل البطينين الأيمن و الأيسر و علاقته بالأمراض الرئوية المزمنة.

النتائج: تبين من هذه الدراسة ان هنالك ٤٠ مريضا مصابا بالأمراض الرئوية الأنسدادية و ٧ مرضى مصابين بالأمراض الرئوية النحددية و ٣ مرضى مصابين بالأمراض الرئوية الوعائية. كما تبين ان جميع المرضى المصابين بالأمراض الرئوية الوعائية و ٦٦٪ من المصابين بالأمراض الرئوية الأنسدادية و ٤٢٪ من المرضى المصابين بالأمراض الرئوية النحددية لديهم عدم كفاءة عمل البطين الأيمن بعلاقة عكسية مع تركيز الأوكسجين في الدم. و لوحظ ان نسبة اعتلال البطين الأيسر في المرضى المصابين بالأمراض الرئوية المزمنة ضئيلة جدا. وجد ايضا ان ٥٩٪ من المرضى المصابين بعدم كفاءة عمل البطين الأيمن بفحص الأيكو لديهم خصائص تضخم و عدم كفاءة عمل البطين الأيمن بواسطة تخطيط القلب.

الأستنتاج: لوحظ اعتلال عمل البطين الأيمن بنسبة واضحة في المرضى المصابين بالأمراض الرئوية المزمنة خاصة الذين لديهم تركيز الأوكسجين في الدم يقل عن ٩٠٪ و ان اعتلال البطين الأيسر بمفرده ضئيبة في هذه المجموعة من المرضى و له علاقة بعدم كفاءة عمل البطين الأيمن.

مفتاح الكلمات: اعتلال عمل البطينين الأيمن و الأيسر، الأمراض الرئوية المزمنة، فحص الأيكو.

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٢٢ ــ ٢٥

الملخصات العربية

الاستجابة المناعية لذوي المصول الموجبة بعد لقاح الحصبة

اسماعيل ابراهيم لطيف، ليلى العمر، نضال عبد المهيمن
(كلية الطب، جامعة النهرين)

الخلاصة

خلفية الدراسة: الحصبة هي واحدة من الامراض المسببة لوفيات الأطفال في انحاء العالم، في الدول الصناعية يتم مكافحة الحصبة بالقاح الحي المضعف. تهدف منظمة الصحة الدولية إلى الاستئصال العالمي لمرض الحصبة بعد استئصال مرض شلل الأطفال.

الهدف: ترمي هذه الدراسة إلى حساب الاستجابة المناعية لفايرس الحصبة عند الأشخاص المتطوعين الاصحاء (التي تحتوي مصولهم على الاجسام المضادة للحصبة) بعد تلقيحهم بلقاح الحصبة المضعف الحي.

طريقة العمل: لقد تم اختيار 52 متطوع (36 منهم ذكور و 16 اناث) تتراوح اعمارهم بين 15 – 45 سنة. تم زرق 26 منهم بلقاح الحصبة و 26 تم زرقهم بالمحلول المجهز مع اللقاح واعتبر كمجموعة ضابطة. تم متابعة المتطوعين ، وتم قياس كمية الاجسام المضادة لفايرس الحصبة قبل وبعد التلقيح ولمدة اربعة اسابيع وباستعمال طريقة ال ELISA .

النتائج: اثبتت نتائج هذه الدراسة بان هناك ارتفاع مميز في معدل معيار الاجسام المضادة نوع IgG بعد التلقيح، حيث وجد ان معدل قراءة الشدة الضوئية (OD) كانت (1.72) خلال الاسبوع الاول بعد اعطاء اللقاح و (1.95) في الاسبوع الرابع. اظهر تحليل البيانات بان هناك اختلاف ذا اهمية في معدل الشدة الضوئية عند الأشخاص الملقحين والذين تحتوي مصولهم على الاجسام المضادة للحصبة، وان هناك ارتفاع ذا اهمية للاجسام المضادة في مصولهم خلال الاسبوع الاول، لكن لوحظ ان الارتفاع كان كبيرا جدا خلال الاسبوع الرابع، وهذا يعكس ارتفاع تركيز الاجسام المضادة.

الاستنتاجات: نستنتج من هذه الدراسة بان لقلح الحصبة كان امين، وفي نفس الوقت فعال ولا يوجد اي دلالة على ان هناك كبت للاستجابة المناعية الموقت، وهناك ارتفاع في الاجسام المضادة لدى الاشخاص الملقحين ذوي الجدارة المناعية.

مفتاح الكلمات: الاجسام المضادة ، المصول الموجبة ، التحصين ضد الحصبة

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٢٦ ـ ٢٨

الملخصات العربية

تقييم مستوى حامض السياليك الكلي و المرتبط بالدهون في المرضى المصابون باورام الدماغ

يحيى يحيى زكي فريد (كلية الطب-جامعة النهرين)، حسين عبد الكاظم حسين(كلية العلوم-جامعة كربلاء)، سرمد عزيز الكروي (كلية الطب-جامعة النهرين)

الخلاصة

المقدمة: من المعروف أن تركيز حامض السياليك الكلي وحامض السياليك المرتبط بالدهون يزداد في مصل الدم في المرضى المصابين بالأمراض السرطانية. هذه الدراسة أجريت لتحديد التغيرات التي تطرأ على تركيز حامض السياليك الكلي وحامض السياليك المرتبط بالدهون في مصل المرضى المصابين بأورام الدماغ الحميدة والخبيثة قبل وبعد إزالة الورم جراحيا .

طريقة العمل: تم قياس تركيز الحامضين أعلاه في مصول (٢٨ مصابا بأورام الدماغ الحميد و ٣١ مصابا بأورام الدماغ الخبيث) قبل وبعد إزالة الورم جراحيا بالإضافة إلى ٣٤ شخصا سليما اخذوا كمجموعة سيطرة .

النتائج: تحليل النتائج اظهر وجود زيادة معنوية في تركيز حامض السياليك الكلي وحامض السياليك المرتبط بالدهون يزداد في مصل الدم في المرضى المصابين بأورام الدماغ الخبيثة بينما لا يتغير تركيزه عند المصابين بأورام الدماغ الحميدة مقارنة بمجموعة السيطرة. وجد أن هناك انخفاض في مستوى الحامضين بعد مرور سبعة أيام على إزالة الورم جراحيا.

الاستنتاج: هناك علاقة بين نوع الورم الدماغي وبين تركيز حامض السياليك الكلي وحامض السياليك المرتبط بالدهون في مصل الدم، كما أن إزالة الورم جراحيا تسبب انخفاض تركيز الحامضين في المصل.

مفاتيح الكلمات: ورم الدماغ ؛ سرطان ؛ حامض السياليك ؛ حامض السياليك المرتبط بالدهون.

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٢٩ ــ ٣١

الملخصات العربية

البدائل للمستشفى العقلي للمرضى الراقدين لمدة طويلة في العراق

محمد عبد الحميد السامرائي (كلية الطب-جامعة النهرين)

الخلاصة

الأهداف: يهدف البحث لتحديد مدى قدرة المرضى الراقدين لمدة طويلة للعيش في بدائل سكنية للمستشفى العقلي.

طريقة العمل: تمت دراسة عينة عشوائية لمائة مريض راقدين في مستشفى الرشاد لعامين واكثر. وقد تم اخذ المعلومات من الملفات المرضية ورأي الأطباء الاختصاص المعالجين. والممرضات والباحثات الاجتماعيات المشرفات.تمت مقابلة المرضى وبعض أسرهم بصورة شبه منظمة. اجري الفحص الجسمي للمرضى.

النتائج: أظهرت النتائج آن معدلي مدة المرض ومدة الدخول كانتا ١٩,٣ و ٧,٧ عاما بصورة متوالية. وقد كون المرضى القادرين على المعيشة خارج المستشفى نسبة ٤٦٪ من العينة. وشملت المساكن المناسبة لهم: الدور المحمية من قبل العاملين في المستشفى (العدد١٠) ومساكن ذات الأقل حماية (العدد ١٥) ومساكن في المجتمع (العدد٢٠) وبيوت العوائل (العدد١) بالرغم من امتلاك ٧٧ مريضا لعوائل في المجتمع فان ٧٨٪ من هؤلاء العوائل رفضت مرضاهم.

الاستنتاج: تلعب الخدمة الاجتماعية دورا مهما وكاملا في رعاية ٢٠٪ من المرضى طويلي الرقود ودورا جزئيا في رعاية ١٦٪ منهم تشير النتائج آلي التركيز على الرعاية المجتمعية للمرضى العقليين. والتأكيد على ضرورة التعاون المتبادل ما بين السلطات الصحية والاجتماعية لأسباب إنسانية واقتصادية.

مفتاح الكلمات: الأصطرابات النفسية المزمنة، الرعاية الأجتماعية، الفصام في العراق، الطب النفسي المجتمعي، المستشفيات العقلية في الدول النامية.

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٣٢ ــ ٣٧

الملخصات العربية

التقييم الغذائي لمرضى القصور الكلوي المزمن المتقدم

عقيل جبار البهادلي، آمال سويدان، خالد عبد الله (كلية الطب-جامعة النهرين)

الخلاصة

خلفية الدراسة: يعتبر سوء التغذية من العوامل المهمة و الخطرة لتدهور الحالة الصحية وزيادة معدلات الوفيات لمرضى القصور الكلوي المزمن. إن نسبة انتشار سوء التغذية تتراوح ما بين (١٠–٧٠)٪ لمرضى الإنفاذ الدموي و بين (٨–٥١)٪عند مرضى الإنفاذ الصفاقي.

هدف الدراسة: الدراسة تهدف إلى تقييم الحالة الغذائية لمرضى القصور الكلوي المزمن الذين تم علاجهم في المستشفى التعليمي ويشمل مرضى الإنفاذ الدموي و الصفاقي.

طريقة الدراسة: أجريت الدراسة على خمسين مريض(٢٥ إنفاذ دموي و ٢٥ إنفاذ صفاقي). تم تقييم الحالة الغذائية للمرضى سريريا مع الفحوصات المختبرية اللازمة بالإضافة إلى القياسات الجسدية (الانثروبومترية) التي شملت قياس الطول، الوزن، سمك الطبقة الجلدية مع المحيط العضلي لمنتصف الذراع.

النتائج: كمية المقدار المأخوذ من الغذاء لم تكن كافية عند ٤٤ مريض (٨٨٪). هزال العضلات الناتج عن سوء التغذية كان ظاهرا لدى ٣٨ مريض (٧٦٪). مؤشر الكتلة الجسدية، سمك الطبقة الجلدية للعضلة ثلاثية الرؤوس مع المحيط العضلي لمنتصف الذراع كانت اقل من القياس المطلوب عند ٦٢٪، ٨٢٪، ٧٤٪ بالتوالي. فقر الدم كان واضحا لدى سبع واربعون (٩٤٪) من المرضى. اثنان و ثلاثون (٦٤٪) لديهم نسبة الزلال في الدم اقل من ٤ غم/العشرل.

الاستنتاج: إن سوء التغذية من الإمراض الشائعة عند مرضى القصور الكلوي المزمن. القياسات الانثروبومترية البسيطة ذات فائدة كبيرة لتشخيص مثل هذه الحالة. ضرورة إعطاء النصائح الدقيقة حول تناول الغذاء بصورة كافية لجميع مرضى القصور الكلوي المزمن وفي المراحل الأولى للمرض.

مفتاح الكلمات: التغذية، سوء التغذية، القصور الكلوي المزمن، الإنفاذ.

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٣٨ ـــ ٤٢

الملخصات العربية

انتشار البيلة الجرثومية عديمة الأعراض عند مرضى داء السكري

عدنان عنوز، مؤيد عبود (كلية الطب-جامعة النهرين)

الخلاصة

خلفية الدراسة: اجريت هذة الدراسة في مستشفى الكاظمية التعليمي من الفترة اذار– تشرين الاول ٢٠٠١ على المرضى الذين كانوا يراجعون عيادة مرضى السكري وعيادة الامراض الباطنية.

الهدف: لدراسة التهاب المجاري البولية الصامت لدى المرضى المصابين بداء السكري

طريقة البحث: نماذج من الادرار جمعت من ١٠٠ مريض مصاب بداء السكري، العمر يتراوح بين (١٥–٧١) سنة (عدد الاناث =٥٣، عدد الذكور = ٤٧) حيث كان ٥٤ منهم من نوع السكري غير معتمد الانسولين، بينما ٤٦ كانوا من نوع معتمد الانسولين. كذلك ٨٠ نموذج ادرار قد جمع من ٨٠ مريض غير مصابين بداء السكري راجعوا عيادة الامراض الباطنية، والعمر يتراوح بين (١٧–٦١) سنة (عدد الاناث =٤٣، عدد الذكور =٣٧).

النتائج: تسعة بالمائة(٩٪) من الـ(١٠٠) نموذج ادرار للمرضى المصابين بداء السكري واثنان ونصف بالمائة(٢,٥٪) من نموذج ادرار للمرضى غير المصابين بداء السكري كان يحتوي على عدد من البكتيريا اكثر من (١٠٠٠٠٠) لكل سم مكعب (الفرق بين النسبتين كان مهما احصائيا). في كلتا المجموعتين الاناث كانوا اكثر من الذكور الذين لديهم التهابات المجاري البولية الصامت (٧٧,٨٪ في المرضى المصابين بداء السكري بينما ١٠٠٪ في المرضى غير المصابين بداء السكري). ثلاثة انواع من البكتيريا قد عزلت من نماذج الادرار في هذه الدراسة هي (E.coli, proteus, S.aureus) في كلتا المجموعتين (E.coli) كانت الاكثر وجودا (٦ (٦٦,٧٪) في المرضى المصابين بداء السكري بينما ٢(١٠٠٪) في المرضى غير المصابين بداء السكري) وكانت هذه البكتيريا حساسة للمضادات الحيوية التالية (السيفوتاكسيم، النايتروفيورانتوين، الجنتامايسين، النالدكسيك اسيد) بينما كانت مقاومة لـ (الامبيسلين، التتراسايكلين، السيفالوثين، الكوتريموكسلزول).

الاستنتاجات: ان انتشار التهابات المجاري البولية الصامت هو اكثر بين المرضى المصابين بالسكري مقارنة مع المرضى او الاشخاص غير المصابين بداء السكري. انتشار التهابات المجاري البولية الصامت ليس له علاقة بنوع السكري او نوعية العلاج المستعمل للسيطرة عليه، كذلك ليس له علاقة بفترة داء السكري عند المرضى.

هذه الالتهابات هي اكثر عند الاناث مقارنة مع الذكور. (E.coli) هي اكثر انواع البكتيريا الموجودة في كلتا المجموعتين. يجب فحص كل المرضى المصابين بداء السكري لغرض التعرف على التهابات المجاري البولية الصامتة. يجب معالجة المرضى المصابين بداء السكري والذين لديهم التهابات المجاري البولية الصامت لمنع المضاعفات وهي التهاب وعجز الكليتين المزمن.

مفتاح الكلمات: انتشار، بيلة جرثومية، عديمة الأعراض، داء السكري

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٤٣ ـ ٤٦

الملخصات العربية

أسباب قصور الكلى المزمن في مستشفى عام عراقي

وائل لطيف جبر، عقيل جبار البهادلي، خالد عبد الله
(كلية الطب-جامعة النهرين)

الخلاصة

المقدمة: ان اسباب قصور الكلى المزمن يختلف في مناطق العالم و في نفس المكان في اوقات مختلفة.معرفة الأسباب المؤدية لقصور الكلى المزمن مهمةالتخطيط المبكر للوقاية والعلاج.

هدف الدراسة: الهدف هو لمعرفة اسباب قصور الكلى في مستشفى الكاظمية التعليمي(بغداد) وهو يمثل احدى المستشفيات العامة في القطر.

طريقة العمل: تمت دراسة ١٤٥مريض (٩٨ذكر، ٤٧انثى)، تتروح اعمار المرضى بين سنة واحدة الى ثمانين سنة. تم تشخيص الأسباب وفق مواصفات محددة مسبقا. عندما يكون السبب غير واضح بالرغم من الفحص السريري الدقيق والفحوصات اللازمة يسمى مجهول السبب.

النتائج: كانت اسباب قصور الكلى غير معروفة (مجهولة) عند ٢٧,٥٪ من المرضى. بالنسبة للاسباب المعروفة؛ انسداد المجاري البولية (١٧,١٪)، مرض السكري (١٦,٥٪)، فرط ضغط الدم الأساسي (١٥,١٪)، التهاب حوض الكلى المزمن (١٣,١٪). التشخيص المؤكد لألتهاب كبيبات الكلى المزمن عند ٦ مرضى فقط.

الأستنتاج: ان سبب قصور الكلى المزمن لم يكن واضحا في نسبة كبيرة من المرضى غابيتهم قد يكونوا مصابين بالتهاب كبيبات الكلى المزمن الغير مشّخص مسبقا. اما بين الأسباب المعروفة فان انسداد المجاري البولية، داء السكري، فرط الضغط المفرط، التهاب حوض الكلى المزمن كانت هي الأسباب الرئيسية لقصور الكلى المزمن.

مفتاح الكلمات: قصور الكلى، التهاب كبيبات الكلى، فرط ضغط الدم، داء السكري.

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٤٧ ـ ٥٠

الملخصات العربية

العلاقة بين مشاهدات فحص الناظور والفحص النسيجي للمرضى المشتبه اصابتهم بالداء الزلاقي

طارق الحديثي ، صبح سالم المدلل (قسم الأمراض-كلية الطب، جامعة النهرين)

الخلاصة

خلفية الدراسة: خلال اجراء فحص ناظور الجهاز الهضمي العلوي هناك بعض التغيرات في الغشاء المخاطي للاثني عشري قد تساعد على تشخيص الداء الزلاقي .

هدف الدراسة: مقارنة المشاهدات خلال فحص الناظور مع نتائج الفحص النسيجي للغشاء المخاطي للاثني عشري.

طريقة العمل: تمت دراسة ١٠٢ مريض محالين الى قسم التنظير للاشتباه باصابتهم بالداء الزلاقي. اجري فحص الناظور للجهاز الهضمي العلوي لجميع المرضى وتم اخذ عينات من الغشاء المخاطي للاثني عشري النازل لغرض اجراء الفحص النسيجي عليها .

النتائج: أهم الاعراض المرضية هي تأخر النمو مع الاسهال المزمن . تم ملاحظة وجود ضمور طيات الغشاء المخاطي للاثني عشري مع تحزز الصميمات المتضامة في ٣١ مريض من اصل ٣٤ مريض تم تشخيصهم بالاصابة بضمور دون الشامل بواسطة الفحص النسيجي . حساسية ونوعية هذه النتائج كانت ٩١٪ ، ٧٥٪ على التوالي .

الاستنتاج: لغرض التشخيص المبكر للداء الزلاقي يجب اجراء الفحص النسيجي للغشاء المخاطي للاثني عشري حين مشاهدة بعض العلامات خلال فحص الناظور مثل ضمور طيات الغشاء المخاطي للاثني عشر او وجود تحزز في الصميمات المتضامة .

مفتاح الكلمات: داء الزلاقي، فحص الناظور، الفحص النسيجي.

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٥١ ـــ ٥٤

الملخصات العربية

دراسة تقييمية لاهم الاعراض و عوامل الخطورة لسرطان الثدي عند النساء العراقيات اثناء فترة الحصار

طه حسن طه، حسين تركي ناجي (كلية الطب-جامعة النهرين)

الخلاصة

خلفية الدراسة: سرطان الثدي هو الاكثر شيوعا بين الامراض الخبيثة عند النساء وهو السبب الرئيسي المؤدي للموت بسبب امراض السرطان عند النساء في الفئة العمرية ما بين ٤٠–٥٠ سنة.

هذه الدراسة مسبقة الى ١٠٠ من سرطان الثدي شخصت نسيجيسا و تم تحليل المعلومات لمعرفة اكثر الاعراض شيوعا وعوامل الخطورة لسسرطان الثدي عند النساء العراقيات اثناء فترة الحصار.

طريقة العمل: تم تتبع السجلات الطبية ل١٠٠ مريضة تم تشخيص اصابتها بسرطان الثدي بواسطة التحليل النسيجي. اجريت الدراسة في مستشفى الكاظمية التعليمي وشملت المرضى الذين تم ادخالهم في الفترة ما بين كانون الثاني١٩٩٢–كانون الاول٢٠٠١.

النتائج: اعمار المريضات تراوحت ما بين ٢٥–٧٥ سنة وكانت اكثر الاصابات(٤٨٪) في الفئة العمرية ما بين ٣٥–٤٤ سنة. ٦٤ مريضة كانت تشكو من ورم (كتلة) غير مؤلم في الثدي، ١٤ مريضة كانت تشكو من ورم (كتلة) مؤلم، في حين ان ١٠ مريضات شكون من افراز من حلمة الثدي (افراز دموي).

كان هناك ٧١ مريضة مشخصة بسرطان الثدي في عمر ما قبل سن الياس ، من ضمنهن ٢٩ مريضة(٤٠,٨٪) لديهن تاريخ مرضي بعدم انتظام الدورة الحيضية بينما ٤٢ مريضة(٥٩,٢٪) كانت الدورة الحيضية منتظمة. كان هناك ٤٥ مريضة من ذوات تعدد الولادات مع الرضاعة الطبيعية لاطفالهن و ٤٧ مريضة من ذوات تعدد الولادات ولكن بدون رضاعة طبيعية. ٢٣ مريضة من المصابات بسرطان الثدي قد خضعن لعملية استئصال الغدة الدرقية سابقا نتيجة لتضخمها. كان هناك ٣٣ مريضة لديها تاريخ مرضي بالاصابة المسبقة بعقدة الثدي الحميدة، و ١٤ مريضة كان لديهن تاريخ مرضي عائلي بالاصابة بسرطان الثدي . كان الربع الخارخي العلوي من الثدي الاكثر اصابة(٧٢٪) بسرطان الثدي.

الاستنتاج: سرطان الثدي هو الاكثر شيوعا عند النساء مع ظاهرة عامة باصابة الفئات العمرية الاصغر سنا. من المهم جدا للمراة التي تعتني بصحتها ان تعمل فحص بنفسها للثدي ابتداءا من عمر ١٨ سنة وفي فترات معينة بانتظام ، خصوصا اذا ظهرت اعراض معينة لاصابة الثدي .

. Ñ¢Õ?¢ Ö¢ÑÚ?¢ ¾¡ ù×¢¢ µ¢è÷

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٥٩ ـــ ٦١

الملخصات العربية

متلازمة انشطار الحبل الشوكي

سمير حسن عبود، عبد الأمير جاسم، سرمد عزيز ابراهيم
(كلية الطب-جامعة النهرين)

الخلاصة

خلفية الدراسة: متلارمة انشطار الحبل الشوكي هي تسمية لتشوه ينشطر فيها الحبل الشوكي الى شطرين، لكل منهما طاقم منفرد من الجذور العصبية الظهرية والبطنية، ومحتوى بغلاف من الام القاسية خاص به. أو يكون الحبل الشوكي مزدوج تماما مع طقم كامل مزدوج من الجذور العصبية.

هدف الدراسة: دراسة النمط السريري و الشعاعي والمرضي لهذه المتلارمة في العراق، وتاكيد اهمية الدراسة الدقيقة لهذه الحالات.

طريقة العمل: شملت الدراسة خمسة حالات لهذه المتلازمة، من حيث العمر والجنس والاعراض السريرية ونتائج الفحوص الشعاعية والعلاج الجراحي.

النتائج: المرضى كانو ثلاث اناث واثنين من الذكور، اربعة منهم كانو تحت سن السنة. اعوجاج الظهر كان العرض الرئيسي، المفراس والرنين المغناطيسي كانا اهم وسائل التشخيص واظهرا انشطار الحبل الشوكي بواسطة نتوء عظمي. اربعة من المرضى عولجو جراحيا بنتائج جيدة.

ألاستنتاج: هذه المتلازمة اكثر شيوعا عند الفتيات، التشوهات في الحبل الشوكي والعمود الفقري قد تكون معقدة وتحتاج الى دراسة سريرية وشعاعية وافية.الجراحة هي العلاج الوحيد لتعديل التشوهات وتحرير الحبل الشوكي.

مفتاح الكلمات: متلازمة انشطار الحبل الشوكي

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٦٢ ــ٦٧

الملخصات العربية

دراسة تحليلية لجراحة الغدة الدرقية ل١٠٠ مريض في مستشفى الكاظمية التعليمي

حسام عبد الكريم، طه حسن طه، حسين تركي ناجي
(كلية الطب-جامعة النهرين)

الخلاصة

خلفية الدراسة: تضخم الغدة الدرقية من الأمراض الشائعة في هذه البقعة من العالم . الهدف من هذه الدراسة هو تحليل الأعراض المرضية، نتائج العملية ونتائج التحليل النسيجي ل١٠٠ مريض مصاب بتضخم الغدة الدرقية.

طريقة العمل: اشتملت هذه الدراسة على ١٠٠ مريض مصاب بتضخم الغدة الدرقية، أجريت لهم عملية رفع الغدة الدرقية في المستشفى الكاظمية التعليمي خلال الفترة ما بين كانون الثاني ٢٠٠٠– كانون الثاني ٢٠٠١. تم التشخيص اعتمادا على الفحص السريري وبعض الفحوص المختبرية والسونار والتصوير الاشعاعي الذري للغدة. جميع العينات ارسلت للفحص النسيجي. تم تحليل المعلومات وتقييم النتائج.

النتائج: اعتمادا على الفحص السريري تم تقسيم تضخم الغدة الدرقية الى غدة احادية العقدة(٣٠٪)، غدة متعددة العقد(٥٠٪) وتضخم منبسط (٢٠٪). واعتمادا على ما تم اكتشافه اثناء العملية او عند الفحص النسيجي فان هذه النسب قد تغيرت ، وذلك بزيادة نسبة التضخم متعدد العقد إلى (٧٢٪). كان العدد الكلي للامراض السرطانية في تضخم الغدة الدرقية هو ٤٪. وكانت مطابقة الرشافة الخلوية بالابرة الدقيقة لنتيجة التحليل النسيجي هي ٧٥٪.

الاستنتاج: التشخيص الصحيح لتضخم الغدة الدرقية يجب ان يعتمد على الفحص السريري ، نتائج العملية والفحص النسيجي. ان نسبة الاورام السرطانية في تضخم الغدة الدرقية هي ٤٪. اما صحة التشخيص بواسطة الرشافة الخلوية بالابرة الدقيقة هي ٧٥٪.

مفتاح الكلمات: تضخم الغدة الدرقية، الرشافة الخلوية بواسطة الابرة الدقيقة، التحليل النسيجي.

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٦٨ ـ٧٢

الملخصات العربية

سرطان القولون والمستقيم: مراجعة(٩٤) حالة فى مستشفى الكاظمية التعليمي

حكمت عبد الرسول حاتم، حامد هندي سرحان، اكثم رشيد الصالحي

(كلية الطب-جامعة النهرين)

الخلاصة

الأهداف: أن الهدف من هذه الدراسة هو تحديد الخواص البيئية والمرضية لأورام القولون والمستقيم، مراجعة أعراضها السريرية وطرق معالجتها جراحيا ومن ثم مقارنة هذه النتاج مع الدراسات العالمية .

طريقة العمل: أجريت دراسة مراجعة لأربع وتسعين مريضا مصابون بأورام خبيثة في القولون والمستقيم و الشرج ، ادخلوا المستشفى الجامعي للكلية الطبية العراقية للفترة من تشرين الأول ١٩٩٥ ولغاية تشرين الأول ٢٠٠٢، حيث تم دراسة وتحليل المعلومات بالنسبة للعمر، الجنس، مكان الورم، نتيجة الزرع النسيجي، مرحلة الورم و نوع العمليات الجراحية التي أجريت لاستئصال الورم.

النتائج: ست وخمسون مريضا كانوا ذكورا بينما ٣٨ منهم كانوا إناثا و أن نسبة الذكور للإناث كانت ١,٥ : ١. أن النسبة الأكبر من المرضى كانت أعمارهم تتراوح بين ٤٠– ٥٠ سنة، ثلاث و عشرون منهم كانت أعمارهم دون الأربعين سنة. اكثر الأعراض السريرية شيوعا هي النزف من المقعد. كان موقع الإصابة الأصلية الأكثر تراودا في الأمعاء الغليظة هو المستقيم.

كانت الأورام الغدية السرطانية هي الأكثر شيوعا، وقد كانت معظم الأورام معتدلة التمايز. معظم الحالات شخصت في مرحلة متقدمة من المرض. اكثر العمليات التي أجريت هي استئصال المستقيم و القولون الصاعد.

الاستنتاجات: أن أورام القولون والمستقيم ليست غير شائعة في العراق كما كان يعتقد سابقا، وأنها في زيادة مستمرة خصوصا بعد تغير طبيعة الحياة وانتشار العادات الغربية. ارتفاع معدلات حدوث الأورام لدى المرضى الأصغر سنا (دون الأربعين سنة). أهمية التركيز على زيادات معدلات التعليم و الوعي الصحي بين المواطنين و الأطباء العامين للإلمام بمخاطر هذا الداء و علاماته السريرية المبكرة من اجل التشخيص المبكر. أي نظام مسح صحي لأورام القولون و المستقيم، إذا بدأ يجب أن يكون في سن مبكرة .

مفتاح الكلمات: أورام القولون والمستقيم، الخواص البيئية والمرضية، الاعراض السريرية، والمعالجة الجراحية

الملخصات العربية

قياس ببتايد (ج) في الدم و اللعاب عند الاطفال المصابين بمرض البول السكري

نشأت عزيز نشأت، عبد الوهاب رزوقي حمد، جواد (كلية الطب- جامعة النهرين)

الخلاصة

خلفيه الدراسه: ببتايد ج هو متعدد الببتايد (٣١ حامض اميني) ووزنه الجزيئي هو ٣,٠١٨ دالتون وهو جزء من جزيئة ما قبل الانسولين، و لقياس ببتايد ج فائده في جميع الحالات التي تحتاج الى قياس نسبة الأنسولين و ذلك لأن وجود المضادات المناعيه و علاج الانسولين يتعارض مع قياس الانسولين.

الهدف: هو لتقرير العلاقة بين مستوى ببتايد ج في الدم و اللعاب لدى الاطفال المصابين بداء السكري المنوط بالانسولين .

طريقه العمل: هذه الدراسه اجريت في عياده مرض السكري لدى الاطفال في مستشفى الكاظميه التعليمي–الكليه الطبيه العراقيه ،بغداد، العراق للفتره(اذار ٢٠٠٠– نيسان٢٠٠١). خمسون مريضا شملوا في هذه الدراسه و تم اخذ عينه من دم و لعاب الصائمين المصابين بمرض السكري لدى الاطفال في الصباح و المسجلين في هذه العياده لقياس نسبه ببتايد ج باستعمال كت قياس المناعه الراديويه (فرنسي) و كذالك قياس نسبه السكر في الدم.

النتائج: كان مستوى ببتايد ج في المصل هو حوالي ٦–٧ مرات اكثر من اللعاب.

الاستنتاج: ان قياس ببتايد ج في اللعاب سهل ومضمون بدون الم او اضطراب لدى الفئات العمريه الطفوليه.

مفتاح الكلمات: ببتايد ج، مرض السكري، لعاب، مصل الدم.

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٧٧ ــ ٧٩

الملخصات العربية

معدل الوفيات وأسبابها عند الأطفال في مستشفى الكاظمية التعليمي

طارق سليم القره غولي (كلية الطب-جامعة النهرين)، عبد الكريم جاسم البهادلي (مستشفى الكاظمية التعليمي)

الخلاصة

خلفية الدراسة: إن خفض نسبة الوفيات عند الأطفال خصوصا دون سن الخامسة يعتبر من الأهداف الأساسية للصحة العامة في العالم وقد وضعت كثير من دول العالم والمنظمات العالمية خططا إستراتيجية لبلوغ هذا الهدف.

هدف الدراسة: معرفة نسبة الوفيات وأسباب الوفات عند الأطفال الداخلين إلى مستشفى الكاظمية التعليمي خلال فترة ٥ سنوات من ١ كانون الثاني ١٩٩٧ إلى ٣١ كانون الأول ٢٠٠١ .

طريقة العمل: من خلال دراسة إسترجاعية أجريت في مستشفى الكاظمية التعليمي لفترة ٥ سنوات (من ١٩٩٧ ولغاية ٢٠٠١) تمت مراجعة ملفات الأطفال المتوفين خلال هذه الفترة. قسم الأطفال الى ٥ فئات عمرية وتم تحديد سبب الوفات.

النتائج: كان معدل الوفيات ٨٠ لكل ١٠٠٠ طفل مريض. زيادة واضحة في معدل الوفيات من ٧٥,٧٩ /١٠٠٠ في سنة ١٩٩٧ الى ٨٣,٢٧ /١٠٠٠ في سنة ٢٠٠١. نسبة وفيات الذكور كانت ٥٩,٤٨٪ اما نسبة وفيات الاناث فكانت ٤٠,٥٢٪. كانت الاسباب الرئيسية للوفيات (الاسباب الثلاثة الاولى) و حسب الفئات العمرية كالاتي: الشهر الأول: الانتان الدموي (٣٧,٠٧)٪ ، خدج (٦٠، ٢٣)٪ و التشوهات الخلقية (١٩,٦٦)٪. من شهر إلى سنة: التشوهات الخلقية (٢٦,٥٧)٪ ، الخمج الرئوي (٢١,٦٨)٪ و الانتان الدموي (١٨،٨٨)٪. من سنة إلى ٥ سنوات: التشوهات الخلقية (٢٥,٢٠)٪ ، امراض الاسهال (٢٠,٤٧)٪ و الخمج الرئوي (١٧,٣٢)٪. من ٦ إلى ١٠ سنوات: امراض السرطان (٢٢,٩٢)٪، التشوهات الخلقية (٢١,٨٨)٪ و امراض الاسهال (٢٠،٨٣)٪. من ١١ إلى ١٤ سنة: امراض السرطان (٢٦,٤٧)٪، التشوهات الخلقية (٢٢,٠٧)٪وأمراض الإسهال (١٩,١٢)٪.

الإستنتاج: * نسبة الوفيات عند الأطفال دون الخامسة ٧٣,٢ ٪ من مجموع الوفيات عند الأطفال * وجد أن معدل وفيات الأطفال العام هو ٨٠ لكل ١٠٠٠ طفل مريض وهو أعلى من سنة ١٩٩٧ حيث كان ٧٦,٩٧ / ١٠٠٠ * نسبة الوفيات لدى الذكور إلى الإناث تساوي ١,٥ / ١.

مفتاح الكلمات: معدل الوفيات، أسباب الوفيات، الأطفال

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٨٠ ــ ٨٤

الملخصات العربية

وراثة الربو لدى العائلة وجنس الطفل وعلاقته بشدة الربو القصبي عند الأطفال

حسام محي العلواني، نشأت عزيز نشأت، لمياء عبد الكريم
(كلية الطب-جامعة النهرين)

الخلاصة

خلفية الدراسة: الربو القصبي هو اكثر الامراض المزمنة شيوعاً لدى الاطفال وهذا المرض ما زال يقلق المهتمين حيث مازالت نسبة الاصابة به والوفاة في تزايد بالرغم من التطور الحاصل في العلاج . تهتم هذه الدراسة بتاريخ الربو لدى العائلة وجنس الطفل المريض وتاثيرها على شدة نوبات الربو.

هدف الدراسة: هو قياس نسبة من لديهم وراثة ربو في عوائلهم من الاطفال من عدمه ونسبة الاصابة لدى الذكور والاناث وتاثير هذين العاملين على شدة الاصابة بالربو لدى هؤلاء الاطفال.

طريقة العمل: تضمن هذا البحث دراسة ١١٠ طفل مريض بالربو من حيث وراثة الربو لدى اسرهم ، واجناسهم وقيمت شدة الربو لدى كل مريض حسب مقاييس سريرية معينة.

النتائج: بينت نتائج هذه الدراسة ان نسبة ٥٢,٧ ٪ من الاطفال المصابين بالربو كانوا ذكوراً ونسبة ٤٧,٢٪ كانوا اناثاً بنسبة ذكور الى اناث ١,١١٥ وهناك زيادة في شدة الاصابة لدى الذكور كذلك بينت نتائج هذه الدراسة ان ٦١,٨ ٪ من المرضى لديهم وراثة الربو او امراض الحساسية الاخرى لدى اسرهم ولا توجد علاقة بين الوراثة العائلية وشدة الاصابة بالربو.

الاستنتاج: نستنتج من هذه الدراسة ان نسبة الاصابة بالربو القصبي اكثر في الذكور منها في الاناث وتكون شدة الاصابة لديهم اكثر من الاناث. كذلك بينت الدراسة ان مريض الربو عادة ما لديه وراثة المرض في العائلة ولا تنعكس هذه الوراثة على شدة المرض لدى الطفل.

مفتاح الكلمات: شدة المرض، الجنس، وراثة العائلة، الربو القصبي

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٨٥ ــ ٨٨

الملخصات العربية

ممارسات سلامة الأطفال لمجموعة من الآباء والأمهات العراقيين

شذى حسين علي، نمير غانم الطويل، نشأت عزيز نشأت
(كلية الطب-جامعة النهرين)

الخلاصة

خلفية الدراسة: الحوادث هي سبب رئيسي للوفيات والعوق لملايين الأطفال في العالم كل عام.

هدف الدراسة: لدراسة ممارسات السلامة لمجموعة من الآباء والأمهات العراقيين تجاه أطفالهم و علاقة ذلك ببعض العوامل البيئية .

طريقة العمل: تم استجواب ٣٦٠ آم وآب لأطفال أعمارهم من ١ ــ ٦ سنة من خلال استمارة صممت من قبل الباحثين.

النتائج: الأغلبية (٨٠٪) من العوائل تحفظ الأدوية في أماكن غير أمينة، إضافة لذلك ٥٢,٣٪ ، ٦,٢٪ ، ٧٦,٦٪ يحفظون المعقمات و النفط الأبيض و علب الثقاب في أماكن غير أمينة على التوالي. هناك معنوية إحصائية عالية بين حفظ المعقمات في أماكن أمينة مع المستوى الثقافي لكلا الأبوين و نوع المنزل. نسبة أعلى من حوادث الطرق حدثت لدى العوائل التي تسمح لأطفالها باللعب بالدراجة الهوائية في الشارع (١٥,٦٪) آو اللعب بالشارع دون مراقبة ذويهم(١٦٪) اكثر من العوائل التي لاتسمح بكلا الحالتين (٧,٤٪) و (٣,٦٪) على التوالي، كما وجدت حوادث الطرق اكثر لدى العوائل التي لها عدد اكبر من الأطفال .

حدثت حوادث التسمم لدى العوائل الكبيرة(١٧ ٪)اكثر من العوائل الصغيرة(٦,٥٪) ، كذلك اكثر بين الأطفال الذين أمهاتهم لايعملن من اللاتي يعملن خارج المنزل(١٢,٣٪) و(٢,٩٪) عاى التوالي.

الاستنتاج: لانزال هنالك العديد من الممارسات الخاطئة لحفظ سلامة الأطفال بين عوائلنا.

مفتاح الكلمات: سلامة الطفل، التسمم، حوادث الأطفال

المجلة العراقية للعلوم الطبية ٢٠٠٤ م، المجلد ٤ ، العدد ١ ، ص ٨٩ ــ ٩٢

الملخصات العربية

فعالية عقار ألدسموبرسين وألاوكسيبيوتينين هيدروكلورايد في علاج سلس البول الليلي

شذى حسين علي، طارق سليم القرةغولي

(كلية الطب-جامعة النهرين)

الخلاصة

تمهيد: سلس البول الليلي هو حالة غير مؤذية و لكن تسبب المضايقة وقد تؤثر على تكوين الشخصية.

الأهداف: تقييم استجابة مجموعة من الأطفال المصابين بسلس البول الليلي لعقار Desmopressin بخاخ الأنف و عقار Oxybutynin HCl عن طريق الفم و مقارنة الاستجابة لكلا العقارين.

الطرق: تمت هذه الدراسة خلال فترة ٤ أسابيع لخمسة وعشرون طفلا تتراوح أعمارهم من ٦ – ١٣ سنة مصابين بسلس البول الليلي الشديد حيث يتبولون يوميا ، تم تقسيمهم آلي مجموعتين

المجموعة الأولى= ١٧ طفلا، أعطوا عقار Desmopressin٢٠ مكغم عن طريق الآنف، في حالة عدم الاستجابة، تم زيادة الجرعة الى ٤٠ مكغم كحد أعلى. المجموعة الثانية= ٨ أطفال أعطوا عقار Oxybutynin HCl حبة واحدة (٥ ملغم) عن طريق الفم، في حالة عدم الاستجابة، تم زيادة الجرعة آلي حبتين. الاستجابة تعتبر عندما يقل معدل التبول الأسبوعي، وقد صنفت الاستجابة آلي ثلاث درجات: استجابة عالية (معدل التبول =٠ – ١ / الأسبوع)،استجابة متوسطة (معدل التبول =٢ – ٣ / الأسبوع) وعدم الاستجابة (معدل التبول أكثر من ٣/ الأسبوع.

النتائج: كانت الاستجابة لعقار Desmopressin (٨٢,٤٪) في المجموعة الأولى، أبدى ٥٣٪ منهم استجابة عالية، بينما كانت الاستجابة لعقار Oxybutynin HCl (٥٠٪) في المجموعة الثانية، أبدى ٢٥٪ منهم استجابة عالية. كان معدل أيام التبول في الأسبوع لكل فترة العلاج البالغة ٤ أسابيع في المجموعة الأولى (٩,١±١,٢) بينما كان المعدل(٨,٣± ٨,٢) للمجموعة الثانية. أظهرت النتائج معنوية إحصائية عالية جدا قبل وبعد العلاج في المجموعة الأولى. لم تحدث أعراض جانبية لآي طفل في المجموعة الأولى، بينما حدثت أعراض جانبية لطفلة واحدة في المجموعة الثانية.

الاستنتاجات: لفترة قصيرة خلال ٤ أسابيع، كان عقار Desmopressin أمينا وفعالا جدا في علاج سلس البول الليلي، بينما كان عقار Oxybutynin HClأقل فعالية مع حدوث بعض الأعراض الجانبية. من الأفضل أجراء دراسات لفترة أطول مستقبلا.

مفتاح الكلمات: سلس البول الليلي، عقار دسموبريسين، عقار اوكسيبيوتينين هايدروكلورايد

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قائمة المحتويات

مقالات مبتكرة