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From the Editor

Ahmad Husari (Chief Editor)
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This is the first issue of the journal this year. The Middle East journal of internal medicine has achieved major milestones during previous year with the help of the readers, editorial board, authors and publishing company.

In this issue a number of papers from the region dealt with important topics in the field. A paper from Turkey evaluated hypoglycemia in the emergency department. This study was carried out at the Department of Emergency Medicine (EM) in a Training and Research Hospital, and 5,000 consecutive patients admitted to EM were enrolled. They were evaluated in aspects of hypoglycemia by clinical and biochemical investigation. Of these patients, 35 of them (females 16, males 19) were diagnosed as having hypoglycemia. The most common cause of hypoglycemia is due to inappropriate diabetic drug usage in 32 (91%) cases with diabetes mellitus (DM), and most of them 24 (68%) were insulin using diabetic patients. The authors concluded that the prevalence of hypoglycemia was approximately 0.7% in patients with DM admitted to EM. The diminished prevalence of hypoglycemia in comparison to the previous reports may be due to qualified patient education and management such as glucometers and insulin pumps.

A paper from Kurdistan Iraq did a phytochemical study on the seed and kernel of citrullus colocynthis. The results revealed the presence of the β-sitosterol in the kernel and seed in different percentages (seed contained 16.92%, and the kernel contained 6.62%). The lipid lowering active compound (β-sitosterol) has been detected by using TLC, IR, UV and H1-NMR. The present study was designed to reveal the hypocholesterolemic effect of β-sitosterol on serum total cholesterol and triglyceride in rabbits. A significant drop in serum total cholesterol and triglyceride was observed at 120 hours, after first administration. These results support the suggestion of citrullus colocynthis oil as a treatment for hyperlipidemia.

A prospective study paper from Jordan attempted to determine the prevalence of urinary tract infection in febrile children less than two years. Children younger than 2 years attending the pediatric emergency department between January 2009 and December 2009 and who had a rectal temperature ≥ 38.5°C were included in the study. A total of 760 patients met the inclusion criteria of the study. Twenty six patients (3.42%) had positive urine cultures. All patients had growth of ≥ 100,000 CFU/ml. The authors concluded that prevalence rates increase if there is no definite source of fever, high fever and ill appearance of the child on examination, and the presence of urinary symptoms.

A paper from Jordan attempted to find if there is a significant increase in liver span by ultrasound after 2 and 5 months of using doxycycline 100 mg daily as malaria prophylaxis among the Jordanian contingent working with the United Nations in Liberia. Ultrasound was done to the 115 people in the contingent before starting doxycycline, and repeated after 2 and 5 months. Liver span ranges from 13.6 to 16.8 cm at the beginning. The authors concluded that the increase in liver span after the long term use of doxycycline 100 mg as antimalaria prophylaxis, was statistically not significant (P value 0.00), and it happened mainly in the first two months of using it.

A paper from Jordan looked at primary non-Hodgkin’s lymphoma (NHL) of the uterine cervix which is an exceedingly rare entity and often poses a diagnostic challenge if its existence is not suspected. Despite typical local manifestation of the genital tract primary NHLs, the uncommon site of this entity may lead to misdiagnosis by pathologists and clinicians who are unfamiliar with the clinical and pathologic features. Because of the low incidence of primary genital tract lymphomas there are no universal protocols regarding treatment. Our patient received multiple courses of chemotherapy and has remained disease free more than a year from the time of diagnosis. The authors concluded that chemotherapy with Cytokan, Adriamycin, oncovin, methatrex and prednisolone protocol is an effective and tolerable treatment option.

The objectives of a paper on Strabismus in Adults were to investigate presentation, causes and outcome of strabismus cases in adulthood. A prospective study was conducted at Queen Alia Hospital of the Royal Medical Services looking at presentation and outcome. One hundred and twenty strabismus patients attending the ophthalmology clinic aged over 14 years, were enrolled in the study. A total number of 120 patients were enrolled in the study with age range of 14 years to 78.5 years (mean 34.2 years). Most common cause of presentation was cosmetic concern followed by diplopia. The majority of strabismus surgery in adults are neglected cases from childhood. The main indication for surgery was cosmetic. The outcome of surgery is excellent with rare occurrence of postoperative diplopia.

A paper from Aman looked at the screening for chromosomal abnormalities by maternal age and fetal nuchal translucency thickness.

The risks for trisomy 21 and other chromosomal defects by ultrasound measurement of fetal nuchal translucency thickness and maternal age were calculated, using the software provided by The Fetal Medicine Foundation. Chromosomal defects were diagnosed in 10 cases, including 4 cases of trisomy 21 and 6 cases with other chromosomal abnormalities (trisomy 18, 13, triploidy, Turner). The authors concluded that the combination of maternal age and fetal nuchal translucency thickness was an effective method of screening for chromosomal defects.
ABSTRACT

Objectives: to determine the prevalence of urinary tract infection in febrile children less than two years.

Methods: This prospective study was conducted in the Pediatric Emergency Department of Prince Ali Hospital, Jordan. Children younger than 2 years who attended the pediatric emergency department between January 2009 and December 2009 and had a rectal temperature $\geq 38.5^\circ$C, were included in the study. Children with a definite source for fever, immunosuppressed, or on antimicrobial treatment were excluded from the study. Fever was considered a potential cause for urinary tract infection if the child had no evidence of upper respiratory infection, otitis media, gastroenteritis and, non specific skin rash. Urine specimens were obtained for all children included in the study either by transurethral catheterization or suprapubic aspiration by a well qualified pediatric resident using standard sterile technique. Renal ultrasound was also performed for all children included. Prevalence rates with 95% confidence intervals (CIs) were calculated for the study sample and comparison subgroups.

Results: A total of 760 patients met the inclusion criteria of the study. Three hundred and thirty were males and four hundred and thirty were females. The mean age was 11 months. Twenty six patients (3.42%) had positive urine cultures, 21 (80.76%) of these were females and five (19.24%) males. Escherichia coli were positive in twenty three (88.5%) patients, two patients had Enterobacter and one had Proteus. All patients had growth of $\geq 100,000$ CFU/ml. Twenty patients (76.9%) had evidence of pyuria (5 white blood cells per high powered field in spun urine by microscopy). Twenty three (84.6%) were admitted to the hospital and were treated with intravenous antibiotics either before or after culture results. Children who did not have a potential source of fever had higher prevalence (5.74%) than those who had a potential source of fever. Also children who appeared ill on initial examination had higher prevalence (5.73%) than children who appeared well.

Conclusion: Prevalence rates increase if there is no definite source of fever, high fever and ill appearance on examination, and presence of urinary symptoms.

Key words: fever, urinary tract infections, prevalence

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Introduction

The prevalence of urinary tract infection in febrile infants is greater with younger age, with a rate of nearly 7 percent among febrile newborns [1]. Prophylactic antibiotics are usually given to children with febrile urinary tract infections despite there being no evidence that prophylactic antibiotics are protective against development of renal scarring or subsequent long-term medical complications [2, 3].

The classic signs of urinary tract infection and pyelonephritis are not present or easily discerned in the toddler or young child. Fever is the most common symptom of urinary tract infection in the infant [4, 5]. Ascending infections are the most common cause of urinary tract infections in children, although hematogenous spread may be more common in the first 12 weeks of life. Most urinary tract infections in children are monomicrobic, and Escherichia coli is the most common pathogen and accounts for about 60 to 80 percent of cases. Proteus is more common in boys and in children with renal stones. Other microorganisms that may cause urinary tract infections include Klebsiella, Enterococcus, and coagulase-negative staphylococci [6].

The aims of this study were to determine prevalence rates of urinary tract infection among young febrile children and to evaluate the effect of age, sex, and clinical symptoms and signs on the prevalence rates of urinary tract infection.

Methods

This prospective study was conducted in the Pediatric Emergency Department of Prince Ali Hospital which is a medium sized regional Hospital in the Southern area of Jordan. Children younger than 2 years who attended the pediatric emergency department between January 2009 and December 2009 and had a rectal temperature $\geq 38.5^\circ$C were included in the study. Children with a definite source for fever (for example: meningitis, chest infection, septic arthritis, cellulitis, and adenitis), who were immunosuppressed, or on antimicrobial treatment, were excluded from the study. Urinary tract infection was considered a potential cause of
fear if the child didn’t have upper respiratory tract infection, otitis media, gastroenteritis nor non specific skin rash. Blood culture and malaria tests were done when necessary.

Urine specimens were obtained for all children included in the study either by transurethral catheterization or suprapubic aspiration by a well qualified pediatric resident using standard sterile technique. All specimens were immediately taken to the microbiology laboratory in sterile containers and plated by well qualified laboratory technologists within 10 minutes of receipt using a loop calibrated to deliver approximately 0.001 mL. All plates were incubated at 35°C and examined daily for growth for 2 days. A positive result was defined as growth of a single urinary tract pathogen at ≥ 10^5 CFU/mL in catheter samples and any number of colonies in suprapubic samples [7]. Renal ultrasound was performed for all children included in the study.

Prevalence rates with 95% confidence intervals (CIs) were calculated for the study sample and comparison subgroups. Comparisons were made between categorical variables using X^2 test of proportions or, in the case of small samples, Fisher’s exact test, with P ≤ 0.05 being the a priori significance level.

Results
A total of 760 patients met the inclusion criteria of the study. Three hundred thirty were males and four hundred and thirty were females. The mean age was 11 months. On initial examination, 227 (29.9%) patients appeared ill and, 533 (70.1%) patients were described as well. Urinary tract symptoms included; a history of malodorous urine (2 patients) or hematuria (3 patients); medical history of urinary tract infection or renal anomalies (3 patients); and suprapubic (2 patients), abdominal (15 patients), or flank pain (3 patients) on examination. Potential source for fever was found in 585 (77%) patients. Upper respiratory tract infection and otitis media was seen in 392 (67%), gastroenteritis in 152 (26%), and viral xanthem in 41 (7%).

Twenty six patients (3.42%) had positive urine cultures, 21 (80.76%) were females and five (19.24%) males. Escherichia coli were positive in twenty three (88.5%) patients, two patients had Enterobacter and one had Proteus. All patients had growth of ≥ 100,000 CFU/ml. Twenty seven (76.9%) patients had evidence of pyuria (≥ 5 white blood cells per high powered field in spun urine by microscopy). We found that the sensitivity, specificity, positive predictive value, and negative predictive value for standard urine analysis were 77%, 54%, 47%, 53% respectively. Twenty three (84.6%) were admitted to the hospital and were treated with intravenous antibiotics either before or after culture results because thirteen patients appeared ill on initial examination and ten patients had fever ≥ 39.5°C without potential source of fever [Table 1].

Children who did not have a potential source of fever had higher prevalence (5.74%) than those who had a potential source of fever. Also ill appearing children on initial examination had higher prevalence (5.73%) than children who appeared well. A total of 198 males were circumcised because circumcision just for males, during the first month of life is a habit in our society unless there is a medical indication to prevent or delay circumcision.

Renal ultrasound finding was dilatation of pelvi-calyceal system in thirty two patients and, horse shoe kidneys in two patients [Table 2].

Discussion
Urinary tract infection is considered the most commonly diagnosed serious bacterial infection, with prevalence varying from 1.8% to 7.5% [8-10]. Urinary tract infection is often associated with vesicoureteral reflux or urinary tract obstruction [4]. These conditions are associated with a higher risk of recurrent urinary tract infection [11]. Children with urinary tract infection are at risk for renal scarring [12-13], which is one of the most common causes of end-stage renal disease in children [14-15].

In this study, the overall prevalence of urinary tract infection in febrile children less than two years was 3.4%. Although the prevalence of urinary tract infection is higher in children without any other potential source of fever, we found a 2.74% (95% CI: 1.42, 4.06) prevalence in febrile infants with a possible source of fever compared with 3.5% (95% CI: 1.8, 5.2) prevalence rate in another study [16]. Roberts et al. studied children younger than 2 years of age who presented with upper respiratory tract infection or gastrointestinal symptoms felt by the attending physician to be insufficient to explain fever, or without any source of fever on examination; they found that 4.1% had urinary tract infections [17].

During the initial evaluation, higher fever and ill general appearance were strongly associated with urinary tract infection. Although urinary symptoms were uncommonly elicited, such as changes in the urine odor or hematuria; tenderness of the abdominal, flank, or suprapubic areas on examination; or medical history of urinary tract infection, this group had a higher prevalence rate. Vomiting, diarrhea, and poor feeding are reported in many infants admitted for urinary tract infection [18-19], but the prevalence rate of urinary tract infection is not high in this group. A total of 198 males were circumcised because circumcision just for males during the first month of life is a habit in our society, unless there is a medical indication prevent or delay circumcision.

The definition of urinary tract infection used in the current study was based on urine culture results. We did not use urinalysis or dipstick results as criteria for obtaining or interpreting urine cultures. We used growth of 10000 CFU/mL from a catheterized specimen or any growth in suprapubic specimens as a threshold. Standard urinalysis and urine dipstick techniques have relatively low sensitivity (65%-88%) [20, 21]. The presence of pyuria 5 WBC/HPF has been found to be a poor predictor of a positive urine culture [22-24]. The sensitivity, specificity, and positive predictive value of the standard urine analysis are so low that only a third to half of patients with positive urine culture results can be identified correctly [22-24]. In our study, we find that the sensitivity, specificity, positive predictive value, and negative predictive value were 77%, 54%, 47%, 53% respectively. Dukes [25-26]...
described a more accurate microscopic analysis of un-
centrifuged urine performed with a hemocytometer and
reporting cells per cubic millimeter, herein referred to as
hemocytometer white blood cell (WBC) counts.

**Conclusion**

As in other studies, urinary tract infection should be
considered in febrile infants. Prevalence rates increase
if there is no definite source of fever, high fever and ill
appearing child on examination, and presence of urinary
symptoms.

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-15.
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Effect of Long Term Prophylaxis of Antimalarial Drug (Doxycycline) on Liver Span by Ultrasound

ABSTRACT

Objective: To find if there is a significant increase in liver span by ultrasound after 2 and 5 months of using doxycycline 100 mg daily as malaria prophylaxis among the Jordanian contingent working with the United Nations in Liberia.

Materials and methods: Ultrasound was done to the 115 people in the contingent before starting doxycycline, and repeated after 2 and 5 months. Liver span was recorded. A total of twenty four persons were excluded from this study population.

Results: Liver span ranges from 13.6 to 16.8 cm at the beginning. The change in span ranges from -0.1 to 0.5 cm in the first two months and -0.1 to 0.9 cm after 5 months from the zero readings.

The average liver span at zero time was 14.99 cm, and increased to 15.20 after 2 months and to 15.25 after 5 months.

Conclusion: The increase in liver span after the long term use of doxycycline 100 mg as antimalaria prophylaxis, was statistically not significant (P value 0.00), and it happened mainly in the first two months of using it.

Key words: Doxycycline, prophylactic antimalaria, liver span.
Material and Methods
This is a prospective study, conducted between February till July 2012 on the personnel of the Jordanian contingent in Liberia. The study started with 115 persons. Twelve persons were excluded because they could not tolerate the GI side effects of doxycycline. Ten got malaria infection. Two were using other medications that could affect the liver. Their age range was from 18 to 51 years with a mean age of about 30 years. All are males. Liver ultrasound was done to all of them at the beginning of the study, and repeated after 2 months and 5 months of using doxycycline 100mg tablets daily. So a total of ninety one persons form the study population.

Ultrasound was done by a radiology specialist on Siemens (Acuson CV70) machine. Liver span was recorded for each person at the beginning of the study and after 2 and 5 months. Liver span measured by midclavicular line longitudinal diameter.

When follow up ultrasound was done, the radiologist didn’t know the previous span for the person. Data was collected and analysis calculated.

Results
The liver span at zero time ranges from 13.6-16.8 cm, with an average of 14.99 cm.

![Trend of "Hepatomegaly in Doxycycline" reports](image)

Figure 1

After two months, the average span increased to 15.20 cm. The difference in span ranges from -0.1 cm to 0.5 cm. and after 5 months it became 15.25 cm, and the change ranges from -0.1 to 0.9 cm compared to zero time.

<table>
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<th>Medication</th>
<th>Dose</th>
<th>Frequency</th>
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<th>Time prior to entering a malarial endemic area</th>
<th>Time after leaving a malarial endemic area</th>
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<td>Doxycycline</td>
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<td>Mefloquine</td>
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<td>weekly</td>
<td>Yes*</td>
<td>2 weeks</td>
<td>4 weeks</td>
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Table 1: Commonly used antimalarial prophylactic medications

According to this we noticed that there was an average increase of 0.21 cm in the first two months and 0.05 cm in the following three months. This increase proved to be statistically insignificant (P value 0.00). (Table 3)
<table>
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Table 2: Liver span according to time

(continued next column)
Discussion
Doxycycline is a member of the tetracycline antibiotics group (semi-synthetic). It works through binding to 30S and 50S ribosomal subunits. It is almost completely absorbed from the GI tract; peak plasma concentrations occur after about 2 hours. Absorption is not significantly affected by food. It is lipid soluble and protein-binding is 80-95%. It is metabolized in the liver and excreted via urine. Its elimination half-life is 12-24 hours. (5, 6)

Doxycycline is a very effective prophylaxis for chloroquine-resistant P. falciparum. It is contraindicated in pregnant or breastfeeding women and children below eight years of age. There are no known serious adverse events from its long-term use, however daily dosing is a disadvantage and may lead to poor compliance.

Doxycycline is found to have some abnormal effects on liver function tests. Jaundice is found in some cases. Even though it is rare, it is potentially dangerous for those who are affected. Not much is written in the literature about increase of liver span after long term doxycycline prophylactic antimalarial use. Figure 1 shows the trend of hepatomegaly in doxycycline reports over the last twelve years(7). In April 10, 2012: 7,046 people reported to have side effects when taking Doxycycline. Among them, 63 people (0.89%) had Hepatomegaly, and all of these had the hepatomegaly within 1-6 months. No one had hepatomegaly before 1 month or after 6 months.(7)

In this study we concentrate on the liver span changes due to the use of doxycycline antimalarial chemoprophylactics. The study started with 115 young, healthy military persons. All who had factors that may affect liver span were excluded from this study.

Despite that there was mild increase in liver enzymes in some of the study population; the increase in liver span proved to be insignificant.

Conclusion
The increase in liver span after the long term use of doxycycline 100 mg as antimalarial prophylaxis, was statistically not significant (P value 0.00), and it happened mainly in the first two months of using it.

References
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Paired Samples Statistics

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Paired Samples Test

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Paired Samples Correlations

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<th>df</th>
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Table 3: T-Test
Citrullus colocynthis as a bioavailable source of β-sitosterol, antihyperlipidemic effect of oil in rabbits

ABSTRACT

A phytochemical study on the seed and kernel of citrullus colocynthis has been carried out in the present paper. The results revealed the presence of β-sitosterol in the kernel and seed in different percentages (seed contains 16.92% and the kernel contains 6.62%). The lipid lowering active compound (β-sitosterol) has been detected by using TLC, IR, UV and H1-NMR. The present study was designed to reveal the hypocholesterolemic effect of β-sitosterol on the serum total cholesterol and triglyceride in rabbits. A significant drop in serum total cholesterol and triglyceride was observed at 120 hours after first administration. These results support the suggestion of citrullus colocynthis oil as a treatment for hyperlipidemia.

Key words: Citrullus Colocynthis, β-sitosterol, Hyperlipidemia

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Introduction

Citrullus Colocynthis (Cucurbitaceae), commonly known as bitter apple is a tropical plant that grows abundantly in the Arabian countries and in other parts in Asia. In traditional medicine, this plant has been used to treat constipation(1), diabetes(2), antimicrobials (3), oedema, fever, jaundice, leukaemia, bacterial infections, cancer, hair loss treatment (4) and as an abortifacient (5). The root of this plant is given in abdominal enlargements and in coughs and asthmatic attacks in children (6). Oils and fats are substances of vegetable or animal origin. The high world demands for oils and fats to meet the multiplex human consumption and the multitudinous industrial needs are the reasons for the increase in the importance of oil seeds and make them play an important role in the national economy of the producing countries (7).

Sitosterols (C_{29}H_{50}O) are widely distributed throughout the plant kingdom, especially of green leaves and they have usual steroid structure sometimes referred to as vegetable cholesterol(8,9).

Preliminary pharmacological investigations prove that β-sitisterol has a moderate anti inflammatory activity (10). On the other hand, β-sitosterol is a hypocholesterolemic agent that acts by decreasing or blocking the absorption of both exogenous and endogenous cholesterol from the gastrointestinal tract and lowering the blood cholesterol level (11,12).

The purpose of our research was the pharmacognostical study of citrullus colocynthis (seed and kernel) cultivated in Iraq, Kurdistan, in order to establish quality criteria of this plant.

Methods

Plant Material:
Citrullus colocynthis fruits were collected from Kurdistan (Northern Iraq), divided in half and the seeds removed by hand from kernel, dried and then powdered mechanically.
The lipid fraction was extracted with petroleum ether (40º-60º) in a soxhlet apparatus. The solvent was evaporated and the lipid fraction was weighed. (Table 1).

**Separation of β-sitosterol:**
100 ml of alcoholic potassium hydroxide (5% w/v) was added to the oil extract, then refluxed and heated in water bath for 3 hours. The solution was extracted while just warm, three times with ethyl acetate (100 ml), then we poured each ethyl acetate extract into another separator containing (40ml) of distilled water. The acetate extracts were combined, dried Na2SO4 poured in to a weighed flask and evaporated; the pale yellow oily materials was weighed (13). (Table 1)

**Standard and reagents:**
β-Sitosterol (purity 98%) was purchased from Sigma Aldrich chemie GmbH (Aldrich Division, Steinbeim , Germany).

**Characterisation of extracts:**
Thin layer chromatography was performed on pre coated silica gel-G plates (10×10) (Emerck, Germany) for characterisation of the extract. Cyclohexan-acetone-acetic acid 65:33:2 v/v as mobile phase, gave best resolution for petroleum ether extract. The spots were visualized using 20% H2SO4 as derivatising agent . After that we used IR, UV. and H-NMR for identification of β-sitosterol.

**Animal:**
Male domestic rabbits were used in an experiment in June 2011. The rabbits were adapted for five days before the start of the experiment. The animals were divided into two groups with approximately the same weight distribution (1.55-1.85Kg) in each group

**Group 1:** control group - 4 rabbits-non treated β-sitosterol
**Group 2:** tested group - 6 rabbits received 80mg/10ml of β-sitosterol per animal /day

Water suspension of the dried β-sitosterol was given orally using special stomach tube, at 9.00am and 9.00pm every day for a week.

Serum total cholesterol and triglyceride were analyzed by an enzymatic CHOD-POP method using the test kit of bio Me’rieuxsa (69280.Marcy/France).

**Statistical analysis:**
All values expressed as mean ±standard error (SEM). Independent student’s test was applied to analyze the significance of differences between mean values and critical p-value were considered to be significant.

**Results**
The results indicated that citrullus colocynthis seed and kernel contain -sitosterol (Table 1). To examine the β-sitosterol in oil, a simple TLC has been performed; the solution of standard of β-sitosterol has been used as markers (Table 2). The infrared spectrum of β-sitosterol is shown in Figure 1,while the nuclear magnetic resonance spectrum (H1-NMR) of β-sitosterol shown in Figure 2. In comparison

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![Table 1: Oil content in the plant](chart1)

<table>
<thead>
<tr>
<th>Wt of plant</th>
<th>Oil gm</th>
<th>β-sitosterol gm</th>
</tr>
</thead>
<tbody>
<tr>
<td>250 gm Plant kernel</td>
<td>10.49</td>
<td>6.62%</td>
</tr>
<tr>
<td>250 gm Plant seed</td>
<td>27.48</td>
<td>16.95%</td>
</tr>
</tbody>
</table>

![Table 2: Property of β-sitosterol TLC](chart2)

<table>
<thead>
<tr>
<th>Plant</th>
<th>Solvent</th>
<th>Rf</th>
<th>λmax in CH3OH</th>
</tr>
</thead>
<tbody>
<tr>
<td>Seed</td>
<td>Cyclohexan-aceton-acetic acid (65:33:2)</td>
<td>8.7</td>
<td>278.3</td>
</tr>
<tr>
<td>Kernel</td>
<td>Cyclohexan-aceton-acetic acid (65:33:2)</td>
<td>8.7</td>
<td>278.3</td>
</tr>
</tbody>
</table>
Figure 1: IR spectrum of compound β-sitosterol (B)

Figure 2: $^1$H-N.M.R. spectrum of compound β-sitosterol
Table 3: Statistical analysis of the effect of β-sitosterol on S. total cholesterol

<table>
<thead>
<tr>
<th>Cholesterol</th>
<th>Mean µg/dl</th>
<th>Calculated ±t</th>
<th>Tabulated ±t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>89.1</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>T1</td>
<td>83.4</td>
<td>0.471</td>
<td>3.13</td>
</tr>
<tr>
<td>T2</td>
<td>72</td>
<td>2.35</td>
<td>3.13</td>
</tr>
<tr>
<td>T3</td>
<td>63</td>
<td>3.12</td>
<td>3.13</td>
</tr>
</tbody>
</table>

T1=48 hrs. after administration (2 days)
T2=96 hrs. after administration (4 days)
T3=120 hrs. after administration (6 days)

Table 4: Statistical analysis of the effect of β-sitosterol on S. triglyceride

<table>
<thead>
<tr>
<th>TG</th>
<th>Mean Mg/dl</th>
<th>Calculated ±t</th>
<th>Tabulated ±t</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
<td>74.35</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>T1</td>
<td>68.01</td>
<td>1.07</td>
<td>3.13</td>
</tr>
<tr>
<td>T2</td>
<td>44.6</td>
<td>1.81</td>
<td>3.13</td>
</tr>
<tr>
<td>T3</td>
<td>37.5</td>
<td>7.25</td>
<td>3.13</td>
</tr>
</tbody>
</table>
between TLC, IR, H-NMR, and UV spectrum, we found that the compound appeared to be β-sitosterol which was isolated from citrullus colocynthis.

After that, the present study was designed to reveal the hypercholesterolemic effect of β-sitosterol of citrullus colocynthis on the serum total cholesterol and triglycerides in rabbits. A significant drop (P<0.01) in serum total cholesterol and triglyceride was observed, at 120 hours after first administration. (Table 3, Table 4 - page 15).

Quantification of β-sitosterol in petroleum ether extract, shows that the sample of citrullus colocynthis seed (16.95%), contains more β-sitosterol than the kernel of citrullus colocynthis (6.62%).

The results of this study are generally in agreement with those of Bhadra et al (14) and Sato et al (15) in that the β-sitosterol accumulation caused a significant reduction in the cholesterol content of the cell.

The present experiments lead us to the conclusion citrullus colocynthis has an antihyperlipidemic effect and this property is due to the presence of β-sitosterol.

Further studies are in progress in our laboratory to isolate the active compounds in this plant which is found in North of Iraq (Kurdistan region).

References
8- Fruton Simmonds, General Biochemistry 2nd ed 1963
Presentation and Outcome of Strabismus in Adults

ABSTRACT

Objectives: To investigate presentation, causes and outcome of strabismus cases in adulthood.

Patient and methods: A prospective study that was conducted at Queen Alia Hospital of the Royal Medical Services during the period between August 2010 and August 2012. One hundred and twenty strabismus patients attending the ophthalmology clinic aged over 14 years, were enrolled in the study. Patients were asked about onset of strabismus and symptoms complained of. Ophthalmologic examination included best corrected visual acuity, orthoptic assessment, anterior and posterior segment examination. The type of treatment, whether medical or surgical, was recorded. Complications of surgery were also recorded.

Results: A total number of 120 patients were enrolled in the study with age range of 14 years to 78.5 years (mean 34.2 years). Male to female ratio was 1.1 to 1. Sixty six patients (55%) had exotropia, 36.7% had esotropia and 8.3% had hypertropia. The most common cause of presentation was cosmetic concern followed by diplopia. Two thirds of cases (80 patients) were non paralytic with neglected strabismus during childhood. Paralytic strabismus due to variable causes such as ischemia and trauma was seen in 32 patients. Surgery was done in 53 patients (44.2%). Six patients developed diplopia after surgery. In five of those the diplopia was temporary.

Conclusion: The majority of strabismus surgery in adults are cases neglected from childhood. The main indication for surgery was cosmetic. The outcome of surgery is excellent with rare occurrence of postoperative diplopia.

Introduction

Strabismus is a common problem in childhood affecting 4% of children in the United States. In adults, one person among 100 suffers from strabismus (1-2). Common causes of strabismus in childhood include infantile esotropia, accommodative esotropia, congenital exotropia, deprivalational strabismus and strabismus secondary to neurological problems (3). Treatment is primarily directed towards affecting amblyopia before aiming to align the eyes together by surgery (4-6). In adulthood, the etiology is different. The majority of cases are non paralytic with neglected cases from childhood (7). Paralytic causes such as nerve palsies associated with medical illnesses and trauma are common (8-11). Other causes include restrictive strabismus such as in thyroid eye disease (12).

Diplopia is a special problem that usually occurs in adult patients with strabismus but not in children as children's brains usually suppress one image from one eye (6). Another problem of concern is the lack of stereopsis as depth perception requires properly aligned eyes.

Treatment options include treating the underlying cause such as removing cataract for sensory deprivalational strabismus. Correcting refractive error and amblyopia treatment is mandatory for children before considering surgery (7). In adults, the aim of surgical treatment is usually cosmetic. Other aims include restoration of binocular single vision, eliminating diplopia and abnormal head posture.

The aim of the study was to investigate presentation, causes and outcome of strabismus cases in adulthood.

Patients and Methods

A prospective study was conducted at Queen Alia Hospital of the Royal Medical Services during the period between August 2010 and August 2012. One hundred and twenty strabismus patients attending the ophthalmology clinic aged over 14 years were enrolled in the study. Patients were asked about onset of strabismus and symptoms complained of. Ophthalmologic examination included Snellen’s chart best corrected visual acuity, orthoptic assessment, anterior segment examination via slit lamp and posterior segment examination via +78 lens after mydriasis. Refraction was done for all patients. The type of treatment, whether medical or surgical, was recorded. Complications of surgery were also recorded.
Results
A total number of 120 patients were enrolled in the study with age range of 14 years to 78.5 years (mean 34.2 years). Male to female ratio was 1.1 to 1. Sixty six patients (55%) had esotropia, 36.7% had esotropia and 8.3% had hypertropia. Most common cause of presentation was cosmetic concern followed by diplopia. Other symptoms included fatigue, near vision problems and abnormal head posture. Two thirds of cases (80 patients) were non paralytic with neglected strabismus during childhood. Paralytic strabismus due to variable causes such as ischemia and trauma was seen in 32 patients (Table 1 - opposite page). Surgery was done in 53 patients (44.2%). Six patients developed diplopia after surgery. Five of the diplopia cases were temporary and resolved by 4 weeks after surgery. Only one patient had persistent intractable diplopia. All of these patients complained of diplopia when tested preoperatively with prisms. We did not encounter any post operative complication such as scleral perforation or infection.

Discussion
Strabismus differs from children than the clinical picture in adults’, etiology, outcome and management. The main symptom in children is the presence of squinting eye. Adults usually present for cosmetic reasons in non paralytic strabismus that is usually neglected or inappropriately managed from childhood. Other presentations in adults include diplopia, which is common in paralytic strabismus with vascular etiologies being the most common cause such as cranial nerve palsies that occur in diabetes or hypertension (1). Diplopia usually does not occur in children as their brain usually suppresses the image from one eye (6). This does not only prevent diplopia but also affects depth perception and stereacuity. In adulthood strabismus, diplopia is common especially the paralytic type. In our study 60% of patients presented with cosmetic considerations; about one fifth of patients complained of diplopia. Other symptoms were near vision problems and fatigue. Abnormal head posture was seen in 5 patients.

The most common type of strabismus we found was esotropia (55% of patients). Esotropia was seen in more than one third of patients and hypertropia in 8.3%. This pattern also differs from what is usually seen in children where esotropia is more common with infantile and accommodative esotropia being the commonest two causes (7). Two thirds of our patients had neglected strabismus from childhood. Slightly more than a quarter of our patients had paralytic strabismus with diabetic cranial nerve palsy being the most common cause. Other causes included hypertension, hyperlipidemia, stroke and trauma. Restrictive strabismus due to thyroid eye disease was seen in 8 patients.

In children, the aim of treatment is primarily to prevent amblyopia and restore good vision to enable the patient to gain stereopsis. Infantile esotropia usually indicates surgery to improve binocular vision and stereopsis while accommodative esotropia is usually corrected with spectacles (5, 7, 13). In our group, surgery was done in 53 patients (44.2%). Six patients developed diplopia after surgery. In five of them, diplopia was temporary and resolved within 4 weeks after surgery. Only one patient had persistent intractable diplopia. Examining patients with prisms before surgery to see the likelihood appearance of diplopia may identify some patients who have risk of postoperative diplopia (14-15). All of the six patients who complained of diplopia were tested preoperatively with prisms. Other post operative complications such as scleral perforation or infection were not seen in our series.

In conclusion, the majority of strabismus surgery in adults are neglected cases from childhood. The main indication for surgery was cosmetic. The outcome of surgery is excellent with rare occurrence of postoperative diplopia.

References
Table 1: Type, presentation and cause of strabismus

<table>
<thead>
<tr>
<th>Feature</th>
<th>Number of patients</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Type</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Exotropia</td>
<td>66</td>
<td>55%</td>
</tr>
<tr>
<td>Esotropia</td>
<td>44</td>
<td>36.7%</td>
</tr>
<tr>
<td>Hypertropia</td>
<td>10</td>
<td>8.3%</td>
</tr>
<tr>
<td><strong>Presentation</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cosmetic</td>
<td>72</td>
<td>60%</td>
</tr>
<tr>
<td>Diplopia</td>
<td>23</td>
<td>19.2%</td>
</tr>
<tr>
<td>Near vision problem</td>
<td>11</td>
<td>9.2%</td>
</tr>
<tr>
<td>Fatigue</td>
<td>9</td>
<td>7.5%</td>
</tr>
<tr>
<td>Abnormal head posture</td>
<td>5</td>
<td>4.2%</td>
</tr>
<tr>
<td><strong>Cause</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Non paralytic</td>
<td>80</td>
<td>66.7%</td>
</tr>
<tr>
<td>Paralytic</td>
<td>32</td>
<td>26.7%</td>
</tr>
<tr>
<td>Restrictive</td>
<td>8</td>
<td>6.7%</td>
</tr>
</tbody>
</table>

Screening for chromosomal abnormalities by maternal age and fetal nuchal translucency thickness: The Jordanian experience

ABSTRACT

Objective: To screen for chromosomal defects on the basis of maternal age and fetal nuchal translucency thickness at 10 to 14 weeks of gestation.

Method: Fetal nuchal translucency thickness was measured by ultrasound examination at 10-14 weeks of gestation in living singleton pregnancies in women attending routine antenatal care at Prince Ali Bin Hussein, Amman Jordan. The risks for trisomy 21 and other chromosomal defects by ultrasound measurement of fetal nuchal translucency thickness and maternal age were calculated, using the software provided by The Fetal Medicine Foundation.

Results: Chromosomal defects were diagnosed in 10 cases, including 4 cases of trisomy 21 and 6 cases with other chromosomal abnormalities (trisomy 18, 13, triploidy, Turner). The estimated risk based on maternal age and fetal NT was 1 in 300.

Conclusion: The combination of maternal age and fetal nuchal translucency thickness was an effective method of screening for chromosomal defects.

Keywords: Chromosomal abnormalities. Nuchal translucency. First trimester screening. Trisomy 21. Ultrasound.
The necessary view requires that the fetal Crown-rump length (CRL) is between 38 mm and 84 mm, a good sagittal section of the fetus is used, the magnification of the image is such that the fetus occupies at least 75% of the screen, care is taken to distinguish between fetal skin and amnion, the maximum thickness of the subcutaneous translucency between the skin and the soft tissue overlying the cervical spine is measured with calipers placed on the lines (representing the nuchal skin and the underlying soft tissue).

At least three measurements were taken during the scan and the largest was recorded.

The scans were performed transabdominally unless visualization was poor, in which case vaginal sonography was used. On the basis of maternal age, fetal nuchal translucency (NT) and Crown-rump length (CRL) a risk for trisomy 21 is calculated using the FMF software. Patients with an estimated risk of 1 in 300 or more were offered fetal karyotyping by amniocentesis using both a direct method Interphase Fluorescence in situ Hybridization (FISH) and formal cell culture at the laboratory of medical genetics at King Hussein Medical Centre.

Patients with major fetal anatomical defects were excluded from the study. Demographic details and ultrasound findings, including, crown-rump length and nuchal translucency (NT) were entered into an anonymized computer database at the time of scanning. Karyotype results and pregnancy outcome details were added as soon as these became available.

The fetal Crown-rump length (CRL) and nuchal translucency (NT) thickness were successfully measured in all cases.

Results

During the study period, the total number of pregnancies that presented at 10-14 weeks of gestation was 1,312. All were offered ultrasound measurement of the nuchal translucency. Fetal NT was successfully measured. The median maternal age was 28 years range 16-45 years as shown in Figure 1. The median gestational age was 12 weeks range 10-14.

The following patients were excluded from the study:

A) 22 women presented too early in pregnancy.
B) 416 too late in pregnancy.
C) 21 presented with missed abortion
D) 26 with twin pregnancy.

The numbers of alive singletons examined were 827 (Table 1 - next page). Antenatal karyotyping was performed by amniocentesis in 51 pregnancies because of an increased risk of aneuploidy, (>1 in 300) based on screening test (Table 2).

Maternal Age Distribution

Figure 1: Maternal age distribution in the study group
Table 1: The number of alive singletons examined from the total number of pregnancies

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total number of pregnancies</td>
<td>1312</td>
<td>100</td>
</tr>
<tr>
<td>Presented too late</td>
<td>416</td>
<td>31.7</td>
</tr>
<tr>
<td>Presented too early</td>
<td>22</td>
<td>1.7</td>
</tr>
<tr>
<td>Missed Abortion</td>
<td>21</td>
<td>1.6</td>
</tr>
<tr>
<td>Twins</td>
<td>26</td>
<td>2</td>
</tr>
<tr>
<td>Alive Singletons examined</td>
<td>827</td>
<td>63</td>
</tr>
</tbody>
</table>

Table 2: Incidence of chromosomal abnormalities in relation to maternal age and increased NT

<table>
<thead>
<tr>
<th>Group</th>
<th>Total</th>
<th>Abnormal</th>
<th>Trisomy 21</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age ≥35 NT ≥ 3 mm</td>
<td>37</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Age ≥35 NT &lt; 3 mm</td>
<td>194</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Age &lt; 35 NT ≥ 3 mm</td>
<td>14</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Age &lt; 35 NT &lt; 3 mm</td>
<td>582</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Total</td>
<td>827</td>
<td>6</td>
<td>4</td>
</tr>
</tbody>
</table>

Table 3: Pregnancy outcome in 10 chromosomal abnormalities in relation to maternal age and nuchal thickness examined at 10 to 14 weeks gestation

AMN=amniocentesis.
IUD=intrauterine death.
SM-spontaneous miscarriage.
NND-neonatal death.

Table 3: Pregnancy outcome in 10 chromosomal abnormalities in relation to maternal age and nuchal thickness examined at 10 to 14 weeks gestation

<table>
<thead>
<tr>
<th>No</th>
<th>Age</th>
<th>NT</th>
<th>Chromosome</th>
<th>Amn</th>
<th>Weeks</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>22y</td>
<td>3.1</td>
<td>Tr 13</td>
<td>Amn 16</td>
<td>20</td>
<td>SM</td>
</tr>
<tr>
<td>2</td>
<td>26y</td>
<td>4.0</td>
<td>Tr 18</td>
<td>Amn 16</td>
<td>32</td>
<td>IUD</td>
</tr>
<tr>
<td>3</td>
<td>35y</td>
<td>3.0</td>
<td>Tr 21</td>
<td>Amn 16</td>
<td>38</td>
<td>Alive</td>
</tr>
<tr>
<td>4</td>
<td>36y</td>
<td>5.0</td>
<td>Tr 18</td>
<td>Amn 16</td>
<td>20</td>
<td>SM</td>
</tr>
<tr>
<td>5</td>
<td>34y</td>
<td>6.0</td>
<td>Tr 21</td>
<td>Amn 16</td>
<td>38</td>
<td>Alive</td>
</tr>
<tr>
<td>6</td>
<td>37y</td>
<td>7.0</td>
<td>Tr 21</td>
<td>Amn 16</td>
<td>37</td>
<td>IUD</td>
</tr>
<tr>
<td>7</td>
<td>38y</td>
<td>8.0</td>
<td>Tr 21</td>
<td>Amn 16</td>
<td>20</td>
<td>SM</td>
</tr>
<tr>
<td>8</td>
<td>41y</td>
<td>5.0</td>
<td>45x</td>
<td>Amn 16</td>
<td>33</td>
<td>IUD</td>
</tr>
<tr>
<td>9</td>
<td>43y</td>
<td>7.0</td>
<td>Tr 18</td>
<td>Amn 16</td>
<td>30</td>
<td>IUD</td>
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<tr>
<td>10</td>
<td>46y</td>
<td>3.0</td>
<td>45x</td>
<td>Amn 16</td>
<td>37</td>
<td>NND</td>
</tr>
</tbody>
</table>
Chromosomal defects were diagnosed in 10 of these 51 pregnancies, including 4 cases of trisomy 21 (Table 3). In all cases of trisomy 21, the diagnosis was made prenatally but the option of termination is prohibited in Jordan. There were two live births, one intrauterine death and one spontaneous miscarriage.

There were 6 with other chromosomal defects, including 3 cases of trisomy 18, 1 of trisomy 13, 2 of Turner’s syndrome (Table 3).

Discussion
The ultrasound screening test of (NT) was developed by Nicolaides K.H.(1) Currently, there are a number of studies examining this screening tool including 100,000 patients that give sensitivities between 70% and 90%, with a 4.3% false-positive rate (8,9).

Our results demonstrated the high acceptability of NT screening and the ability to obtain a measurement in all cases.

In our study, the median maternal age was 28 years and screening by a combination of maternal age and fetal NT identified approximately 90% of all major chromosomal defects for a false-positive rate of 5%.

These results in our population in Jordan were very similar to those obtained by the multicenter study of the FMF in Britain(2)

The findings confirm our suggestion that the methodology for measurement of fetal NT should be unified and provide further evidence for the lack of significant ethnic differences in fetal NT (10-13). Similar results were also obtained in a study in Greece with 3,550 pregnancies; the estimated risk was 1 in 300 or more in 4.9% of the population and this group contained 10 of the 11 (91%) fetuses with trisomy 21(14).

Our findings confirm that successful screening for chromosomal defects by fetal NT requires appropriate training of sonographers and that the same criteria needs to be used to achieve uniformity of results among different operators. However we prefer a large number of cases in future studies in order to reach a definite conclusion.

Conclusion
With the new millennium, there have been and probably will continue to be, major changes in the indications for invasive genetic testing, such that advanced maternal age alone will no longer be an indication.

In the future, the decision of whether a patient is at risk for fetal aneuploidy will be based on the combination of maternal age, multiple biochemical serum markers, and a complete ultrasound evaluation of the fetus.

Perhaps using this combined method, with appropriate training, high motivation and adherence to a standard technique for the measurement of NT we will be able to detect 90% of fetuses with chromosomal abnormalities while recommending amniocentesis to only 5% - 10% of pregnant women.

References
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The Evaluation of the Patients Admitted With Hypoglycemia in an Emergency Department: From the Perspective of an Emergency Specialist

ABSTRACT

Objective: Hypoglycemic disorders are very common in emergency settings. They are generally seen in diabetic patients with under-treatment. The case should be urgently treated after a differential diagnosis. In this retrospective study, our aim is to investigate the etiology of hypoglycemia in the patients admitted to the emergency department.

Material and Methods: This study was carried out during 2008 at the Department of Emergency Medicine (EM) in a Training and Research Hospital, and 5,000 consecutive patients admitted to EM were enrolled. They were evaluated in aspects of hypoglycemia by clinical and biochemical investigation.

Results: Of these patients, 35 of them (female 16, male 19) were diagnosed as having hypoglycemia. The mean plasma glucose level was 38.7±10.6 mg/dL. The most common cause of hypoglycemia is due to inappropriate diabetic drug usage in 32 (91%) cases with diabetes mellitus (DM), and most of them 24 (68%) were insulin using diabetic patients. The other three (9%) patients had the diagnosis of chronic renal failure, and Sheehan syndrome, respectively. However, the etiology of hypoglycemia was not found in the third case.

Conclusion: It was found that the prevalence of hypoglycemia was approximately 0.7% in patients with DM admitted to EM. Insulin and/or oral antidiabetic treatment in cases with DM were the most important etiology in aspects of hypoglycemia. The causes of this disorder can change according to countries. The diminished prevalence of hypoglycemia in comparison to the previous reports may be due to qualified patient education and management such as glucometer and insulin pumps.

Key words: Diabetes mellitus, hypoglycemia, emergency department

Introduction

Hypoglycemia is the most frequent endocrine emergency and easily treatable condition in pre-hospital and emergency department settings (1-5). The disorder causes substantial clinical impact in terms of mortality, morbidity, and quality of life (6).

Hypoglycemia is defined as the incidence of a wide variety of symptoms followed by plasma glucose concentration of 50 mg/dL (2.8 mmol/L) or less (7). It is common knowledge that many drugs, endocrine-related disorders, malignancies, malnutrition, and renal insufficiency can cause hypoglycemia. The agents used in Diabetes Mellitus (DM) treatment are the most common drugs for the etiology of hypoglycemia (2,3,8).

Hypoglycemia in patients with DM is often unnoticed where there is a diabetic neuropathy resulting in patients’ losing their ability to sense hypoglycemia (unawareness of hypoglycemia) over time, which increases their risk in terms of cardiovascular morbidity and mortality (9,10). The aim of the present study is to investigate the prevalence and the causes of hypoglycemia in patients with DM admitted to the hospital’s emergency clinic.
Material and Methods
This study was carried out during 2008 at the Department of Emergency Medicine (EM) in a Training and Research Hospital. We defined hypoglycemia by plasma glucose concentration of 50 mg/dL (2.8 mmol/L) or less (7). In the Department, the glucose level was measured simultaneously by a glucometer in capillary blood and the glucose oxidize method in venous plasma in the laboratory. Therefore, the confirmation of the diagnosis was double checked in aspects of glucose assays. All the patients had Whipple triads in terms of the diagnosis. Patient files were recorded for multiple variables including age, sex, glucose levels, renal and liver function test, determination of the etiology such as drugs, hypocortisolemia (10). Laboratory analyses of the samples were done immediately. Chronic renal failure was diagnosed as a glomerular filtration rate (GFR) below 60 mL/min, and end-stage renal disease was diagnosed if the patient had a GFR lower than 10 mL/min or had renal replacement therapy (dialysis). Liver failure diagnosis was done related to clinical and laboratory assessment. All the undiagnosed cases in terms of etiology were consulted by an endocrinologist (CG).

Results
During the study period, 5,000 patients were admitted to the EM due to endocrine emergencies. Hypoglycemia was detected in 35 (0.7%) of the patients. All the patients except one were discharged from the hospital after treatment. An insulin using patient with DM was hospitalized due to extended hypoglycemia. Of these 35 patients, 16 were female, median age 61 years old (range 27-85 years). There were 19 males with a median age of 65 year-old (range 20-82 years). The mean glucose levels were 38.7±10.6 mg/dL. The etiologies of hypoglycemia are presented in the Table 1 - below. The most common etiology of hypoglycemia in patients with DM was inappropriate drug therapy (32: 91%) such as insulin and/or oral antidiabetics. One patient died due to hypoglycemia induced acute myocardial infarction.

Discussion
It is well known that hypoglycemia is one of the most frequent endocrine emergencies in daily clinical practice (2-5). Early diagnosis of the disorder and determination of the underlying etiology are necessary for definitive diagnosis and management.

Spontaneous hypoglycemia in renal failure is more common than being considered. Hypoglycemia detections should be based on frequent and careful glucose determinations in patients with uremia (11,12). In a study, Fischer et al evaluated 137 hypoglycemic episodes occurring with 94 patients admitted with hypoglycemia to the hospital. Forty-six of all patients had chronic renal insufficiency, and 20 of these were due to DM (13). In our study, only one patient had chronic renal failure. This difference may be due to not including the hospitalized patients in the current report.

In our study, similar to other studies, the most common cause of hypoglycemia was due to inappropriate usage of antidiabetic agents. Of these drugs, hypoglycemia because of insulin therapy was the most common (68%), and hypoglycemia induced by oral antidiabetic agents was found as 23%.

Table 1: The etiology of hypoglycemia in the patients with DM
Limited data is available on the etiology of hypoglycemia in patients admitted with the disorder. Gossel et al reported that drug induced hypoglycemia accounted for 56.3% cases of adverse drug reactions and included mainly patients on insulin with or without an oral antidiabetic agent. Many of these diabetic patients also had co-morbidities and were on multi-drug therapy (14).

Hypoglycemia is mostly seen in diabetic patients due to overdose of antidiabetic agents, low calorie intake, malnutrition, excessive exercise, prolonged starving, and development of either renal or hepatic failure (2,6,15,16). These values do not represent the real frequency of hypoglycemia among diabetic patients, which is much higher; the majority of such cases are home-treated due to the fact that patients and/or their relatives are well aware of the hypoglycemia symptoms (17).

One case previously had a diagnosis of panhypopituitarism due to Sheehan syndrome (SS) and she did not use her medications for the disorder. Therefore, she probably had hypoglycemia due to drug withdrawal. The causes of hypoglycemia seem to vary from one country to another. It was shown that SS was one of the important etiologies of hypoglycemia especially in developing countries (18).

However, a patient with hypoglycemia was not diagnosed in terms of etiology in spite of very detailed investigation. Mortality due to hypoglycemia was reported to change from 4% to 27% (13,19). We found a mortality rate of 2.85 %, and it is due to acute myocardial infarction. All the patients were recommended for follow up in outpatient clinic controls in Endocrinology and Metabolism Department.

Conclusion
As a result, it was found that the prevalence of hypoglycemia was approximately 0.7% in patients with DM admitted to EM. Insulin and/or oral antidiabetic treatment in patients with DM were the most important etiology in aspects of hypoglycemia. The causes of this disorder can change according to countries. The diminished prevalence of hypoglycemia in comparison to the previous reports may be due to qualified patient education and management such as glucometer and insulin pumps. Emergency physicians should set the early diagnosis of hypoglycemia in order not to expose malpractice.

References
Primary Lymphoma of the Uterine Cervix: A Case Report

ABSTRACT

Primary non-Hodgkin’s lymphoma (NHL) of the uterine cervix is an exceedingly rare entity and often poses a diagnostic challenge if its existence is not suspected.

We herein report a case of primary uterine cervix NHL with an unusual presentation as urine retention. Despite typical local manifestation of the genital tract primary NHLs, the uncommon site of this entity may lead to misdiagnosis by pathologists and clinicians who are unfamiliar with their clinical and pathologic features.

Because of the low incidence of primary genital tract lymphomas there are no universal protocols regarding treatment. Our patient received multiple courses of chemotherapy and has remained disease free more than a year from the time of diagnosis.

We concluded that chemotherapy with the Cytoxan, Adriamycin, oncovin, mabthera and prednisolone protocol is an effective and tolerable treatment option.

Multicenter well-controlled studies and analysis of case reports are necessary to evaluate the long-term results of different chemotherapy protocols in the treatment of these primary NHLs of the genital tract.

Keywords: Uterine cervix non-Hodgkin’s lymphoma, genital tract, urine retention, large B-cell lymphoma.

Introduction

The female genital tract is a rare site of Primary NHLs, and only a few cases of primary lymphomas involving the uterine cervix have been reported. In fact, only 1.5% of extranodal lymphomas originate in the female genital tract; the uterine cervix appears to be the least often involved and the ovary being the most commonly affected site (1). Primary lymphomas of the female genital tract are mostly present as non-Hodgkin’s lymphoma (NHL) of diffuse large B-cell histologic type (2). These lymphomas may involve the gynecologic tract, most often as a manifestation of systemic disease (3).

Although uncommon, lymphoma should be included in the differential diagnosis of gynecologic malignancies because of a usually favorable outcome when properly diagnosed and treated (4). Histologic examination and careful morphologic evaluation of obvious lymphoid components are warranted to make the correct diagnosis and to pursue the appropriate staging and therapeutic decision in case of malignant lymphoma (5).

Case Presentation

A 49-year-old, Para 6, postmenopausal women with a past medical history of hypertension and diabetes presented with postcoital bleeding and urine retention. She also complained of increased vaginal discharge during the last three months. There was no history of fever, weight loss or night sweats.

Physical examination was unremarkable. Pelvic examination, however, revealed a bulky and barrel-shaped cervix with bleeding on touch at the anterior lip. The cervix was firm and nodular in consistency. The upper third of the anterior vaginal wall was thick and hard.

Hematological investigation revealed microcytic hypochromic anemia. Liver and kidney functions tests were all within normal limits. Papanicolaou smear was normal. Ultrasound scan of the pelvis revealed an enlarged cervix measuring 5.5 x 7.5 centimeters in diameters.

Based on her clinical history and local physical examination, a provisional diagnosis of cervical malignant tumor (mostly lymphoma) was made.
Figure 1: Diffuse large B-cell cervical lymphoma

Figure 2: A computerized tomography of the abdomen and pelvis revealed a 8x7.5 centimeters mixed density mass lesion seen posterior to bladder
She was then listed for examination under anesthesia, for punch cervical biopsy and hysteroscopy with endometrial biopsy. The histology of the cervical biopsy was reported initially as polypoidal granulation tissue with no definite evidence of malignancy and if there is a clinical suspicion of malignancy another biopsy is advised. The hysteroscopic and the endometrial histologic findings were unremarkable with no evidence of hyperplasia or malignancy.

The punch cervical biopsy was repeated and the histologic examination reported as diffuse large B-cell cervical lymphoma (Figure 1). The vaginal biopsy revealed unremarkable vaginal tissue. Subsequently the immunohistochemical analysis showed an evidence of massive positivity to CD-45 and B-cell markers including CD-20.

A computerized tomography of the abdomen and pelvis revealed a 8 x 7.5 centimeters mixed density mass lesion seen posterior to bladder invading the bladder base with severe left and mild right hydronephrosis, multiple enlarged iliac and pelvic lymph nodes, the largest measuring 5 centimeters in diameter and omental thickening and intra-abdominal ascites were noted. There were also multiple hypodense lesions in the right lobe of the liver (Figure 2).

Pelvic MRI revealed a 7 x 7.5 centimeters mass lesion in the uterine cervix. The mass appears to invade the urinary bladder posteriorly. Bilateral iliac lymph nodes were noted. These findings are suggestive of cervical malignant tumor (Figure 3 and 4).

Six cycles of chemoimmunotherapy (Cytoxan, Adriamycin, oncovin, mabthera and prednisolone) were administered. Complete remission was achieved after six cycles according to the restaging CT and MRI. The patient was disease free during the next 12 months.

Discussion

Lymphomas of the female genital tract are uncommon; primary NHLs are still rarer. A review of the literature shows that 1 in 175 extranodal lymphomas in females is likely to originate in the vagina, uterus or cervix (6). The age at presentation ranges from 20-80 years, with the median age varying from 40-59 years (7).

Abnormal vaginal bleeding is the most common presenting symptom of malignant lymphoma of the uterine cervix (8). Our patient presented with postcoital bleeding and urine retention. The Papanicolaou smear was negative. This case serves to take into consideration the possibility of uterine cervix involvement with a primary malignant lymphoma. The findings on cervical cytology in these women with lymphomas are variable. In most cases (as in our case) the cervical smear is negative, which is most likely due to the fact that these lymphomas invade the cervical stroma, and squamous and glandular epithelial lining is initially preserved. Positive findings on cervical cytology may result if there is ulceration. A deep cervical excisional biopsy may give a definite diagnosis (9).

Clonality testing is now a standard tool that is used in some cases of suspected lymphoproliferation. The biomed-2 approach is now commonly seen as the most optimal approach (10). There is an evidence that genital tract NHLs may be under-diagnosed by pathologists who are unfamiliar with their clinical and pathologic features, both because these tumors are unlikely to occur in these sites and because they may be misdiagnosed as either inflammatory lesions or as other types of malignant tumors (11).

Diagnosis of such rare tumors requires a high degree of clinical suspicion when the histologic specimen seems atypical of a chronic lymphocytic cervicitis, primary squamous cell or adenocarcinoma of the cervix (12), which can be confused with a primary lymphoma.

The pathogenesis of cervical NHL is unclear and they are usually classified in MALT-oma category (mucosa-associated lymphoid tissue) because of relatively low malignancy, good prognosis and localized growth (13). The diagnostic evaluation of cervical tumors should include computerized tomography (CT) or magnetic resonance imaging (MRI) of the pelvis and abdomen to determine lymph node status. Cervical NHL can occasionally be differentiated from cervical carcinoma by means of MRI of the mucosa, as well as sparing of the cervical stroma and the uterine junctional zone, are the most important findings to distinguish cervical lymphoma from carcinoma, and are best evaluated with T2 turbo spin echo sequence. Post-contrast images help to delineate the extent of the disease (14).

The prognosis of cervical lymphoma is good, even with local spreading and advancement of the tumor at the time of presentation. Extent of the disease, size of the tumor, and the histologic type of the lymphoma are the most important prognostic features of the disease, but because of its rarity, the standard treatment has not been established.

Treatment options for the NHLs of the female genital tract include surgery, chemotherapy and radiotherapy. As these tumors are usually diagnosed after surgery, the treatment options include chemotherapy with or without radiotherapy.

In cases diagnosed before surgery, primary external beam radiotherapy followed by brachytherapy; surgery followed by chemotherapy (16); and radiotherapy or neoadjuvant chemotherapy followed by surgery (17) have all been advocated depending on age of the patient, histologic type and stage of the tumor. There is no significant advantage of radical surgery in patients with cervical NHLs.

Conclusion

Cervical excisional biopsy followed by proper histologic examination by an experienced pathologist is essential to establish the correct diagnosis of cervical lymphoma.

Although a rare malignant tumor, NHL of the uterine cervix has a good prognosis with adequate treatment.
Figure 3: Pelvic MRI revealed a 7x7.5 centimeters mass lesion in the uterine cervix.

Figure 4: Pelvic MRI revealed a 7x7.5 centimeters mass lesion in the uterine cervix. The mass appears to invade the urinary bladder posteriorly. Bilateral iliac lymph nodes were noted.
References


