Hyper-reactive malarial splenomegaly: therapeutic overview in Lahj Governorate, Yemen - page 33

From the Editor

This is the fourth issue this year with a good number of papers from the region and internationally. A paper from Qatar looked at the Impact of Health Education on Utilization of Cervical Cancer Screening Services among Females working in Secondary Schools in Doha. The study was carried out using a Solomon four-group design. The study showed that women in the four groups had similar socio-demographic characteristics. There was no significant difference in their marital status and reproductive health. Mass media was the main sources of information regarding cervical cancer (59.8%). The study concluded that; studied female teachers have a major deficiency in knowledge, attitude, and practice regarding cervical cancer and its early detection. The educational program improved their knowledge only, but most women were willing to take the test. The main barriers were cancer phobias and embarrassment. Therefore, it is recommended that the health care providers should play a major role in raising women's awareness and practice. More educational programs are needed with emphasis on cultures, traditions, and beliefs.

A retrospective study from Jordan looked at Role Of Fine Needle Aspiration In The Assessment Of The Adult Neck Mas. A total of 92 aged patients were involved. The authors concluded that increasing patients, age and size and duration of neck mass render the mass more likely to be neoplastic. FNA cytopathology is capable of specifically sub typing a large percentage of primary and metastatic tumors.

A prospective study from Yemen looked at Hyper-reactive malarial splenomegaly: therapeutic overview. Huge splenomegaly was in (76.7%) patients and moderate splenomegaly was in (23.3%). Distribution of huge and moderate splenomegaly in relation to areas, revealed significant relationship (p< 0.05). After therapy, there were complete regressions of all 56 (76.7%) huge splenomegaly, while 17 (23.3%) patients of moderate splenomegaly did not respond (p < 0.05). It was confirmed that the 56 cases of huge splenomegaly were HMS. The authors concluded that the majority of massive splenomegaly in these rural areas are HMS

A cross sectional study from Pakistan looked at cardiovascular risk factor assessment in a family medicine preventive clinic. One third had history of weight gain. Only 13% were current smokers. On examination 39.9% were hypertensive, 59.8% had Body Mass Index (BMI) > 25. In laboratory tests, 47.1% had Fasting Blood Sugar>100mg%, 65.3% had Serum total Cholesterol> 180 mg%, 30.4% had Triglycerides(TG) > 150mg%. 10 years risk for Coronary Heart Disease (CHD) by Framingham Scoring was 7.7% involving mainly male gender which is 7%. The authors concluded that the majority of adult males had shown one or more modifiable risk factors. Obesity was significant in females. Screening in Family Practice is important as it is expected that identification and correction of modifiable risk factors will lead to a decrease in morbidity and mortality due to cardiovascular disease in the target population.

A rare case was reported from Columbia, South Carolina, USA on Ovarian hilus cell tumor. A 54-year-old female presented with new-onset facial and peri-areolar hair growth, alopecia, and progressive deepening of the voice. She was virilized. Ultrasound and CT failed to show evidence of an adrenal or ovarian lesion. One month after surgery the total testosterone level was normal and there was gradual but complete resolution of masculinization. Ovarian hilus cell tumors are rare, difficult to localize, but cause dramatic virilization due to androgen overproduction. Oophorectomy and careful examination of the pathological specimen can confirm the diagnosis and is curative as well.

Another case report from Nigeria reports on an uncommon Case of Foreign Body In The Ear: Adult Cockroach. In the Family Practice setting, foreign body in the ear is not an uncommon presentation. Different types of foreign body can accidentally or incidentally enter the ear. These range from inert objects (pebbles, earrings) to hygroscopic ones (vegetable). This case reports an uncommon foreign body in the ear of an adult patient.

A paper from Iraq provides a general description of a newly designed teaching course for faculty members of the medical colleges and assesses the course from the participants' perspectives. The reactions of 28 course participants were sought in respect of their experiences as trainee teachers through a self-completing questionnaire. A high proportion of the participants rated the different scientific contents of most of the sessions as useful. The particularly well received sessions included teaching methods and learning (96.2%), ideal lecture (96.2%), motivation to rise standard of lecture (92.9%), principles of lecturing (92.9%) and regulations and instructions (92.6%). The authors concluded that the participants found the course useful and certainly worth attending. Several suggestions were made for improving the course design like integrating course subjects, increasing the number of practical sessions and placing more emphasis on the practical skills in the course evaluation.

A paper from Tikrit Iraq evaluates the therapeutic effect of niacin and garlic combination of lipid profile, Malondialdehyde and total antioxidant capacity in patients with psoriasis. Blood lipid profile, Malondialdehyde and total antioxidant capacity were determined using commercial kits. The mean levels of serum lipids (triglyceride, very low density lipoprotein, low density lipoprotein, and total cholesterol) and Malondialdehyde in patients with psoriasis were found to be significantly reduced following treatment with combination of Niacin and garlic.

This study indicated that combination of niacin and garlic was effective to restore dyslipedemia in patients with psoriasis and may prevent or modify the atherosclerotic process. The antioxidants constituents of garlic and niacin may act in a synergistic or additive fashion and protect cells against oxidative damage and protect against metabolic and cardiovascular changes in patients with psoriasis.

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Cardiovascular Risk Factor Assessment in Family Medicine Preventive Clinic Checkup

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Abstract

Objective: Cardiovascular risk factor assessment in Family Medicine preventive clinic checkup. Background: Cardiovascular Disease (CVD) is the leading cause of mortality, responsible for about 30 percent of deaths, worldwide. It is important to study life style related, modifiable cardiovascular risk factors among patients, in order to devise preventive measures.

Methods: A cross sectional study done in Family Medicine preventive clinic at Aga khan University in 2010. All adults above 18 years consented to participate in this study. Data was collected on a structured questionnaire regarding underlying co-morbid, abnormal physical findings, laboratory test abnormalities to predict risk of CVD. Framingham Scoring was done for individual patients to identify the 10 year risk for CVD.

Result: Total number of patients was 101, 71% male and 29% female; 19% were diabetic and 27% were hypertensive. One third had a history of weight gain. Only 13% were current smokers. On examination 39.9% were hypertensive, 59.8% had Body Mass Index (BMI) > 25. In laboratory tests, 47.1% had Fasting Blood Sugar >100 mg%, 65.3% had Serum total Cholesterol > 180 mg%, 30.4% had Triglycerides (TG) > 150mg%, 68.3% had Low Density lipoprotein (LDL) >100mg%, 4.9% had High Density Lipo protein(HDL) <35.

10 years risk for Coronary Heart Disease (CHD) by Framingham Scoring was 7.7% involving mainly male gender which was 7%.

Conclusion: The majority of adult males had one or more modifiable risk factors. Obesity was significant in females. Screening in Family Practice is important as it is expected that identification and correction of modifiable risk factors will lead to a decrease in morbidity and mortality due to cardiovascular disease in the target population.

Key words: Primary prevention, screening, Coronary Heart Disease

Background

Screening maneuvers are applied to apparently well people to identify those at increased risk of a disease. Screening of disease being an important preventive strategy should be offered by Family Practitioners to their clients whenever recommended and appropriate. The recent data from WHO and others showed hypertension and cardiovascular disease (CVD) in the developing countries to be emerging as health problems [1]. Cardiovascular disease is a leading cause of morbidity and mortality all over the world. It has been generally accepted that early detection of cardiovascular risk and subsequent intervention can prevent coronary heart disease (CHD)[2]. The traditional cardiovascular risk factors are male gender, age, cigarette smoking, elevated blood pressure, high LDL cholesterol, low HDL cholesterol, and diabetes. All these cardiovascular risk factors are included in the Framingham cardiovascular risk score. This score can help physicians to predict 10-year risk for major cardiovascular events in the individual patient. Globally, 80 percent of total CVD deaths occur in developing countries [3,4]. In recent years age-adjusted CVD death has been cut in half in developed countries. Much of the decline is due to reductions in risk factors which the Framingham Heart Study helped to identify. New studies and risk scores inspired by the Framingham Heart Study need to simplify risk scoring in developing countries so affordable prevention strategies can be implemented [5]. The WHO has predicted that by the year 2015, CVD would be the greatest cause of morbidity and mortality in the world. Also it is expected that the South Asian population is at a much higher risk compared to the rest of the ethnic populations[6,7]. For this very reason primary prevention has managed to play a pivotal role in the determination and management of such chronic diseases. The aim is to

identify individuals who are at higher risk and should therefore receive greater intervention [8,9].

Based on above stated background, we established a need to conduct a survey of family practice patients, to study the prevalence of life style related risk factors for cardiovascular disease. It is expected that identification and correction of modifiable risk factors will lead to a decrease in morbidity and mortality due to cardiovascular disease in the target population.

All patients presenting in the preventive screening clinic have thorough history and complete physical examination done by trained Family physicians followed by laboratory tests which are discussed with the patients by physicians. History is recorded in a structured format including presenting problems, life style, past and family history regarding co-morbidity. At the time of screening we also gather information on socio demographic characteristics, lifestyle features including habits of cigarette smoking and alcohol consumption, as well as personal and family history of major chronic diseases. Examinations included anthropometric and blood pressure measurements, pallor, jaundice, lymph node, thyroid, oral cavity, ENT, pedal edema, skin and hair. Systemic examination includes chest, cardiovascular, abdomen, CNS, breast and pelvic examination in females.

Laboratory investigations done during screening process are complete blood count, ESR, Fasting glucose, lipid profile, serum creatinine, liver enzymes, uric acid, besides blood tests urine and stool. A detailed report was done, and chest X Ray, ECG and pap smear also done routinely.

Methods

This was a cross sectional study done in the Family Medicine screening clinic in December 2010. One hundred and nine consecutive patients were interviewed on a structured questionnaire. All adults above age 18 years, who did not have heart disease and consented for participation were included in the study. Eight patients did not complete their screening profile so they were excluded from the study. Charts were reviewed to find out multiple cardiovascular risk factors according to Framingham criteria. Any co-morbid, family history of heart disease, physical activity, cigarette smoking, overweight (23- 25 kgm2) and obesity (BMI > 25 kgm2), lipid disorder (total cholesterol level >180mg%, high density lipoprotein cholesterol <35mg%, Low density lipoprotein >100mg% or use of lipid-lowering drugs), hypertension (systolic blood pressure 140 mmHg or diastolic blood pressure > 90 mmHg or use of anti-hypertensive medications), and diabetes mellitus (fasting serum plasma glucose level > 100 mg/dl or use of anti-diabetic medications).

The Framingham Risk Score was derived from the Framingham Heart Study Cohort and was designed to predict 10-year risk of hard coronary events, including mortality due to coronary heart disease and nonfatal myocardial infarction. The Framingham Risk Score is calculated by taking into account age, sex, smoking status, total cholesterol, high-density lipoprotein cholesterol, systolic blood pressure, and diabetes. Prediction of CHD risk by the Framingham risk score was performed using the risk factor categories. The scores provide estimates of CHD risk during a period of 10-years based on the Framingham study in men and women aged 30 to 74. Data analysis is done using SPSS 16 version for frequency, mean, range and percentages. The results are expressed as a mean for all continuous variables. Independent sample t test was used to stratify the risk differences between genders.

Result

Total number of patients was 101, 71% male and 29% female; 19% were diagnosed to have diabetes, 27% were hypertensive, 27 % gave a history of weight gain, 13% were active smokers, 2% ex smokers and 8% quit smoking. 10% were taking paan and tobacco while 4% were alcoholic and 3% were occasional alcoholics. 28% indulged in a physical activity regularly while 16% were doing it occasionally. 47% had a positive family history of diabetes while 56% had a family history of hypertension and 18% had a positive family history of heart disease. Routine physical examination showed 39.9% had blood pressure reading more than 140/90mm Hg, 59.8% had BMI > 25 (Table 1 - next page).

Framingham Scoring: The Framingham risk scoring for males was in between 1 to 25 %, with a median of 7 %, whereas for females the risk range was 1 to 4 %. 10 Years Risk to develop heart disease was 7% in males and 0.69% in females.

Discussion

In recent years there has been increased pressure on the health resources worldwide; cardiovascular disease resulted in 17.5 million deaths in 2005 representing 30% of global deaths. High blood pressure, diabetes mellitus and dyslipedemia are among the major risk factors for CVD[10,11,12]. Despite major advances in treatment of ischemic heart disease (IHD) patients, a large number of victims of the disease who are apparently healthy die suddenly without prior symptoms [13]. Our study has shown a significant percentage of modifiable risk factor identification in screening check up. The Pakistan National Health Survey, conducted by Pakistan Medical Research Council, has shown significant prevalence of risk factors for coronary heart disease (CHD). The survey further showed that there was a double burden of malnutrition and obesity and CHD risk factors. The urbanization in Pakistan is occurring at an annual rate of 3.7% of the population. This degree of urbanization is bringing about rural to urban migration on a large scale. This population shift is accompanied with better job availabilities and improved economy with greater power of buying. The result is changing of the life styles of these newly emerging urban communities [14].

S No.	Risk factors in history	Total (%)	Male %	Female %
1	Diabetes mellitus	19	13	6
2	Hypertension	27	21	6
3	Weight gain	27	21	6
4	Smoking	13	13	0
5	Tobacco and chalia	10	8	2
6	Alcohol	4	4	0
7	Physical activity	28	19	9
8	Family history of Hypertension	56	41	15
9	Family history of diabetes	47	29	18
10	Family history of IHD	18	14	4
11	BMI>25	59.8	19.6	40.2
12	High BP >140/90mmHg	39.9	28.7	11.2

Table 1: Total number of study subject= 101(71 male and 29 female)

S No	Blood test screening risk factors	Total No (%)	Male %	Female %
1	Fasting sugar>100 mg%	48(47.5%)	31 (30.7)	17 (16.8)
2	Total cholesterol>180mg%	66(65.3%)	47 (46.5)	19 (18.8)
3	LDL>100mg%	69(68.3%)	46 (45.5)	23(22.7)
4	HDL<35mg%	5(4.9%)	4	1
5	TG>150mg%	31(30.4%)	23(22.7%)	8(7.7%)

Table 2: Total number of study subject = 101

A recent study on the Chinese cohort and Hispanics found the Framingham model estimating the risk of CVD may be not appropriate for generalization[15]. India is now in the middle of a CAD epidemic. The CAD rates among Asian Indians worldwide is higher than people of other ethnic origins and at least 4 times that of Caucasians. It appears that at a given level of any single or combination of conventional risk factors, the CAD rates among Asian Indians are at least double that of Caucasians[16]. Although risk-scoring systems that evaluate 'traditional' risk factors such as lipids, hypertension, diabetes, and smoking greatly improve risk prediction, multiple studies demonstrate that 20% to 25% of all future events occur in individuals with only 1 of these factors[17]. Our screened population showed high blood pressure, high fasting sugar level and dyslipedemia in adults. Moreover the prevalence of these traditional risk factors are almost as high in the unaffected population as they are in affected individuals[18].

Framingham scoring can be divided into high risk (>20%) , intermediate risk (10-20%) and low risk (<10%). Our study shows overall risk is 7.7% mainly in the male gender. This study indicates that the traditional risk factors do have a role to play in CVD risk. Diabetes and hypertension were more common in males. Only the male had risk factors such as smoking, alchohol and paan and chalia. These subjects had significantly high BMI, hypertension and prevalence of smoking[19,20]. Males were at a higher risk compared to females. Females were having as high BMI compared to the male population[21,22]. Smoking was not significant in our study participants but there is evidence to suggest that the control of cardiovascular risk factors, particularly smoking, has resulted in a decline in mortality due to Coronary artery disease[23]. About one third of the study population were physically active; the lack of physical activity has a high risk of CAD proven in various studies [24]. A significant percentage were found to have increased levels of total

cholesterol and LDL with low levels of HDL[25] (Table 2).

The aim of this study was to determine the risk assessment for CVD and relevance of Framingham risk scoring to the asymptomatic Pakistani population. Patients coming in for a regular screening checkup to the clinics were evaluated for a 10 year percentage risk of CVD. Males between 30-70 had one or more modifiable risk factors.

Conclusion

Our data indicates that adult men median age 48 years of age have an elevated modifiable risk factor that could be targeted for intervention. Obesity is more common in females while smoking was an exclusive risk for male population. The Framingham risk scoring for males was 7%, whereas for females the risk range was 0.69%. Determining the effectiveness of non personal health interventions and therapeutic lifestyle changes would be important complementary steps.

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SCREENING CLINIC QUESTIONNAIRE

S. No. :_____   MR No.: _____   Gender: ☐ Male   ☐ Female

Marital Status: ☐ Married   ☐ Single   ☐ Divorced   ☐ Widowed

Age: _____Occupation: _____

Reason for examination: ☐ General health   ☐ Job requirement

Any disease/ complaint: ☐ Diabetes ☐ Hypertension ☐ IHD
                                 ☐ Stroke   ☐ Kidney disease ☐ Liver disease ☐ Cancer

Weight in last one year: ☐ No change ☐ Gain   ☐ Loss

Appetite: ☐ Poor   ☐ Good

Bowel: ☐ Regular   ☐ Constipation   ☐ Diarrhea

Urine: ☐ Normal   ☐ Abnormal
Current medication: _____
Diet: ☐ Meat   ☐ Vegetable ☐ Spicy
              ☐ Fatty   ☐ Sweet

Sleep: ☐ Sufficient ☐ Insufficient

Smoking: ☐ Yes   ☐ No   ☐ Occasionally   ☐ Everyday
                  ☐ Quit

                  Average Per day_____   for   _____years

Alcohol: ☐ No   ☐ Yes   ☐ Occasionally   ☐ Every day
                                          ☐ 2-3/week   ☐ Quit

Paan tobacco chalia or Niswar: ☐ No   ☐ Yes____per day

Stressors: ☐ No   ☐ Yes

(PART 1)

Exercise: ☐ No   ☐ Yes
☐ Sometime ☐ Everyday _____ minutes/day

Past history: ☐ Blood transfusion ☐ Surgery ☐ Others_____

Family history: ☐ Diabetes   ☐ Hypertension   ☐ IHD
☐ Stroke   ☐ Kidney disease ☐ Liver disease
☐ Cancer   ☐ Asthma   ☐ Others _____

Examination: Height__cm Weight ____kg   BMI _____

Pallor _____   Jaundice _____

BP: Systolic_____   Diastolic _____   Edema_____   Lymph node _____   Skin_____

Chest: CVS_____   Abdomen_____   CNS _____

Breast _____   Pelvic _____

Lab Investigations:

Creatinine _____

Fasting blood sugar_____   Cholesterol_____   Triglycerides_____
LDL_____   HDL_____

ECG_____

Urine DR: Protein_____   Sugar_____   WBC_____   RBC_____

Chest X ray_____   Pap smear _____

(PART 2)

Impact of Health Education on Utilization of Cervical Cancer Screening Services among Females Working in Secondary Schools in Doha

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Abstract

Background: Cervical cancer is the second commonest cancer among women worldwide. Nonetheless, it is a largely preventable disease. Hence, a great emphasis on early detection of cervical cancer has been witnessed during the last decades. However, despite the many programs implemented in various countries for cervical cancer screening, still the uptake of the test is below the target levels. This might be related to deficient knowledge, and negative attitudes among women regarding the disease and its preventive measures. The situation is even more eminent in Arab countries, where community cultures and traditions might have some influence on the practice of women regarding cervical cancer screening. Therefore, the aim of this study was to enhance awareness and utilization of screening for cancer of the cervix among school teachers in Qatar, through implementation of a health education program.

Methodology: The study was carried out using a Solomon four-group design. Two intervention and two control groups were identified with one of each not having the pre-test. 418 female teachers from secondary schools for girls in Doha city were studied. Schools were classified randomly into the four groups and teachers were randomly selected from these schools. A self-administered questionnaire based on the health belief model was used for data collection.

Educational sessions were provided to the two study groups. Pre-tests were administered to teachers in groups A (study 1) and B (control 1), and post-tests were applied to all groups using the self-administered questionnaire.

Results: The study showed that women in the four groups had similar socio-demographic characteristics. There was no significant difference in their marital status and reproductive health, only for nationality where the control group 2 had the highest percentage of Qataris (p<0.001). Mass media was the main source of information on cervical cancer (59.8%); other sources included: gynecologists (40.2%), and personal reading (38.8%).

One-third of the women had satisfactory knowledge and previous practice of Pap smear. Only 14.9% had a positive attitude towards cervical cancer screening. Statistically significant weak positive correlations were revealed between knowledge and woman's age, duration of marriage, and parity.

Pap smear practice was higher among women who were 40 years old or higher (p=0.001), and had a statistically significant association with age at marriage (p=0.01), marriage duration (p<0.001), parity (p=0.02), and age at first delivery (p=0.008). Statistically significant relations were found between pre-test knowledge, attitude, and practice, and between pre-test attitude and practice.

Conclusion: The study concluded that; studied female teachers have a major deficiency in knowledge, attitude, and practice regarding cervical cancer and its early detection. The educational program improved their knowledge only, but most women were willing to take the test. The main barriers were cancer phobias and embarrassment. Therefore, it is recommended that the health care providers should play a major role in raising women's awareness and practice. More educational programs are needed with emphasis on cultures, traditions, and beliefs. The logistics of taking the test should be made easier.

Recommendations: Health care providers, especially family physicians and nurses, should have a more effective role in increasing women's awareness of cervical cancer screening and its importance. They also need special training in administration of screening programs, conducting Pap smear testing and more importantly in communicating the results of the test to women. Community-based outreach screening programs need to be planned and implemented by cooperation of community medicine specialists, community health nurses, as well as family physicians. Educational programs should put more emphasis on cultures, traditions, and beliefs of women in order to be effective in changing attitudes; they also need to be sustainable.

Introduction

Cancer is one of the Non-Communicable diseases that impose a major and growing disease burden world wide. The proportionate mortality ratio is 12% worldwide.(1) Cervical cancer in particular, has a considerable impact on the lives of women all over the world.(2) It can be easily prevented through regular screening and follow up of women at risk. (3)

Cervical cancer control efforts aim to reduce both the incidence of the disease and the associated morbidity and mortality, as well as improved life for cancer patients and their families. There is sound evidence that the recent decline in cervical cancer mortality observed in several countries is mainly due to early detection and proper management. These successful preventive achievements are not only due to improvements in technology and imaging, but also a higher degree of disease awareness and educational programs.(1)

Integrating cervical cancer prevention within the primary health care services can help increase the likelihood that women will attend screening and receive the necessary follow-up care.(4) Screening for cervical cancer is simple and effective and the incidence of cervical cancer theoretically can be reduced by as much as 90 % where screening quality and coverage are high. (5)

The health promotion and education provided within the primary health care services can help clients become more aware of prevention and early detection of cervical cancer and their benefits.(9) The aim is to increase knowledge, reduce barriers, and design more supportive health delivery systems.(6)
Lack of awareness about cervical cancer is a key barrier to women seeking cervical cancer screening. Therefore, the overall goal of health promotion and education in cervical cancer prevention programs is to reach a level of preventive health behavior in which activities are taken by women who believe themselves to be healthy, for the purpose of

preventing or detecting illness in an asymptomatic state.(7)

Direct contact between the target population and health workers or peer educators is often more effective in increasing use of services than short-term media activities. Group education, followed by individual counseling, can address clients' information and emotional needs, motivate them to follow treatment recommendations, and establish a satisfied client who will encourage other women to attend. Printed materials are helpful for education and counseling, but they should not replace direct provider contact. (8)

This study was conducted, as part of cancer control program initiatives in Qatar, in order to determine the impact of a combined health education strategy on utilization of cervical cancer screening services among female teachers in secondary schools in Doha.

Materials and Methods

A population based prospective study was carried out among female teachers working at secondary schools in Doha.

In the state of Qatar there are ten municipalities; in each one there are governmental and independent schools for girls. The study was conducted in Doha city, the capital. It is the largest municipality in Qatar that includes 13 secondary schools for girls (7 governmental and 6 independent schools). There are 1123 female teachers currently working and they are mostly Qatari. Selection for the study was done according to specific eligibility criteria including age, marital status and acceptance to participate in the study. Females with a previous history of cervical cancer, hysterectomy, or who had been treated for precancerous lesions related to cervical cancer, were excluded.

Sampling Technique: The sampling was carried out in two steps. In the first step; the schools were classified randomly into four groups (A, B, C, and D) for the purpose of intervention. The second step

included selection of study subjects. A list of female teachers working in the selected schools was obtained from the SEC and the Ministry of Education. Inclusion and exclusion criteria were applied to determine the eligibility for the study. Simple random sampling method was followed to select the study subjects. An appropriate sample size was calculated using sample equation obtained by EpiInfo-6 software program.

Intervention
The intervention was carried out according to Solomon Four -Group Design.

It is recommended to avoid confounding from the pre-test/post-test interventional method. The intervention includes combined health education sessions provided for subjects selected in the specific groups.

. **Group A:** exposed to pre-test, intervention, and post-test.
. **Group B:** exposed to pre-test and post-test, but no intervention.
. **Group C:** exposed to intervention, and post-test, but no pre-test.
. **Group D:** exposed to post-test only.

Health Education Sessions:
The sessions were delivered by a qualified female health educator working in the Public Health Department at the Ministry of Health (MoH). A two hour session was delivered in each school separately during day time. The session included a one hour lecture, followed by a video show, and questions and answers. Health education material (pamphlets) were designed and distributed to respondents during the sessions.

Pre - Post test: Pre - test assessment was made at the beginning of the study, to the selected groups, using the questionnaire. Post - test assessment was taken 3 months following the intervention using the same questionnaire.

Data Collection
A self administered questionnaire was designed using elements of

	Study 1 Pre-post (n=103)		Control 1 Pre-post (n=105)		Study 2 Post (n=103)		Control 2 Post (n=107)		X² Test (p-value)
	No.	%	No.	%	No.	%	No.	%	
Age (years):									
<40	56	54.4	65	61.9	64	62.1	54	50.5	
40+	47	45.6	40	38.1	39	37.9	53	49.5	4.29
Range	24.0-56.0		23.0-56.0		22.0-60.0		28.0-54.0		0.23
Mean±SD	39.0±7.1		38.4±6.8		37.5±8.4		40.0±5.7		
Nationality:									
Qatari	60	58.3	65	61.9	55	53.4	89	83.2	23.86
Non-Qatari	43	41.7	40	38.1	48	46.6	18	16.8	<0.001*
Marital status:									
Married	96	93.2	100	95.2	99	96.1	100	93.5	1.18
Divorced/widow	7	6.8	5	4.8	4	3.9	7	6.5	0.76
Education:									
Secondary/diploma	39	37.9	39	37.1	41	39.8	31	29.0	3.16
University	64	62.1	66	62.9	62	60.2	76	71.0	0.37
Husband education:									
Illiterate	8	7.8	10	9.5	9	8.7	12	11.2	
Basic/secondary	33	32.0	30	28.6	31	30.1	36	33.6	1.72
University	62	60.2	65	61.9	63	61.2	59	55.1	0.94
Husband job:									
Professional	66	64.1	63	60.0	59	57.3	64	59.8	
Employee	32	31.1	31	29.5	29	28.2	29	27.1	5.99
Manual/trade	5	4.9	11	10.5	15	14.6	14	13.1	0.42

(*) Statistically significant at p<0.05

Table 1: Socio-demographic characteristics of women in the four groups of the study

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the health belief model. It was reviewed by expert faculty members and pre-tested to assure validity and reliability. All participants were asked to be available in the school seminar room at the beginning of their break time. Arrangement was made to assure the attendance of all participants in the same time. Names of attendees were reviewed according to the check list of the selected sample. Teachers who were absent on that day were identified and reported for follow up.

The participants were allowed to complete the questionnaire in 10 to 15 minutes under direct supervision of the researcher to assure completeness and to answer the queries raised by the participants. The questionnaires were collected and reviewed for finality and kept in a safe envelope before starting the educational session. At the time of the post-test; the same process was

followed, only no educational session was conducted.

Data Analysis
Collected data were analyzed using Soft Program for Social Science. Descriptive frequencies were obtained, and means plus standard deviation were calculated. Chi-squared test was used for qualitative data to find out associations between level of knowledge about cervical cancer screening and attitudes and practice. Logistic multivariate analysis was applied to determine the association of intervention method on knowledge and attitudes towards cervical cancer screening. Statistical significance was taken as P<0.05.

Approval from the Hamad Medical Research committee was obtained and permission from the Ministry of Education and Supreme Education Council was taken. Informed consent

was obtained from all participants and the collected data was assured confidentiality throughout the study.

Results
The study was conducted among 432 female teachers working in secondary female schools during the study period January - April 2009. Data of 418 participants was obtained for analysis. A total of 14 women were lost to follow-up in the period between pre-test and post-test, with a coverage rate of 97%.

Discussion
According to the present study findings, women's knowledge and practices related to cervical cancer screening were deficient. Only about one-third of them had satisfactory knowledge at the pre-test. A similar percentage gave a history of previous Pap smear testing. These very low percentages are quite alarming, given the high level of education in
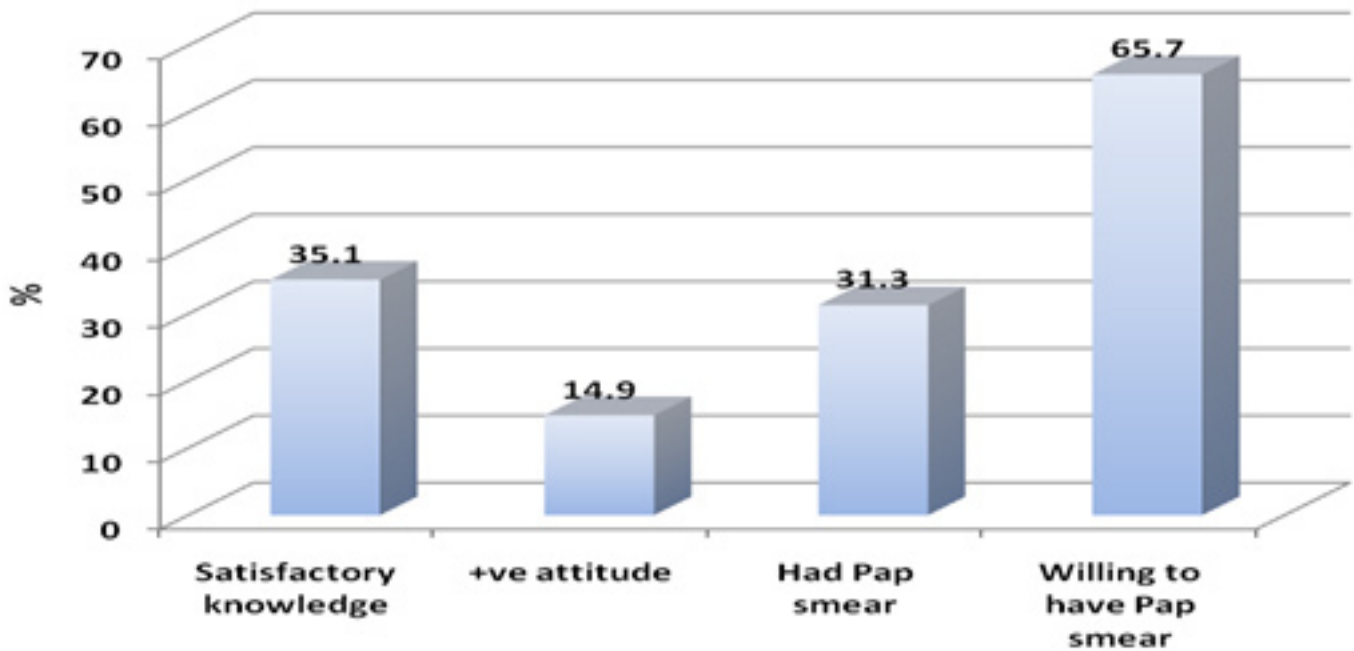
Figure 1: Pre-test knowledge, attitude, and practice related to cervical cancer screening among women in the pre-test study and control samples (n=208)

	Pearson correlation coefficient	
	Knowledge score	Attitude score
Age	0.207**	-0.047
Education level@	0.024	-0.058
Husband education level@	-0.051	-0.009
Age at marriage	-0.117	0.029
Duration of marriage	0.213**	-0.047
Parity	0.161*	-0.062
Age at first delivery	-0.088	0.003

(@) Spearman rank correlation
(*) Statistically significant at p<0.05
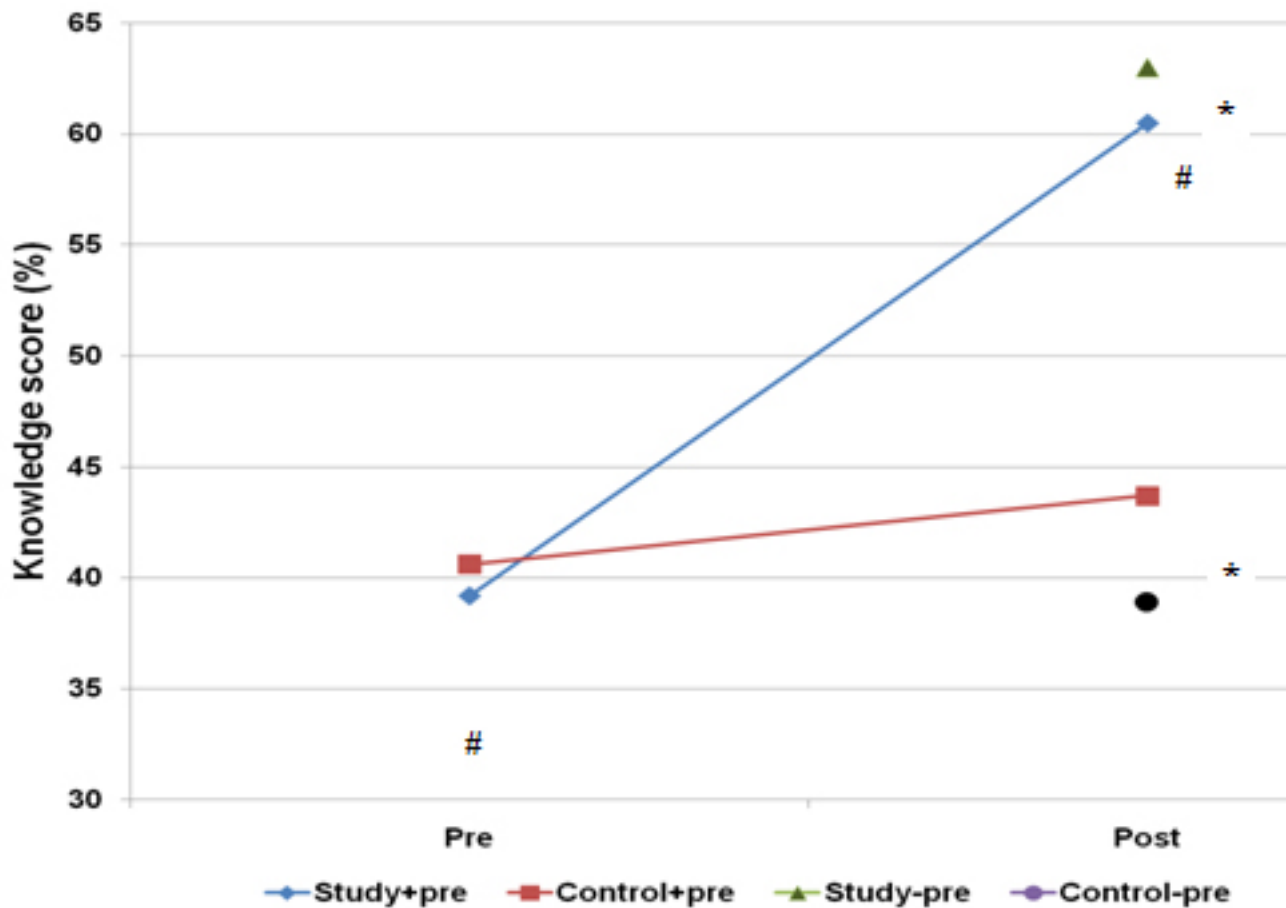(**) Statistically significant at p<0.01

Table 2: Correlation between women's pre-test knowledge and attitude scores related to cervical cancer screening and their socio-demographic characteristics

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the present study sample. Moreover, being secondary school teachers for girls, they should be themselves a source of simple health information for girls at this phase of adolescence, where many questions are raised regarding reproductive health and associated changes during this age. They should also be role models in their health behaviors.

Knowledge of women regarding screening for cervical cancer showed improvement following health education sessions conducted by a community health educator who speaks the same language as the women in the study group.

Various studies have reported figures close to the present study, while others reported higher or lower rates

of correct knowledge and practice of cervical cancer screening. Thus, in agreement with our findings, McMullin et al, in a study on Mexican women living in California (9), reported that the majority of them had deficient knowledge about cervical cancer. They also thought that Pap smear was indicated in case they had symptoms of a pelvic infection. On the same line, Akujobi et al, who

(*,* #.#: Statistically significant at p<0.05)
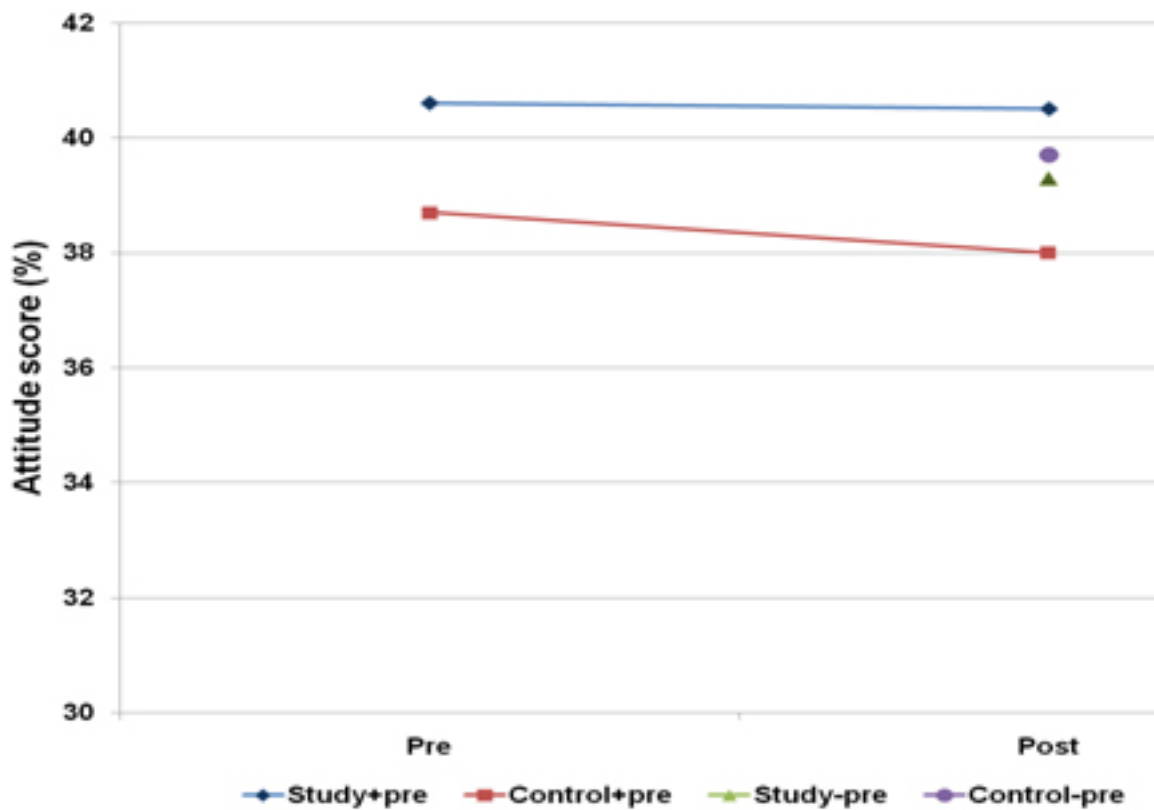**Figure 2: Comparison of pre-post test women's knowledge scores in the four groups of the study**

Figure 3: Comparison of pre-post test women's attitude scores in the four groups of the study

Barriers	Groups (post-test)							
	Study 1 (n=98)		Control 1 (n=90)		Study 2 (n=103)		Control 2 (n=107)	
	No.	%	No.	%	No.	%	No.	%
Difficult reaching*	22	22.4	25	27.8	11	11.7	18	19.6
Difficult appointment	33	33.7	36	40	21	23.3	27	29.9
Overcrowding	35	35.7	34	37.8	32	35	41	45.8
Cost*	9	9.2	7	7.8	3	2.9	1	0.9
Husband refusal	7	7.1	7	7.8	4	4.9	3	3.7
Traditions/culture	7	7.1	12	13.3	6	6.8	3	3.7
Cancer phobia	61	62.2	53	58.9	50	55.3	41	45.8
Lack of knowledge	31	31.6	29	32.2	33	36.9	19	21.5
Lack of time	44	44.9	40	44.4	43	47.6	44	48.6
Refusal	14	14.3	8	8.9	13	14.6	8	8.4
Embarrassment	46	46.9	41	45.6	45	49.5	34	37.4
Feeling no need	25	25.5	29	32.2	26	29.1	29	31.8
None	11	11.2	12	13.3	12	13.6	8	8.4

(*) Statistically significant at p<0.05

Table 3: Comparison of post-test barriers to cancer cervix screening as reported by women in the four groups

assessed the knowledge, attitude and practice of cervical cancer screening among female students of the Faculty of Natural Sciences in Nigeria, found that only about one-third of them had correct knowledge about Pap smear (10). Similar findings were reported in Malaysia, where poor knowledge was demonstrated regarding cancer of the cervix and the Pap smear test. There was the same misconception that the test was for diagnosis of cervical cancer, and thus was needed only for those who had symptoms. (11)

On the other hand, Mutyaba et al found that 83% of respondent women in Uganda had satisfactory knowledge about cervical cancer screening (12). Also, Núñez-Troconis et al found much higher levels of knowledge about cervical cancer screening among Venezuelan women. They reported that 95% of the study sample heard about Pap smear, and 89% identified its use for cervical cancer screening. In the same study, very high levels of practice were reported. Thus, 93% of the study subjects had at least one Pap smear(13). Similarly high levels of knowledge regarding Pap smear and cervical cancer were reported among women in Cape Town, South Africa, where more than

two-thirds knew the definition and use of Pap smear (14). Conversely, very low levels of knowledge were reported among female adolescents and their mothers in the USA (15). Only 2.7% of the sample participants could define the term Pap smear accurately. It was confused with pelvic examination.

The very wide discrepancies among the figures reported in different studies have a number of explanations. Firstly, the populations studied vary widely regarding age group and level of education. Secondly, they involve different countries with variations in cultures, traditions, and norms. Even in countries with close similarities, differences have been reported. Thus, Iatrakis et al, in a study comparing women's knowledge about Pap smear in two European countries: Finland and Greece, found that Finnish women had higher levels of knowledge. The authors attributed the difference to better health service information in Finland. Thus, differences in health systems could be a third explanation of discrepancies among different studies. (16)

Women with better knowledge on Pap smear testing tend to obtain screening for cervical cancer. In this

study; knowledge on Pap smear testing was not adequate among the participants in all groups. Only those exposed to educational sessions showed some improvement in their knowledge regarding Pap smear test. This may be explained by the false information they had about Pap smear. In addition to their panic attitudes due to wrong beliefs that relate to the culture in the region.

Women's knowledge about cervical cancer screening was found to be correlated with socio-demographic characteristics specifically: age, duration of marriage and parity. The elder women who get married early learn much from their reproductive health experiences. Accordingly, their knowledge about cervical cancer screening increases whenever they have been supported by health education sessions. This correlation of knowledge and socio-demographics was shown by Quinn M, et al, who confirmed that Pap smear test uptake among groups of women varies according to their socio-demographic features. For example low uptake rates have been associated with women who are older or less well educated, who have a lower socioeconomic background or social health insurance, or who reside in rural locations.(17)

Similar to knowledge, the practice of Pap smear testing was low among women in the present study, where about one-third reported having taken it. This rate is close to the one reported among female primary care physicians in the United Arab Emirates (18). It was found that only 40% of them reported having ever had a Pap smear.

The practice rate identified in the present study is better than rates reported in previous studies. For instance, a much lower rate was reported among female health professionals including doctors, pharmacists, nurses and lab scientists in Nigeria, where only 9% reported having previously taken the test (19). This finding is more alarming than that of the present study, given the leadership role in health and health education that this group is assumed to play. Even worse, Akujobi et al found that none of the female students of the Faculty of Natural Sciences in Nigeria had undergone the Pap smear test before (10). In South Africa, Hoque et al. reported a slightly better rate of practice (18%), but it was still lower, compared to the present study rate.(20)

On the other hand, other investigators reported higher rates of practice of Pap smear. Thus, Allahverdipour and Emami, in a study done on married women in childbearing age in Iran, found that 68.5% had at least one Pap test previously(21). Also, Núñez-Troconis reported a higher rate of practice among Venezuelan women, where 58.3% had four or more Pap smears in their life time, and only 7% of them had their Pap smear for the first time during the study(13). Additionally, Balajadia et al reported that 62.8% women in the indigenous population of Guam had a Pap smear within the two years preceding the study. (22)

The factors influencing women' knowledge and practice, as identified in the present study, were mainly their age and duration of marriage, and parity. All these factors are expected to positively influence knowledge and practice, since

as age advances, the feeling of susceptibility might also increase. In agreement with our study findings, Lee et al found that the practice of Korean American women in Chicago was related to their age (23). Also, Cabeza et al found that the probability of having had a Pap smear test was higher among older women. However, in disagreement with the present study, education was also a significantly related factor identified in these two cited studies. This discrepancy with our study might be due to the fact that all our study sample women had almost equally high level of education (24). Klug et al could not demonstrate any relation between women's knowledge and practice of cervical screening and their age.(25)

In the present study, there was a close relationship between knowledge and practice. Thus, the percentage of women with satisfactory knowledge was almost equal to that of women who reported having taken the test previously. Moreover, a statistically significant association was revealed between knowledge and practice. This finding is incongruent with Wiesner-Ceballos et al who could not demonstrate any relation between knowledge of the Pap smear and its practice among Colombian women. (26) Similarly, Gharoro and Ikeanyi reported very poor uptake of Pap smear test among women with deficient knowledge. (27)

Also in contradiction with these present study findings, other studies have reported a wide discrepancy between knowledge and practice(19). One of the most reasonable explanations for this dissociation between knowledge and practice is the presence of barriers that hinder utilization of cervical cancer screening services, like phobias of the test outcome, in addition to self-blame and shame and embarrassment. (28)

Another important barrier to taking the test, as identified in the present study, was the feeling of no need. This goes hand-in-hand with another identified barrier, the

lack of knowledge about the test and the screening programs. In correspondence with these findings, Wong et al mentioned that socio-cultural beliefs have a great impact on women's attitude towards cervical cancer screening. (11)

However, this feeling of low susceptibility did not change after the intervention program, despite the fact that knowledge significantly improved. This might be explained by the widespread fatalistic attitude towards illness and health in the study population, as in all conservative communities with strong religious beliefs. It is also to be noted that few of the women reported husband refusal or cultures and traditions as barriers. This implies that the reluctance feelings were deeply rooted inside the woman herself, rather than due to the surrounding environment. In agreement with this, Johnson et al, and Mosavel et al highlighted that fatalistic beliefs had a negative impact on woman's screening behavior. (14, 29)

Other less frequently reported barriers were related to the logistics of undertaking the test. Many of the women reported lack of time, and this is understandable given their job nature. (10, 19, 26)

According to the present study findings, the sources of support for cervical cancer screening reported by women were all low, especially for nurses as health care providers. It was noticed that support from parents increased in the control groups, while support from nurses increased in the study group. In this same perspective, the present study demonstrated that mass media was the main source of information for studied women about cervical cancer screening. The role of health care providers, especially general practitioners was modest. This finding explains the deficiency of knowledge identified among these women. It also underscores the importance of health education regarding cervical cancer screening to be practiced by general practitioners and nurses who should

have a major role in this regard. In agreement with these findings, Hoque et al reported that only 43% of studied women in South Africa mentioned they got information on Pap smear from health care providers (20). On the same line, Perkins et al found that mass media in Honduras was the main source of information for women about cervical cancer and its screening programs, and these media led to increased awareness of women. (30)
Another approach to increase women's practice of early screening for cervical cancer is to identify their preferences regarding the service providers. According to the present study findings, the great majority of the four groups preferred that the provider of the service be a female gynecologist. Very few had a preference of general practitioners. As for the setting, private clinics were the least preferred. These findings are quite plausible given the community norms and traditions, and to overcome the barrier of embarrassment. The lower preference for private clinics might be attributable to costs. However, the findings reflect a low perception of the role of the general practitioner among studied women. These present study results are in agreement with those reported by Barghouti et al in Jordan, where studied women had a preference for female physicians, particularly gynecologists, to undertake Pap smears for them (31).

Implementation of the present study intervention had a significant positive impact on women's knowledge about cervical cancer and screening. However, no such improvement could be witnessed in their attitude of practice. This could be attributed to the relatively short time of follow-up that might be insufficient to effect a change in attitudes and practices. The findings of the present study related to the effect of the intervention program correspond with Rezaei et al who demonstrated improvement in knowledge and attitude scores, compared to the control group (32). On the same line, Park et al demonstrated a positive effect of an emotion-cognition

focused program on Korean women's scores of knowledge of cervical cancer and perceived benefits of Pap tests. (33)
Our findings are also in partial agreement with Lin et al whose educational program led to improvement of Taiwanese women's knowledge and practices related to cervical cancer screening (34). The present study women's willingness to take the test turned out to be high before the intervention. Their post-test willingness was also high, especially among women in the two study groups. However, this good intention was not translated into actual practice. The findings are in accordance with Papa et al who reported that their educational intervention led to increased willingness among women, which reached 77% of women. Their knowledge regarding cervical cancer and cervical cancer screening has also improved after the intervention. (35)

Conclusion
In the light of the study findings, it is concluded that female secondary school teachers in Doha, Qatar, have a clear deficiency in knowledge and practice regarding cervical cancer and its screening. Their related attitudes were low; that clearly reflected on their poor utilization of the available cervical cancer screening services. Knowledge and practice were influenced by the woman's age, age at marriage, duration of marriage, and parity. Implementation of the educational sessions was successful in improving female teachers' knowledge about cervical cancer and screening, but the effect on their attitude and practice was not significant. The presence of barriers, mainly cancer phobias and embarrassment, need more time to be changed.
Most women were willing to take a Pap smear test, which implies that they have a positive intention, provided the barriers are overcome.

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Evaluation of therapeutic effect of niacin and garlic combination on lipid profile and oxidants / antioxidants in psoriatic patients

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Abstract

Background: Several studies demonstrate an association of psoriasis and dyslipedemia. Psoriasis was recently proposed as an independent risk factor of myocardial infarction.

Objective: To evaluate the therapeutic effect of niacin and garlic combination on lipid profile, Malondialdehyde and total antioxidant capacity in patients with psoriasis.

Methods: Blood lipid profile, Malondialdehyde and total antioxidant capacity were determined using commercial kits.

Results: The mean levels of serum lipids (triglyceride, very low density lipoprotein, low density lipoprotein, and total cholesterol) and Malondialdehyde in patients with psoriasis were found to be significantly reduced following treatment with a combination of Niacin and garlic. High density lipoprotein and total antioxidant capacity mean serum levels were significantly increased following the treatment course.

Conclusion: This study indicated that a combination of niacin and garlic was effective to restore dyslipedemia in patients with psoriasis and may prevent or modify atherosclerotic processes. The antioxidant constituents of garlic and niacin may act in a synergistic or additive fashion and protect cells against oxidative damage and protect against metabolic and cardiovascular changes in patients with psoriasis.

Key words: Psoriasis, Triglyceride, VLDL, HDL, LDL, Cholesterol, MDA, TAC, Dyslipedemia, Garlic, Niacin.

Introduction

Hyperlipedemia is one of the important risk factors associated with the development of coronary heart disease [1]. Psoriasis is a common chronic inflammatory skin disease of unknown aetiology. Recently it has been suggested that increased ROS production and deficient functions of antioxidant system activities may be involved in the pathogenesis of the disease [2, 3]. Several studies demonstrate an association of psoriasis and dyslipedemia [4-8]. Associations among psoriasis, obesity, hypertension, cardiovascular diseases, diabetes mellitus and metabolic syndrome have been reported [4-12]. Psoriasis was recently proposed as an independent risk factor for myocardial infarction [13].

The reported studies suggest evidence that supports a strong link between psoriasis and lipid abnormalities [14]. Several studies have demonstrated that an atherogenic dyslipidemic profile consisting of increased levels of total cholesterol, triglyceride, low density lipoprotein cholesterol (LDL), oxidatively modified lipids and decreased level of high density lipoprotein cholesterol (HDL) is exhibited by patients with psoriasis [3, 15, 16]. In addition, disequilibrium between oxidants and antioxidants were demonstrated in patients with psoriasis [2, 3, 17, 18]. Overproduction of inflammatory factors and hormones in patients with psoriasis may lead to changes in lipid metabolism and cytokine production [19, 20]. All of the above changes may act together to increase cardiometabolic risk in psoriatic patients. In Iraq, cardiovascular diseases are becoming a significant burden on health care services. Dyslipedemia plays an important role for provocation of cardiovascular disease [21]. The major detrimental

components of dyslipedemia are reduced HDL cholesterol, triglyceride, and elevated LDL cholesterol. Recently reported studies have raised awareness of the need to prompt treatment of dyslipedemia to reduce cardiovascular risks in patients with diabetes, metabolic syndrome or psoriasis [3, 22].

Atherosclerotic processes that involve both coronary and peripheral arteries can be slowed if elevated serum concentration of the atherogenic lipoproteins can be reduced [23]. Drug treatment for hyperlipedemia may reverse atheromas [24]. There are various reported studies that evaluate the therapeutic activity of many drugs in reducing total cholesterol, triglyceride, LDL, VLDL, MDA and increase in HDL and total Antioxidant capacity, but a recently reported study indicated that niacin is an effective lowering drug for LDL [23]. Niacin inhibits the release of free fatty acids from adipose tissue, increases lipoprotein lipase activity and decreases the hepatic production of VLDL and LDL [25]. Reported studies show that garlic significantly reduced plasma lipids especially total cholesterol and LDL [26, 27, 28, 29]. In addition, garlic extract contains antioxidant compounds and decreases the output of inflammatory cytokines from cultured cells [30].

The rationale for combination therapy is that drugs with complementary mechanism of action can provide complementary effects on lipid profile [31]. Several combination therapies were evaluated to restore dyslipedemia [32,33], and the results vary between the studies. The present study was designed to evaluate the effect of combination therapy of niacin - garlic on dyslipedemia in patients with psoriasis.

Materials and Methods
Study population
Subjects for this interventional study were selected from Community - Based Health Promotion Research [CBHPR], that was conducted by Tikrit University College of Medicine [TUCOM], Iraq. CBHPR was performed in the Salahuldean Governorate as part of research programmes conducted by faculty members of TUCOM; one of these is the Regional Study of Dermatologic Diseases [RSDD]. This study was conducted between May 2007 and September 2009 in the Dermatology Clinic, Tikrit, Iraq. Ninety - four patients with psoriasis [53 men and 41 women, aged 11 to 64 years] with a mean age of 29 ± 13.6 were included in the study. Exclusion criteria were chronic hepatic disorder, renal impairment, pregnant and lactating mothers, diabetes, obesity, ongoing treatment with drugs that affect lipids (steroid, B-blocker, e t c), extreme level of triglyceride, history of hypersensitivity to any components of the medication used in this study, those who did not give informed consent and on-going treatment with the therapy programme.

After selection of the participants, written consent was obtained after explanation of the objectives and potential risks of procedures used for the study, to the patients and accompanying persons. Blood samples were collected from patients after 12 hours overnight fasting at time of enrolment in the study and 12 weeks following start of the treatment course. Serum was separated and used for determination of triglyceride, total cholesterol, HDL, MDA, and total antioxidant capacity. The study was approved by the Ethical Committee of Tikrit University College of Medicine and written informed consent was taken from each participant.

Determination of Total Antioxidant Capacity (TAC):
The materials used in the determination of TAC in serum were a gift from Dr. V. Tsaousis, Medicon Hellas SA, Gerakas, Greece. They include, 2, 2- Azobis-(2-amidinopropane) dihydrochloride (ABAP), 6- hydroxyl-2, 5, 7, 8-tetramethylchromane-2-carboxylic acid (Trolox C) from Sigma- Aldrich. ABAP was dissolved just before use with a 10 mM phosphate buffer (pH 7.4) at a concentration of 5 mg / ml. Crocin was from the association of Saffron producers, Krokos, Kozani, Greece- Crocin stock solution was prepared in a phosphate buffer (10 mM, pH 7.4) at concentration of 20 uM with buffer.

The method for serum TAC determination was as previously described by Kampa M et al [34]. In brief, in each tube 400 µl of crocin and 200 µl of serum sample were pipetted. The reaction was initiated with the addition of 400 µl of pre-warmed (370C) ABAP (5 mg/ml) and crocin bleaching was made by incubating the plate in oven for 60 - 75 minutes. Blanks consisting of crocin, serum samples and phosphate buffer (400, 200, 400 µl respectively) were run in parallel. The absorbance was measured at 450 nm. A standard curve of the water soluble synthetic antioxidant Trolox, prepared prior to use, ranging from 0 - 10 µg/ml was equally assayed under the same conditions.

Determination of Triglycerides:
Serum triglycerides were determined by using an enzymatic colorimetric test kit, a product of Linear Chemicals, Spain. The test was performed according to manufacturer instructions. The method is based on the enzymatic hydrolysis of serum triglyceride to glycerol and free fatty acids (FFA) by lipoprotein lipase (LPL). The glycerol is phosphorylated by adenosine triphosphate (ATP) in the presence of glycerolkinase (GK) to form glycerol - 3 - phosphate (G - 3 -P) and adenosine diphosphate (ADP). G-3-P is oxidized by glycerophosphate oxidase (GPO) to form dihydroxyacetone phosphate (DHAP) and hydrogen peroxide. A red chromigen is produced by the peroxidase (POD) catalyzed coupling of 4- aminoantipyrine (4-AA) and phenol with hydrogen peroxide, proportional to the concentration of triglyceride in the sample. Absorbance was measured at 500 nm.

Determination of Malondialdehyde:
As index of lipid peroxidation, serum MDA concentration was determined by measuring the thiobarbituric acid reactive substances (TBARS) according to the Spectrophotometric

method of Janero [35]. The TBARS was determined using OXITEK TBARS Assay kit from Zeptometrix Company. A 100 ul of sodium doedecyl sulfate was added to the tubes that contain either serum sample or standard and mixed thoroughly. Then 2.5 ml of thiobarbituric acid/ buffer reagent was added down the side of each tube. The tube was covered and incubated at 95 o C for 60 minutes. The tube was then removed and cooled to room temperature in an ice bath for 10 minutes. After cooling the samples were centrifuged at 3000 rpm for 15 minutes. The supernatant was removed from samples for analysis. The absorbance of supernatant was measured at 532 nm. Determination of MDA equivalent in µmol/ l in samples was obtained by interpretation from standard curve.

Determination of Total Cholesterol
Serum total cholesterol was determined using enzymatic colorimetric test kit, a product of Biomaghreb, France. The indicator quinoneimine is formed from hydrogen peroxide and 4-aminoantipyrine in the presence of phenol and peroxidase. This method is linear up to 600 mg/dl and if the cholesterol concentration is greater than 600 mg/dl, we diluted the serum sample 1:2 with saline solution and the test was repeated. Then the concentration is calculated by multiplying the results by 2. The test was performed according to manufacturer instructions. The quantity of red dye formed is proportional to serum concentration of cholesterol. Absorbance was measured at wave length of 505 nm.

Determination of High Density Lipoprotein
The serum concentration of high density lipoprotein was determined using a colorimetric test kit, a product of BIOLAB REAGENTS, France. Low density lipoprotein, very low density lipoprotein, and chylomicrons from specimens were precipitated by phosphotungstic acid and magnesium chloride. High density lipoprotein was obtained in supernatant after centrifugation and then measured by using

total cholesterol reagent. The color developed was proportional to the concentration of HDL in supernatants which is equal to its serum concentration. The test was performed according to manufacturer instructions. Absorbance was measured at wave length of 500 nm. The HDL serum concentration was calculated using the following equation:

$$\text{Serum HDL concentration} = \frac{\text{Absorbance of Assay}}{\text{Absorbance of Standard}} \times \text{Standard concentration} \times 1.1$$

Determination of Very Low Density Lipoprotein
VLDL was determined by division of triglycerides by 5.

Determination of Low Density Lipoprotein
LDL was determined by using the following formula:
LDL = Total cholesterol - (VLDL + HDL)

Treatment Schedule:
The treatment course consisted of 12 weeks with a 4 weeks follow up visit. After inclusion in the study the patients received a niacin tablet [500 mg], twice daily with a garlic capsule [500mg], thrice daily. In addition they received loratadine, one tablet daily, in order to reduce the flushing side effect of niacin.

Statistical Analysis:
The values are reported as mean ± SD and 95% confidence interval. For statistical analysis between the groups paired t test was used. Pearson test was used for correlation analysis. The levels of each marker were compared between the study groups and control group, using SPSS computer package. P values of < 0.05 were considered significant.

Results
From the 94 patients with psoriasis included in the study, only 78 patients (83%) completed the treatment course program. Sixteen patients did not turn up to follow up (dropped out);- 11 were female and 5 were male. Thus a total number of 78 completed the study; their mean age

was 32.1 ± 12.3 year (Age range from 18-64 years). The male patients were 48 with a mean age of 33.7 ± 12.3 year while females formed 30 patients with a mean age of 30 ± 12.4 year. There was no significant difference in mean age between females, males, and total.

Effect in male patients
Triglyceride level was reduced from 188.1 ± 42.8 mg/dl (95% CI 178.1-198.2) to 142.1 ± 25.2 mg/dl (95%CI 132.1-152.2) and this change was statistically significant (P=0.001). Reduction of triglyceride was 24.5% from the baseline level. (Table - 1).

VLDL level was observed to decrease from 37.6 ± 8.6 mg/dl (95%CI 35.6-39.7) to 28.4 ± 5.1 mg/dl (95%CI 26.4-30.4) and this reduction was statistically significant (P=0.001). Percentage change of VLDL 22.1% decrease from baseline. (Table-1).

HDL level increased from 37.6±2.3 mg/dl (95%CI 36.8-38.5) to 43.4±3.5 mg/dl (95%CI 42.5-44.3) and this increase was statistically significant (P=0.001). Increase in HDL was 15.4% from pretreatment level. (Table-1).

LDL level decrease significantly (P=0.001) from 127.9± 20.3 mg/dl (95% CI 122.5-133.3) to 105.8 ± 17.3 mg/dl (95%CI 100.4-111.2) and the reduction percentage was 17.3% from that of baseline level. (Table-1).

Total cholesterol level was reduced significantly (P=0.001) from 202.8V26.2 mg/dl to 177.1± 20 mg/dl (95%CI 170.4-183.8) and the percentage of reduction was12.7% from the baseline level. Table1. MDA level was observed to decrease from 4.4± 1.3 µmol/l (95%CI 4-4.7) to 3.4 ±0.94 µmol/l (95%CI 3.1-3.7) and this change was statistically significant (P=0.001). Reduction of MDA was

Variable	Pre-treatment Mean [SD] 95% Confidence interval	Post treatment Mean (SD) 95% Confidence interval	P value	Percent Reduction
Age in year	33.7 [12.3]	33.7 [12.3]	>0.05	NA
Triglyceride mg/dl	188.1 [42.8] 178.1 – 198.2	142.1 [25.2] 132.1 – 152.2	0.001	24.5
Very Low Density Lipoprotein mg/dl	37.6 [8.6] 35.6 – 39.7	28.4 [5.1] 26.4 – 30.4	0.001	22.1
High Density Lipoprotein mg/dl	37.6 [2.3] 36.8 – 38.5	43.4 [3.5] 42.5 – 44.3	0.001	15.4
Low Density Lipoprotein mg/dl	127.9 [20.3] 122.5 – 133.3	105.8 [17.3] 100.4 – 111.2	0.001	17.3
Total cholesterol mg/dl	202.8 [26.2] 196.1 – 209.4	177.1 [20.0] 170.4 – 183.3	0.001	12.7
Malondialdehyde µmol/l	4.3 [1.3] 4 – 4.7	3.4 [0.94] 3.1 – 3.7	0.001	20.9
Total antioxidant capacity µmol/l	761 [94] 728 - 793	831 [88] 805 - 857	0.003	9.2

Table 1: Comparison between pre and post treatment lipid profile, MDA and TAC in male psoriatic patients

Variable	Pre- treatment Mean (SD) 95% Confidence interval	Post treatment Mean (SD) 95% Confidence interval	P value	Percent Reduction
Age in year	34.1 [12.4]	34.1 [12.4]	> 0.05	NA
Triglyceride mg/dl	182.4 [35.5] 169.8 – 193.9	147.3 [30.3] 135.4 – 159.2	0.001	19.2
Very Low Density Lipoprotein mg/dl	36.1 [7.4] 33.6 – 38.6	29.5 [6.2] 27 - 32	0.004	18.3
High Density Lipoprotein mg/dl	44.6 [6.2] 42.3 – 46.9	47.1 [6.3] 44.8 – 49.4	0.12	7.8
Low Density Lipoprotein mg/dl	127.4 [21.6] 119.8 – 134.9	113.1 [19.8] 105.5 – 120.6	0.0098	11.2
Total cholesterol mg/dl	207.6 [26.6] 198.3 – 216.9	188.9 [23.9] 179.6 – 198.1	0.0058	9.1
Malondialdehyde µmol/l	5.3 [1.7] 4.8 – 5.9	4.0 [1.5] 3.5 – 4.6	0.023	26.0
Total antioxidant capacity µmol/l	703 [139] 662 - 744	815 [104] 770 - 860	0.008	15.9

Table 2: Comparison between pre and post treatment lipid profile, MDA and TAC in female psoriatic patients

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20.9 from the baseline level. (Table-1 above).

Total antioxidant capacity level increased from 761±94 (95%CI 728-793) to 831±88 µmol/l (95%CI 805-857) which was statistically significant (P=0.003). The treatment demonstrated increase by 9.2% from pretreatment level. (Table-1).

Effect in female patients
Triglyceride level was reduced from 182.4 ± 35.5 mg/dl (95% CI 169-193.9) to 147.3± 30.3 mg/dl (95%CI 135.4-159.2) and this change was statistically significant (P=0.001). Reduction of triglyceride was 19.2% from the baseline level. (Table-2).

VLDL level was observed to decrease from 36.1 ± 7.4 mg/dl

(95%CI 33.6-38.6) to 29.5 ± 6.2 mg/dl (95%CI 27-32) and this reduction was statistically significant (P=0.004). Percentage change of VLDL was 18.3% decrease from baseline. (Table-2).

HDL level increased from 44.6±6.2 mg/dl (95%CI 42.3-46.9) to 47.1±6.3 mg/dl (95%CI 48.8-49.4) but this increase was statistically not

Variable	Pre- treatment Mean (SD) 95% Confidence interval	Post treatment Mean (SD) 95% Confidence interval	P value	Percent Reduction
Age in year	32.1 [12.3]	32.1 [12.3]	> 0.05	NA
Triglyceride mg/dl	185.7 [40.1] 178 – 193.4	144.1 [27.4] 136.4 – 151.8	0.001	22.4
Very Low Density Lipoprotein mg/dl	37.1 [8.1] 33.5 – 38.6	28.8 [5.5] 27 - 32	0.001	22.4
High Density Lipoprotein mg/dl	40.3 [5.4] 39.1 – 41.5	44.8 [5.1] 43.7 – 46.0	0.001	11.2
Low Density Lipoprotein mg/dl	127.7 [20.7] 123.3 – 132.1	108.6 [18.5] 104.2 – 113.0	0.001	14.9
Total cholesterol mg/dl	204.6 [26.3] 199.2 – 210.1	181.6 [22.2] 176.2 – 187.1	0.001	11.3
Malondialdehyde µmol/l	4.7 [1.5] 4.4 – 5.0	3.7 [1.2] 3.5 – 4.6	0.001	21.3
Total antioxidant capacity µmol/l	738 [116] 715 - 762	825 [94] 801 – 849	0.03	11.8

Table 3: Comparison between pre and post treatment lipid profile, MDA and TAC in male psoriatic patients

significant (P=0.12). Increase in HDL was 7.8% from pretreatment level. (Table-2).

LDL level decreased significantly (P=0.0098) from 127.4± 21.6 mg/dl (119.8 ± 134.9) to 113.1±19.8 mg/dl (95%CI 105.5-120.6) and the reduction percentage was 11.2% from that of baseline level. (Table-2). Total cholesterol level was reduced significantly (P=0.005) from 207.6±26.6 mg/dl (95%CI 198.3-216.9) to 188.9± 23.9 mg/dl (95%CI 179.6-198.1) and the percentage of reduction was 9% from the baseline level. (Table-2). MDA level was observed to decrease from 5.3± 1.7 µmol/l (95%CI 4.8-5.9) to 4 ±1.5 µmol/l (95%CI 3.5-4.6) and this change was statistically significant (P=0.02). Reduction of MDA was 26% from the baseline level. (Table-2).

Total antioxidant capacity level increased from 703±139 µmol/l (95%CI 662-744) to 815±104 µmol/l (95%CI 770-860) which was statistically significant (P=0.008). The treatment demonstrated an increase by 15.9% from pretreatment level. (Table-2).

Effect in total patients
Triglyceride level was reduced from 185.7 ± 40.1 mg/dl (95% CI 178-193.4) to 144.1 ± 27.4 mg/dl (95%CI 136.4-151.8) and this change was statistically significant (P=0.001). Reduction of triglyceride was 22.4% from the baseline level. (Table-3).

VLDL level was observed to decrease from 37.1 ± 8.1 mg/dl (95%CI 33.5-38.6) to 28.8 ± 5.5 mg/dl (95%CI 27.2-30.4) and this reduction was statistically significant (P=0.001). Percentage change of VLDL was 22.1% decrease from baseline. (Table-3).

HDL level increased significantly (P=0.001) from 40.3±5.4 mg/dl (95%CI 39.1-41.5) to 44.8±5.1 mg/dl (95%CI 43.7-46) and the percentage of increase in HDL was 15.4% from pretreatment level. (Table-3). LDL level decreased significantly (P=0.001) from 127.7± 20.7 mg/dl (95% CI 123.3-132.1) to 108.6 ± 18.5 mg/dl (95%CI 104.2-113) and the reduction percentage was 17.3% from that of baseline level. (Table-3). Total cholesterol level was reduced significantly (P=0.001) from 204.6± 26.3 mg/dl (95% CI 199.2-210.1) to 181.6± 22.2 mg/dl (95%CI 176.2-

187) and the percentage of reduction was11.3% from the baseline level. Table3. MDA level was observed to decrease from 4.5± 1.7 µmol/l (95%CI 4.4-5) to 3.7 ±1.2 µmol/l (95%CI 3.4-4) and this change was statistically significant (P=0.001). Reduction of MDA was 21.3% from the baseline level. (Table-3).

Total antioxidant capacity level increased from 738±116 (95%CI 715-762) to 825±94 µmol/l (95%CI 801-849) which was statistically significant (P=0.03). The treatment demonstrated increase by 11.8% from pretreatment level. (Table-3).

Z- Proportion test was done to see the differences in percentage change of lipid profile, MDA and total antioxidant capacity between male, female and total patients groups after 12 weeks of treatment course. The analysis did not indicate any significant differences between the three groups.

Comparison of triglyceride, VLDL, HDL, LDL, total cholesterol, MDA and total antioxidant capacity mean levels in serum of female psoriatic patients to that of male patients before treatment initiation demonstrated a

Variable	Male Mean (SD) 95% Confidence interval	Female Mean (SD) 95% Confidence interval	P value
Age in year	33.7 [12.3]	34.1 [12.4]	> 0.05
Triglyceride mg/dl	188.1 [42.8] 178.1 – 198.2	182.4 [35.5] 169.8 – 193.9	0.50
Very Low Density Lipoprotein mg/dl	37.6 [8.6] 35.6 – 39.7	36.1 [7.4] 33.6 – 38.6	0.43
High Density Lipoprotein mg/dl	37.6 [2.3] 36.8 – 38.5	44.6 [6.2] 42.3 – 46.9	0.001
Low Density Lipoprotein mg/dl	127.9 [20.3] 122.5 – 133.3	127.4 [21.6] 119.8 – 134.9	0.91
Total cholesterol mg/dl	202.8 [26.2] 196.1 – 209.4	207.6 [26.6] 198.3 – 216.9	0.43
Malondialdehyde µmol/l	4.3 [1.3] 4 – 4.7	5.3 [1.7] 4.8 – 5.9	0.044
Total antioxidant capacity µmol/l	761 [94] 728 - 793	703 [139] 662 - 744	0.032

Table 4: Comparison of pre-treatment mean serum levels of lipid profile, MDA, and TAC in male versus female psoriatic patients

Variable	Male Mean (SD) 95% Confidence interval	Female Mean (SD) 95% Confidence interval	P value
Age in year	33.7 [12.3]	34.1 [12.4]	> 0.05
Triglyceride mg/dl	142.1 [25.2] 132.1 – 152.2	147.3 [30.3] 135.4 – 159.2	0.42
Very Low Density Lipoprotein mg/dl	28.4 [5.1] 26.4 – 30.4	29.5 [6.2] 27 - 32	0.40
High Density Lipoprotein mg/dl	43.4 [3.5] 42.5 – 44.3	47.1 [6.3] 44.8 – 49.4	0.001
Low Density Lipoprotein mg/dl	105.8 [17.3] 100.4 – 111.2	113.1 [19.8] 105.5 – 120.6	0.092
Total cholesterol mg/dl	177.1 [20.0] 170.4 – 183.3	188.9 [23.9] 179.6 – 198.1	0.022
Malondialdehyde µmol/l	3.4 [0.94] 3.1 – 3.7	4.0 [1.5] 3.5 – 4.6	0.027
Total antioxidant capacity µmol/l	831 [88] 805 - 857	815 [104] 770 - 860	0.47

Table 5: Comparison of post - treatment mean serum levels of lipid profile, MDA, and TAC in male versus female psoriatic patients

significant difference for HDL (P=0.001), MDA (P=0.04) and total antioxidant capacity (P=03) only (Table-4). When the same analysis was performed at post treatment mean levels, there was a significant differences between male and female groups in serum levels of HDL (P=0.001), total cholesterol (P=0.022) and MDA (P=0.027) only. (Table-5).

Regression line analysis demonstrated that total antioxidant capacity serum levels had a significant inverse correlation with levels of MDA (R^2 = -0.85; P=0.001; 95% CI -0.77, -0.90), triglyceride (R^2 =-0.6, P=0.001; 95% CI -0.44, -0.73), VLDL (R^2 =-0.6, P=0.001; 95% CI -0.44, -0.73), LDL (R^2 =-0.7, P=0.001; 95% CI -0.57, -0.8), and total cholesterol (R^2 =-0.65, P=0.001; 95% CI -0.5, -0.76). In addition, total antioxidant capacity levels had a

Variable	Malondialdehyde R^2 [95% Confidence interval]	Total antioxidant capacity R^2 [95% Confidence interval]
Triglyceride	0.58 0.41, 0.71 P= 0.001	- 0.60 - 0.44, - 0.73 P= 0.001
Very Low Density Lipoprotein	0.58 0.41, 0.71 P= 0.001	- 0.60 -0.44, -0.73 P= 0.001
High Density Lipoprotein	- 0.34 - 0.13, - 0.52 P = 0.01	0.32 0.11, 0.51 P = 0.02
Low Density Lipoprotein	0.65 0.50, 0.76 P= 0.001	- 0.70 - 0.57, -0.80 P= 0.001
Total Cholesterol	0.59 0.42, 0.72 P= 0.001	- 0.65 - 0.50, -0.76 P= 0.001
Malondialdehyde		- 0.85 - 0.77, - 0.90 P= 0.0001
Total Antioxidant Capacity	- 0.85 - 0.77, -0.90 P= 0.0001	

Table 6: Correlation among Malondialdehyde, Total antioxidant capacity, age and lipid profile in patients with psoriasis

Variable	Number [percent]
Flushing	12 [15.6]
Headache	4 [5.2]
Fatigue	2 [2.6]
Abdominal pain	2 [2.6]
Dyspepsia	4 [5.2]
Total	24 [31.2]

Table 7: Adverse effects in course of treatment

significant correlation with levels of HDL (R^2 =0.32, P=0.02; 95% CI 0.11, 0.51). However, MDA serum levels had an inverse correlation with HDL (R^2 =-0.34, P=0.01; 95% CI -0.13, -0.52). Furthermore, MDA serum levels had a significant correlation with levels of triglyceride (R^2 =0.58, P=0.001; 95% CI 0.41, 0.71), VLDL (R^2 =0.58, P=0.001; 95% CI 0.41, 0.71), LDL (R^2 =0.65, P=0.001; 95% CI 0.5, 0.76), total cholesterol (R^2 =0.59, P=0.001; 95% CI 0.42, 0.72). (Table-6).

Treatment related adverse effects were reported in 24 patient (24.2%) receiving the drugs combination course. The common adverse effect was the transient flushing which was reported in 15.6% of patients. Headache and dyspepsia were reported in 5.2% of patients, while fatigue and abdominal pain were reported in 2.6% of cases, (Table-7).

Discussion

This study shows that combined therapy of niacin and garlic for 12 weeks significantly decreased triglyceride, total cholesterol, LDL, VLDL, from baseline in dyslipidemic patients with psoriasis. The combination also significantly increased HDL in the same group of patients. Several reported studies of drug combinations produced quantitatively similar effects in dyslipidemic patients [33, 36-40]. In the present study, niacin administration in combination with garlic significantly decreased triglyceride by 22.4%, total cholesterol by 1.3%, VLDL by 22.4%, and LDL by 14.9% and increased HDL by 1.2% from baseline. This result was lower for triglyceride, total

cholesterol, LDL and higher for HDL to that reported before [33]. Another studies reported a higher percentage of reduction from baseline [36, 37]. The differences of percentages of lipid profile were probably due to variation in duration of treatment course, doses, and the drug combined with niacin. Gender does not seem to influence the reduction in lipid profile, with the exception of HDL which significantly increased more in females following treatment, compared to male patients.

Niacin mainly acts by inhibition of lipolysis of triacylglycerol in adipose tissue via inhibition of hormone sensitive triglyceride lipase leading to reduction in circulating levels of non-esterified fatty acids. As results, there is a reduction in plasma level VLDL-triglyceride, LDL, and decrease in the rate of removal of ApoA-1 (the major apolipoprotein of HDL) by the liver [41]. There is also evidence that nicotinic acid stimulates cholesterol efflux via an ATP-binding cassette transporter A1 (ABCA-1) mediated mechanism and decreases HDL uptake by the liver [42, 43], which contributes to the HDL raising effect.

Garlic cardio protective effects have been evaluated extensively in recent years. In animal experiments, garlic extracts have been shown to lower plasma lipids and cholesterol [30, 44-50]. Moreover, a number of reported studies indicated that garlic significantly reduced plasma lipids [26,27,29,50,51,52]. Garlic contains a variety of organosulfur compounds, amino acids, vitamins and minerals [53]. Some of the sulphur compounds such as allicin, ajoene, S-allylcystine, diallyl disulfide, and S-methyl cysteine sulfoxide may be responsible for the therapeutic properties of garlic [45]. Animal studies have shown that garlic supplementation in the diet depressed the hepatic activities of lipogenic and cholesterogenic enzymes such as 3-hydroxy-3-methyl-glutaryl-CoA reductase [54].

Our study suggests that garlic reduces triglyceride, VLDL, LDL, total cholesterol and increases HDL. Different studies reported variable effects of garlic on dyslipidemia [26-30,50-57]. However, HDL should be investigated in more clinical trials. Stevinson et al [58] in a meta analysis of randomized clinical trials on antihyperlipidemic effect of garlic explained that a slight increase in HDL was not significantly different from the effect of placebo. Our study demonstrated significant (P=0.0001) increasing of HDL by 11.2% from baseline, a finding consistent to that reported by Kojouri et al [30].

The present study shows that a combination of niacin and garlic therapy decreased MDA by 21.3% and increased TAC by 1.8% from baseline. This percentage difference was statistically significant (P<0.0001), for male, female and all cases collected together. This finding was consistent with the reported studies [59-63].

Niacin is able to scavenge oxygen radicals; it does not scavenge nitric oxide [50]. However, nicotinamide inhibits nitric oxide synthase mRNA induction in activated macrophages [26]. In addition, garlic contains antioxidant compounds and increases nitric oxide production and decreases the output of inflammatory cytokines. These data suggest that garlic and niacin may improve impaired oxidant / antioxidant disequilibrium. Effectiveness of garlic could be due to its ability to scavenge oxygen free radicals. However, allicin prevented lipid peroxidation of liver homogenate in a concentration dependent manner. These results suggest that allicin scavenges hydroxyl radicals and garlicin has antioxidant activity [64]. Extracts of fresh garlic that are aged over a prolonged period contain antioxidant phytochemicals that prevent oxidant damage [65,66]. Garlic extracts exert antioxidant activity by scavenging ROS, enhancing the cellular antioxidant enzymes superoxide dismutase, catalase and glutathione peroxidase and increase glutathione in the cells [59]. Garlic inhibits lipid peroxidation and these effects are determined by inhibition of thiobarbituric acid reactive substances and this explains the reduction of serum level of MDA

following treatment with niacin - garlic as this study indicated.. Garlic reduces ischemic / reperfusion damage and inhibits oxidative modification of LDL, thus protecting endothelial cells from the injury by the oxidized molecule, which contributes to atherosclerosis [67]. The post treatment studied biomarkers demonstrated a significant inverse correlation with TAC serum levels and a significant correlation with MDA serum levels. However, there was a significant correlation between TAC and HDL serum levels. Furthermore, MDA serum levels were with an inverse correlation to HDL serum levels.

To our knowledge, this the first study that evaluates the therapeutic effect of combined therapy for dyslipedemia in psoriatic patients. This study suggests that niacin-garlic combination is effective in reduction of triglyceride, VLDL, LDL, MDA, total cholesterol and increased HDL and TAC. Thus niacin- garlic combinations could be of special value in the treatment of psoriasis dyslipidemia. The anti-inflammatory activity of both niacin and garlic, antioxidant effects of both, and their effect on dyslipedemia suggest that this combination may be of benefit in the treatment of psoriasis.

However, this study was conducted on a small number of patients (78 patients), in a single centre and follow up was limited to 12 weeks only. As the trial duration was short, analysis of long term effects [development of stroke or myocardial infarction, etc.] and safety was not possible. This study needs further extensive investigation with randomized double blind, multicenter trials with different doses scheduled and different combinations for better assessment of long term effect and safety profile. Molecular studies to reveal the underlying mechanisms are warranted.

In conclusion, this study indicated that a combination of niacin and garlic was effective in reducing triglyceride, VLDL, LDL, total cholesterol, and increased HDL. This modification may restore

dyslipedemia in patients with psoriasis and prevent or modify atherosclerotic process. The antioxidant constituents of garlic and niacin may act in a synergistic or additive fashion and protect cells against oxidative damage and protect against metabolic and cardiovascular changes in patients with psoriasis.

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The Role Of Fine Needle Aspiration In The Assessment Of The Adult Neck Mass

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Abstract

Aim: To evaluate the results of fine needle aspiration (FNA) taken for neck in Jordanian adults.

Method: A retrospective study was performed in King Hussein Medical Center between January 2004 and June 2009 on 92 patients aged between 18 and 72 years who underwent FNA as a diagnostic procedure for suspected neck mass. The medical records, pathology reports, and radiological studies were reviewed and a data base was constructed. Information regarding age, sex, smoking history, duration, location, bilateralism, number of masses, size of the neck mass, the FNA results, and final pathology results were evaluated.

Results: 55 lesions (59.8%) were reactive or non neoplastic, 29 lesions (31.5%) were neoplastic. Of the neoplastic lesions, 17 (18.5%) were benign, and the remaining 12 lesions (13.0%) were malignant. Regarding the location of the mass 55 lesions (59.8%) were in the anterior triangle , while the posterior triangle masses formed only 10 lesions (10.9%), and the remaining 27 lesions (29.3%) were in the submandibular region.

Conclusion: Increasing patient age and size and duration of neck mass render the mass more likely to be neoplastic. FNA cytopathology is capable of specifically sub typing a large percentage of primary and metastatic types of tissue tumors.

Key words: Adults, Fine needle aspiration, neck mass.

Introduction

Neck masses are one of the most important considerations in adults because they may represent a metastatic deposit from a primary cancer (1). More than 75% of lateral neck masses in patients older than 40 years are caused by malignant tumors (2). A careful medical history can provide important clues to diagnosis of a neck mass (1).

The patient's age, the size and the duration of the mass are the most significant predictors of neoplasia. Adult neck masses can be manifestations of a congenital anomaly (3), inflammatory and infectious conditions (3, 4), trauma (6), or neoplastic (7, 8). Neoplastic causes for neck masses are the most important since they account for 2% of cancer related deaths (9). The aim of this study was to evaluate the results of FNA taken for neck masses in Jordanian adults.

Methods

A retrospective study was performed in King Hussein Medical Center between January 2004 and June 2009, on 92 patients aged between 18 and 72 years who underwent FNA as a diagnostic procedure for suspected neck mass.

The medical records, pathology reports, and radiological studies were reviewed and a data base was constructed. Information regarding age, sex, smoking history, duration, location, and bilateralism, number of masses, size of the neck mass, FNA results, and final pathology results were evaluated. The location of the mass was classified as anterior triangle, posterior triangle, or submandibular region. The characteristics of the mass were based on physical examination. Patients with a history of malignant neoplasm of the head and the neck were excluded from the analysis.

Results

The results FNA pathology: 55 lesions (59.8%) were reactive or non neoplastic, and 29 lesions (31.5%) were neoplastic. Of the neoplastic lesions 17 (18.5%) were benign, and the remaining 12 lesions (13.0%) were malignant.

Regarding the location of the mass 55 lesions (59.8%), were in the anterior triangle while the posterior triangle mass formed only 10 lesions (10.9%), and the remaining 27 lesions (29.3%), were in the submandibular region. The results of benign neoplastic lesions 17 (18.5%) are summarized in Table (1).

Lesion	Number (17 lesion)
Benign adipose tissue (lipoma)	6
Epidermal inclusion cyst	4
Myxoma	2
Giant cell tumor, tendon sheath	2
Leiomyoma	2
Fibromatosis	1

Table 1

While the result of malignant lesions 12 (13%), are summarized in Table (2).

Lesion	Number (12 lesion)
Metastasizing neoplasm	4
Non-Hodgkin lymphoma	3
Ewing sarcoma	2
Osteosarcoma	1
Malignant fibrous histiocytoma	1
Epithelioid angiosarcoma	1

Table 2

Discussion

FNA is an effective means for determining the histology of most head and neck lesions. The value of FNA includes its low invasiveness. Non-image- guided FNA of palpable lesions is well established as an accurate diagnostic tool in the head and neck, particularly in the salivary glands (10-12). FNA via transoral approach for visible parapharyngeal space lesions is an option with an accuracy of 78%-86% (13, 14).

Increasing patient age and size and duration of the neck mass render the mass more likely to be neoplastic. Duration is the least powerful predictor; sex, location, history of smoking, and the number of masses does not have a statistically significant risk for malignancy. The overall rates of neoplasia (31.5%), and malignancy (13.0%), in this series were somewhat lower than expected, given the largely adult population.

Other studies have noted neoplasia and malignancy rates of (53% to 80%), for neck masses in adults when thyroid disease is excluded, (15). The most common benign neoplasm was lipoma while the most common malignancy was metastasizing neoplasm. We have verified that the minimally invasive approach of FNA can be applied successfully to benign and malignant soft tissue masses and is capable of sub-typing most malignant soft tissue tumors. FNA biopsy must be incorporated as a part of a team approach that involves integration of clinical, radiological and morphological data.

Increasing patient age, size and duration of the neck mass render the mass more likely to be neoplastic. FNA cytopathology is capable of specifically sub typing a large percentage of primary and metastic soft tissue tumors.

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Hyper-reactive malarial splenomegaly: therapeutic overview in Lahj Governorate, Yemen

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Abstract

Background: The three study areas are known as famous endemic areas of malaria, shistosomiasis and other tropical diseases in Lahj governorate. The study aimed to assess the response of proguanil HCl in patients with massive splenomegaly of different causes and to identify the HMS. Methods: A prospective study was conducted during September to April, 2009-2010. Seventy three cases of moderate-huge splenomegaly from three areas in Lahj governorate were clinically evaluated. Patients were treated with proguanil HCL for 6 months and at the end clinical assessment was done. Data analysis was performed using the SPSS version 17. A p-value of < 0.05 was considered as statistically significant. Results: The study patients were 73, male to female ratio 1.7:1, and the age ranged between 10 to 57 years, with a mean age 24 ± 12.4 years. Patients were predominant in age group 10-19 years. Huge splenomegaly was in 76.7% of patients and moderate splenomegaly was in 23.3%. Distribution of huge and moderate splenomegaly in relation to areas, revealed a significant relationship (p< 0.05). After therapy, complete regressions were of all 56 (76.7%) huge splenomegaly, while 17 (23.3%) patients of moderate splenomegaly did not respond (p < 0.05). It was confirmed that the 56 cases of huge splenomegaly were HMS. Conclusion: We conclude that the majority of massive splenomegaly in these rural areas are Hyper-reactive Malarial Splenomegaly (HMS).

Key words: massive splenomegaly, hyper-reactive malarial splenomegaly, proguanil HCl

Introduction

Several reports have been published over the last century describing patients from tropical areas with massive splenomegaly. After excluding known causes of splenomegaly, Tropical Splenomegaly Syndrome (TSS) was defined as a separate entity (1,2,3). This condition was later defined as Hyperreactive Malarial Syndrome (HMS) using clear diagnostic criteria (4,5).

HMS develops as a result of an atypical immune response to recurrent malarial infection. Certain racial and immunologic functions may be important in the pathogenesis of HMS (6).

HMS is well recognized as the disorder most commonly associated with massive tropical splenomegaly (2,7,8). Bates et al (9) reported that HMS is a syndrome of massive, unexplained splenomegaly occurring in a malarious region, accompanied by lassitude, fever, weight loss, hypergammaglobulinemia, especially IgM, and cryoglobulinemia. A clinical response to prolonged antimalarial prophylaxis is diagnostic (10), but the pathogenesis is unclear. In some patients, the condition will progress to splenic lymphoma with villous lymphocytes. The HMS which represents an aberrant response to malaria is characterized by high antimalarial antibody titers. The immunologic process stimulates the reticuloendothelial hyperplasia and eventually produces splenomegaly (11,12). Some residents of tropical Africa and Asia, exhibit an abnormal immunological response that is characterized by massive splenomegaly, and marked elevation in serum of IgM (11), and malarial parasites cannot be found in peripheral blood smear. Patients with HMS who are living in endemic area should receive antimalarial chemoprophylaxis; the results are usually good (13,14). Bedu-Addo et al (10) reported that splenomegaly

due to a primary disease of the spleen (rather than tropical disease such as malaria) is relatively infrequent in the tropics, and the determination of the cause of spleen enlargement rests on the diagnosis of the underlying condition. Many causes and diagnoses of massive tropical splenomegaly are not well studied, especially with modern investigative methods (11).

The objectives of our study were; firstly to study the massive tropical splenomegaly cases related to sex, age and area, secondly to assess the response of proguanil HCL in patients with massive tropical splenomegaly of different causes and thirdly to identify the hyperreactive malarial splenomegaly.

Materials and Methods

Type and period of the study: This was a prospective study. It was carried out during the months of September to April, 2009-2010.

Study area: Karesh, Akkan and Al-Musaimer are rural areas in Lahj governorate, Yemen. They were selected because they are known as famous endemic areas of malaria, shistosomiasis and other tropical diseases. According to census 2004, the estimated population of the three areas in 2009 is 41,385 individuals (Karesh 14,827; Akkan 822; and Al-Musaimer 25,736) (15).

Study sample: The study sample was 73 patients (46 males and 27 females) who fulfilled the applied diagnostic criteria for moderate-huge tropical splenomegaly syndrome who were screened previously from all patients who presented with massive splenomegaly, during the field visits (Twice weekly for three consecutive weeks) by the authors, in September 2009.

Splenomegaly diagnosis: We collected clinical and paraclinical information and data about the presence of different enlarged spleen. Due to lack of facilities in the areas, the socioeconomic difficulties and poverty, further laboratory and paraclinical assessment of the etiology of the splenomegaly was not possible. It was impossible to apply all the criteria for diagnosis of massive tropical splenomegaly which was published first by Greenwood et al (16) than Fakulne (3) and Bates et al (5). We applied only five of these criteria:

- Gross splenomegaly 10 cm or more below the costal margin in adults for which no other cause can be found.
- Clinical and immunologic responses to antimalarial therapy.
- Regression of splenomegaly by 40% by 6 months after start of therapy.
- Moderate splenomegaly (palpable between the left costal margin and the umbilicus).
- Huge splenomegaly (palpable under the left costal margin to the left iliac fossa or right iliac fossa, not before the umbilicus)

In all patients a detailed clinical history and physical examination were carried out. Spleen size was measured along the longest palpable axis of the organ.

Any patient with a serious concomitant condition, such as severe renal, hepatic impairment, lymphadenopathy, leukemia and ascitis, was excluded from the study, as this could interfere with parameters under clinical evaluation.

The use of antiparasitic agents was prohibited. An initial curative antimalarial course was permitted when necessary.

Treatment: Indistinguishable tablets containing 100 mg proguanil hydrochloride were prescribed and patients assigned to receive one, or one and a half, of the drug (one tablet for those less than 45 kg and one and a half tablets for >45kg), which they were instructed to take once a day after a meal for 6 months, in addition to 5 mg folic acid. An explanation to the patients about the expected possibility of side-effects and beneficial effects was applied.

Evaluation of the patients and the treatment: Assessment for clinical signs and symptoms of side-effects was done regularly in Al-Musaimer health center and monthly by the authors. The final clinical reassessment was done after 3-6 months (in the first week of January 2010, then in the second week of April 2010). All the attendant cases at the beginning continued until the end of the study.

Data analysis: The data analysis was performed by using the SPSS version 17. Standard approaches were used including frequencies, percentages, descriptive summaries with mean, rates and Chi-square (X 2). A p-value of < 0.05 was considered to indicate the level of significance throughout the study.

Ethical consideration of the study: For ethical purposes the study was conducted after permission from and arrangements with the Directorate of Health Affairs and Population in Lahj Governorate. Informed consent was obtained from the patients and from their relatives orally. It was clearly explained to the patients and to relatives about the expected possibility of side-effects and beneficial effects.

Results

The total number of patients involved in this study was 73; of these, 46 (63%) were males and 27 (37%) females giving a male to female ratio of 1.7:1, Figure 1 - opposite page.

The age of the patients ranged between 10 and 57 years, with a mean age 24 ± 12.4 years. The male and female patients were predominant in the age groups 10-19 years and 20-29 years as appears in Table 1. The difference between affected males and females was not statistically significant (p > 0.05).

The study patients were 37 (50.6%) from Karesh, 14 (19.2%) from Akkan and 22 (30.2%) from Al-Musaimer area as shown in Table 2.

Table 3 presents the degree of spleen enlargement of patients at the beginning of the study related to the areas. Huge spleen enlargement was the most common presenting feature; it occurred in 56 (76.7%) while moderate spleen enlargement was found in 17 (23.3%). Huge spleen
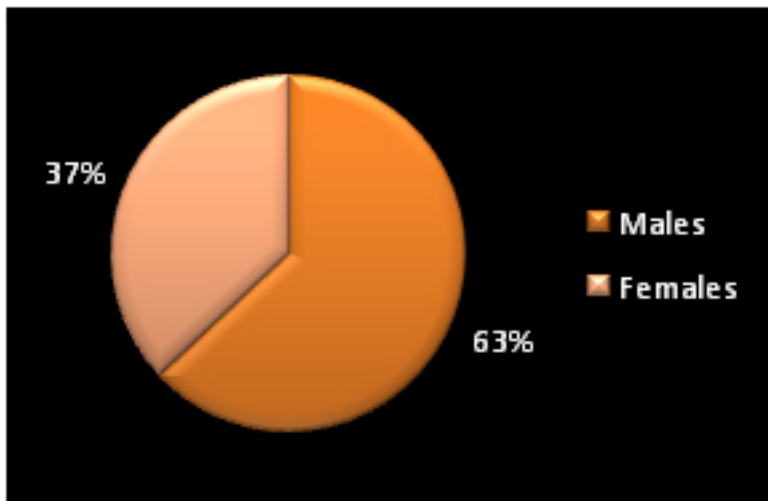
Figure 1: Distribution of patients according to sex

Age group	Males	Females	Total
10-19	24 (66.7%)	12 (33.3%)	36 (49.3%)
20-29	11 (64.7%)	6 (35.3%)	17 (23.3%)
30-39	6 (60%)	4 (40%)	10 (13.7%)
≥ 40	5 (50%)	5 (50%)	10 (13.7%)
Total	46 (63%)	27 (37%)	73 (100%)

P > 0.05
Table 1: Distribution of patients according to age and sex

District	No	%
Karesh		50.6
Akkan	14	19.2
Al-Musaimer	22	30.2
Total	73	100

Table 2: Distribution of massive splenomegalic patients related to the areas (n=73)

District	Inhabitants	Moderate		Huge		Total	
		No	%	No	%	No	%
Karesh	14827	4	10.8	33	89.2	37	50.6
Akkan	822	10	71.4	4	28.6	14	19.2
Al-Musaimer	25736	3	13.6	19	86.4	22	30.2
Total	41385	17	23.3	56	76.7	73	100

Chi-square = 22.5 ; probability = 0.000
Table 3: The degree of spleen enlargement on arrival n=73

enlargement was predominant in patients from Karesh and Al-Musaimer areas, 33(89.2%) and 19 (86.4%) respectively. Moderate spleen enlargement was predominant in 10 (71.4%) patients from the Akkan area. The difference of values is statistically significant (p< 0.05).

Table 4 (next page) shows the degree of spleen enlargement related to sex. The huge splenomegaly was predominant in male and female patients with 78.3% and 74.1% respectively, (p > 0.05).

Table 5 and Figure 2 show the result obtained after the application of the proguanil HCl therapy. Spleen was

no longer palpable, below the costal margin in approximately 56 (76.7%) patients after 6 months, while, 17 (23.3%) of the patients, did not respond in any way. All complete regressions were found in patients with huge splenomegaly. The difference between values shows a statistical significance (p < 0.05).

Sex	Moderate	Huge	Total
Males	10 (21.7%)	36 (78.3%)	46 (63%)
Females	7 (25.9%)	20 (74.1%)	27 (37%)
Total	17 (30.4%)	56 (69.6%)	73 (100%)

P > 0.05

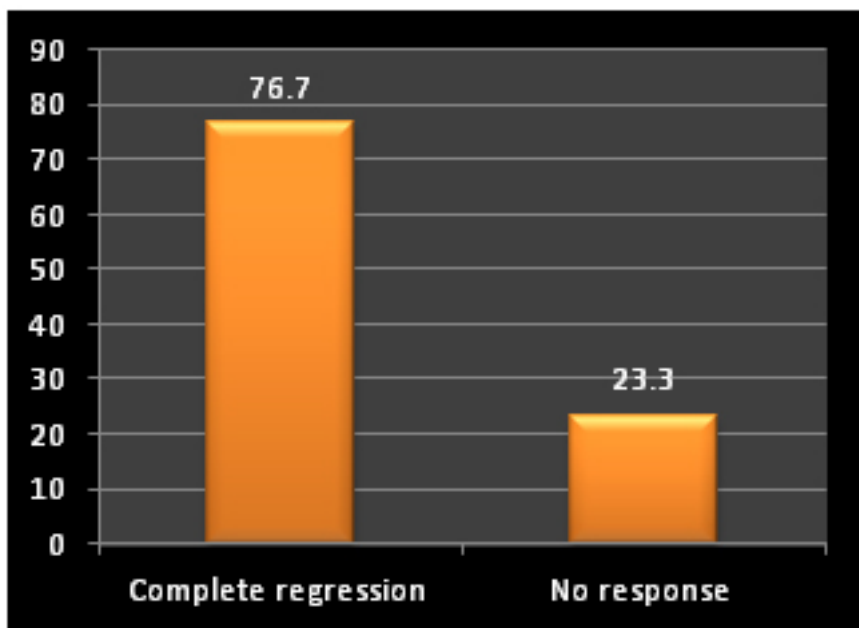**Table 4: Distribution of degree of spleen enlargement related to sex**

Figure 2: Degree of responsiveness of patients to Proguanil HCL after 6 months

Degree of responsiveness	Moderate		Huge		Total	
	No	%	No	%	No	%
Complete regression	0	0.0	56	100	56	76.7
No response	17	100	0	0.0	17	23.3
Total	17	23.3	56	76.7	73	100

Chi-square = 73.0 ; probability = 0.000

Table 5: Degree of responsiveness of patients to Proguanil HCL after 6 months

Discussion

To our knowledge, the current study was the first or one of the rare studies to assess the response of proguanil hydrochloride in patients with massive splenomegaly of different causes in three rural areas of Lahj governorate. These three rural areas Karesh, Akkan, and Al-Musaimer are known as famous endemic areas of malaria, shistosomiasis and other tropical diseases.

As this study was limited to the three endemic areas, it may not entirely reflect the true frequency of massive splenomegaly and the different causes, but it probably provides some indicators to the pattern of massive splenomegaly, pattern, frequency and response to proguanil HCL therapy.

This study firmly established the importance of further comprehensive studies to find out the true indices of the prevalence, incidence,

and causes of the different types of tropical splenomegaly in Lahj governorate.

In this study, a predominance of massive tropical splenomegaly among male patients was observed, with a ratio male to female 1.7:1.

The rate of males and females affected by tropical massive splenomegaly vary in different studies. There appears to be geographical differences in the rate of affected males and females. In

Zambia, the ratio of males to females was 2.2:1 (17), in Sudan 1.3:1 (18), in India 1:1.6 (19) and in Ghana 1:1.8 (10).

In our study the age of the patients ranged between 10 and 57 years, with a mean age of 24 ± 12.4 years. The age distributions have a frequency peak in patients aged between 10 to 19 years with (49.3%). This result was in accordance with other studies (10,18,19).

In the present study, we observed a highly significant relationship between values of moderate and huge splenomegaly among patients from the three rural areas with different numbers of inhabitants (p < 0.05).

The study revealed that at the end of 6 months therapy with proguanil HCl, the spleen was no longer palpable, below the costal margin in all 56 patients with huge splenomegaly compared to 17 patients with moderate splenomegaly not responded to proguanil HCl therapy (p < 0.05). This result appeared in all patients with huge splenomegaly who had hyper-reactive malarial splenomegaly while all other patients with moderate splenomegaly had other diseases which caused the massive splenomegaly. The therapy with proguanil HCl for our patients was characterized by absence of side-effects. Similar findings were reported by others from different countries (10,17,18,20,21,22).

Conclusion

We carried out this study in three areas known as endemic areas of malaria, shistosomiasis and other tropical diseases. It was an attempt to identify the HMS by treatment of patients complaining of massive tropical splenomegaly with proguanil HCL, and the therapy outcome.

The results illustrated that male patients were predominant; the age distributions have a frequency peak in patients aged between 10 to 19 years and the majority of patients were with huge splenomegaly.

All patients of huge splenomegaly showed significant clinical improvement after 6 months therapy with proguanil HCl and they had hyper-reactive malarial splenomegaly. Proguanil HCl had excellent therapeutic effect on HMS and the absence of side-effects; it is a logical choice to replace other anti-malarial agents.

Further comprehensive studies are needed to find out the true incidence and prevalence indices of the different types of tropical splenomegaly and their causes in these areas.

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Introduction and initial evaluation of a newly designed teaching course for medical faculty members in Erbil, Iraq

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Abstract

Objective: The aim of this study is to provide a general description of a newly designed teaching course for faculty members of the medical colleges and assess the course from participants' perspectives.

Methods: The reactions of 28 course participants were sought in respect of their experiences as trainee teachers through a self-completing questionnaire. The participants were asked to rate their satisfaction with the organization aspects of the course, the contents of each session and the lecture quality. They were also invited to provide free comments about the course and any suggestions for future courses.

Results: A high proportion of the participants rated the different scientific content of most of the sessions as useful. The particularly well received sessions included teaching methods and learning (96.2%), ideal lecture (96.2%), motivation to raise standard of lecture (92.9%), principles of lecturing (92.9%) and regulations and instructions (92.6%). The participants had concerns about placing little emphasis on the practical aspects and active participation in the sessions and stressed the importance of having course evaluation focusing on practical teaching skills rather than theoretical knowledge.

Conclusion: The participants found the course useful and certainly worth attending. Several suggestions were made for improving the course design like integrating course subjects, increasing the number of practical sessions and placing more emphasis on the practical skills in the course evaluation.

Keywords: Teaching course, medical education, participants' perspective.

Introduction

Teaching in medical school requires special training and skills. This is primarily due to the innovative nature of the field and the strong social demand that future doctors should acquire sufficient interpersonal skills to deal with various patients (1). Faculty development programs are particularly important in enhancing the efficiency and performance of teaching skills of medical educators. These programs can be a powerful tool to constitute a positive institutional climate and can considerably improve work satisfaction and teaching confidence by developing good teachers (2,3). Such programs can range from basic orientation programs for new faculty members to postgraduate medical education programs for health professionals. These courses are especially important in adapting faculty members to their changing roles in initiating and setting the directions for curricular changes (4,5).

In general, there are four main components or themes in most faculty development programs including professional, instructional, leadership, and organizational (6,7). Research has shown that the majority of faculty development programs include workshops, seminar series, short courses, and longitudinal programs. Key features of effective faculty development give a high priority to experiential learning, provision of feedback, effective peer and colleague relationships, well-designed interventions in accordance with the principles of adult learning theory, and the use of diverse teaching and learning methods (8).

The medical schools in Iraq have always depended on the general teaching methods training courses provided by the local colleges of education that usually target all teachers from different educational fields and backgrounds. These

courses are conducted in Arabic language and do not have any components particularly addressing the specific needs of medical education. Years ago, this teaching methods course was mandatory for faculty members before indulging in teaching activities. Currently there is some flexibility with this course as faculty members can start teaching activities before starting the course, but it is still a requirement for later scientific promotion.

With the establishment of Hawler Medical University in 2005 that included the four already existing colleges of medicine, dentistry, pharmacy and nursing from Salahaddin University in Erbil, Iraq and faced with many challenges in medical education, Hawler Medical University has designed a specific teaching methods course that targets faculty members in these four colleges.

The aim of this study is to provide a general description of this teaching methods course and assess the course from participants' perspectives.

Description of the course
The course was designed to enable faculty members to improve their skills in teaching and assessment methods. The course was first conducted in October 2008 for 30 students and it is provided two times a year where 25 to 35 teachers are involved each time.

The course is run for three weeks based at Hawler Medical University and covers different topics that are specifically designed for the medical field. A total of 30 hours are taken up during the course. The course is conducted in an interactive way, consisting mainly of lectures with open discussions. The specific topics covered are 16 in number. The topics could be divided into five major themes:

1. Educational; dealing with teaching and learning in general: four topics.
2. Personality, medical ethics and communication skills: seven topics

3. Technological; concerned with aids of teaching mostly power point presentation and audiovisual aids: two topics
4. Scientific article; related to how to write scientific article and publishing in medical journal: two topics
5. Regulations and instructions; concerned with regulations and instructions of higher education in the region: one topic

At the end of the course the participants will be evaluated through written examination and individual oral presentation. In the oral presentation part, the participants are asked to demonstrate the teaching techniques they had acquired in a presentation of their own design. The course program is based on a teaching methods manual that had been originally produced by Hawler Medical University for this course (9).

The instructors of the course are experienced faculty members from different departments of the College of Medicine of Hawler Medical University who had a specific interest in medical education, willing to devote part of their professional time to faculty development in Hawler Medical University.

Methods
During the 6th course that was conducted in February 2011 with the participation of 32 teaching staff members, the reactions of the course participants were sought in respect of their experiences as trainee teachers on this course. A questionnaire developed by the course organizers was circulated on the first day of the course. The course participants were requested to fill in the questionnaire on a daily basis and return it to the course secretary after completing the course. The questionnaire was anonymous and the participants were informed on keeping their anonymity.

In the first part of the questionnaire the participants were asked to rate their satisfaction with three different aspects of the course (organization, time schedule and suitability of lecture hall), on a 5-point scale (excellent, good, fair,

poor, very poor). In the second part of the questionnaire, the participants were asked to rate the contents of each session and the lecture quality in terms of 'usefulness', on a 5-point scale (very useful, useful, fair, useless, very useless). No qualification of this concept was given in terms of subject discussed, teaching quality, or organization, but an overall impression was requested of how each session was received. In the third part of the questionnaire, free comments about the course and any suggestions for future courses were invited.

Quantitative data analysis comprised calculating means and SD for the ratings of different items and calculating the proportion of satisfaction among the participants including those rating the different items from 3 to 5.

The qualitative data analysis comprised thematic analysis of the free comments using common coding techniques through reading the comments and identifying main themes within these comments. Using these identified themes, a structured classification of codes was generated. The data were coded in a series of iterative steps, and the code structure was revised and refined multiple times as new insights were developed and new relationships between the themes present in the comments were elicited.

Results
The response rate to the questionnaire was 87.5%. The mean±SD age of respondents was 37.1+8.5 and the mean±SD year of experience with teaching was 2.8+32. The details of gender and professional characteristics of the respondents are shown in Table 1 - next page.

The participants had generally a high satisfaction with the different logistics aspects of the course (Table 2).

A high proportion of the participants rated the different scientific contents of most of the sessions as useful. Five specific sessions were particularly well received in terms of

Characteristic	No.	(%)
Gender		
Male	17	(60.7)
Female	11	(39.3)
College		
Medicine	14	(50.0)
Dentistry	7	(25.0)
Pharmacy	4	(14.3)
Nursing	3	(10.7)
Academic title		
Lecturer	9	(32.1)
Assistant lecturer	10	(35.7)
No title yet	9	(32.1)

Table 1: Gender and professional characteristics of the respondents

Logistics aspect of the course	No. of respondents	Satisfaction score (out of 5)		Satisfied participants	
		Mean	SD	No.	(%)
Organization of the course	28	3.18	0.86	22	(78.6)
Time schedule of the course	28	2.96	1.23	19	(67.9)
Lecture hall suitability	28	4.00	0.86	26	(92.9)

Table 2: Satisfaction of the course participants with the different logistical aspects of the teaching methods course

their contents; teaching and learning methods (96.2%), ideal lecture (96.2%), motivation to raise standard of lecture (92.9%), principles of lecturing (92.9%) and regulations and instructions (92.6%). The IT and computer skills (50%) and big teacher personality and character (63.6%) were less positively received. The details of the participants' rating of the usefulness of the contents of different sessions are shown in Table 3.

In terms of lecture quality, four specific lectures were particularly well received; principles of lecturing (100%), personality disorder (100%), motivation to raise standard of lecture (96.4%) and ideal lecture (96.2%). Three specific lectures were received least positively including IT and computer skills (51.9%), power

point presentation (53.6%) and scientific writing of articles (57.1%). The details of the participants' rating of the quality of the lectures are shown in Table 4 - page 42.

Twenty seven respondents provided comments in the free comments part of the questionnaire where many were raised. The details are shown in Table 5. In general, many participants have recognized the course as interesting and useful and appreciated having the opportunity to participate in it. They emphasized the necessity of having such a training course before starting work in teaching or after completing the higher degree rather than doing it later in different stages of their teaching career as some participants have been teaching for long years before participating in this course.

The participants were generally not satisfied with the timing of the sessions and the period of the course. The course timing and the long period of the course have significantly altered other responsibilities of the participants as many of them had lectures or practical sessions or had some other clinical commitments. Different suggestions were made such as having the sessions starting earlier in the day and having longer hours per day in order to shorten the whole course period.

The participants agreed that little emphasis was placed on practical aspects and active participation in the sessions. They described most of the sessions as being too theoretical and lectures being too detailed and very long. There were repetitions

Contents of the session	No. of respondents	Usefulness score (out of 5)		Participants found the session useful	
		Mean	SD	No.	(%)
Personality development	28	3.54	0.88	25	(89.3)
Motivation to raise standard of lecture	28	3.68	0.86	26	(92.9)
Teacher Student relationship	28	3.36	1.06	22	(78.6)
Regulations and instructions	27	3.61	1.00	25	(92.6)
Powerpoint presentation	28	3.04	1.10	20	(71.4)
Scientific research	28	3.29	1.24	20	(71.4)
Scientific writing: article	28	3.25	1.17	19	(67.9)
Big teacher personality and character	22	3.18	1.10	14	(63.6)
IT and computer skills	28	2.50	1.17	14	(50.0)
Principles of lecturing	28	3.68	0.98	26	(92.9)
Ideal lecture	26	3.78	0.89	25	(96.2)
Personality disorder	23	3.35	1.03	19	(82.6)
Medical ethics	27	3.44	1.22	21	(77.8)
Teaching and learning methods	26	3.46	0.71	25	(96.2)
Assessment and Evaluation	28	3.14	0.80	25	(89.3)
Communication skills	26	3.38	0.85	22	(84.6)

Table 3: Participants' rating of the usefulness of the scientific contents of the different sessions of the teaching methods course

among the different sessions in many instances.

Many participants described the IT and computer skills session as irrelevant to the course as it contained many technical and irrelevant details and did not focus on practical aspects that would be useful for teaching activities.

A number of suggestions were made to include new sessions in the future course including the legislation of the ministry of higher education and scientific research, quality assurance, continuing medical education, credit system and curriculum activities like writing syllabus, writing objectives of lectures and course and different teaching methods.

There was a general agreement among the participants for removal of the theoretical examination and to focus more on the presentations. They stressed on the importance of having the course focusing on understanding and learning rather than examinations per se.

Lecture	No.	Quality score (out of 5)		Positive response to the quality of lecture	
		Mean	SD	No.	(%)
Personality development	28	3.50	0.96	24	(85.7)
Motivation to raise standard of lecture	28	3.82	0.72	27	(96.4)
Teacher student relationship	28	3.57	0.92	24	(85.7)
Regulations and instructions	27	3.32	0.89	24	(88.9)
Powerpoint Presentation	28	2.46	1.23	15	(53.6)
Scientific research	28	3.00	1.02	19	(67.9)
Scientific writing: article	28	2.93	1.05	16	(57.1)
Big teacher personality and character	21	3.52	1.03	18	(85.7)
IT and computer skills	27	2.41	1.22	14	(51.9)
Principles of lecturing	28	4.00	0.72	28	(100.0)
Ideal lecture	26	3.96	0.87	25	(96.2)
Personality disorder	23	3.78	0.67	23	(100.0)
Medical ethics	27	3.52	1.37	21	(77.8)
Teaching and learning methods	26	3.35	0.98	22	(84.6)
Assessment and evaluation	28	3.11	0.79	24	(85.7)
Communication skills	26	3.54	0.95	23	(88.5)

Table 4: Participants' rating of the quality of different lectures

The participants described the course book as old and its contents are from previous courses that often are not relevant to the new course. They suggested distributing it among participants at least one week before the course and not during the course.

Discussion

There is no doubt that most of the participants enjoyed the course and were stimulated into thinking about new aspects of teaching and learning. This could have been more efficient, as some participants suggested, if the course timing was more suitable for the participants since most of them were in favor of having the sessions starting earlier in the day and having longer hours per day in order to shorten the whole course period.

We feel that some comments are justified and put forward some suggestions for a design modification of this course. Firstly, it is perhaps

not surprising that the topics related to teaching and learning methods scored higher than others because they were concerned with direct applications of the educational theory. The principal reason for this high usefulness rating may be that, in fact, there was enough integration of theory, i.e. how students learn, and practice, i.e. mastery of techniques for improving student learning.

A second observation concerns the methods of teaching in the course. If the purpose of the program was to develop the best teaching methods, then it was important that the instructors should provide examples of how to use them, and this was not always the case. Alternatively, since it may not always be possible to find the perfect lecturers on every subject, staff should have allowed the audience to criticize their methods of presentation. Each participant could then have been encouraged to express his/her views about the

techniques he saw and the place of teaching aids. Awareness of our own faults in teaching would become a little more acute in a situation where we were free to comment on the methods of others and forced to defend our opinions in open discussion. This question of instructor quality may be even more crucial in the planning of future courses, where the participants may consist of a wider range of staff, whose main interests could be scientific research rather than teaching.

A third observation is that topics related to technology scored lower than other topics. This could be due to the fact that these topics cover more fine details of informational technology rather than focusing on what is exactly needed for clear and good presentation of lectures.

A fourth comment related to the need for more practical sessions and it could be argued that important

Comments	No. of participants
1. Positive comments	
The course was interesting and useful and participants appreciated having the opportunity to participate in the course	12
Participants obtained a lot of information and learned many things relevant to their work as lecturers	3
Teaching staff need to have the training course before starting work in teaching or early in their teaching career	2
2. Critics and suggestions	
A. Time schedule and duration of the course	
The timing and the long period of the course have significantly altered other responsibilities and commitments of the participants	7
The sessions need to start earlier in the day, e.g. at 8:30 or 9:00 a.m. instead of 11:00 a.m.	5
Better to have longer hours per day, e.g. 4 hours per day, in order to shorten the whole course period	3
B. Contents of the sessions	
There were repetitions among different sessions in many instances	7
Most of the sessions were too theoretical and lectures were too detailed and very long	5
The IT and computer skills session was irrelevant to the teaching methods course as it contained many technical and irrelevant details and did not focus on practical aspects of teaching activities	5
Little emphasis was placed on practical aspects and active participation in the sessions	5
The course was too much medically oriented that was difficult to those from basic medical sciences or other clinical sciences like nursing or pharmacy	1
There is a need to include speakers from other colleges in the course and not having them merely from the college of medicine	1
The regulations and instructions taught in this course should be introduced to students upon admission to colleges	1
There is a need to include new sessions in the course including;	4
• The law of the ministry of higher education and scientific research and university service law in the course	
• Quality assurance and CME credit system	
• Curriculum activities like writing syllabus, writing objectives of lectures and course	
• Different teaching and assessment methods like problem-solving, student-centered learning, OSCE, etc.	
C. Quality of lectures	
The course lecturers did not apply what they were teaching in terms of interaction, powerpoint presentation, speech, use of body language, etc	15
Many presentation slides were inappropriate containing stuffed information and written in small fonts	4
D. Assessment and evaluation	
The course focused mainly on theoretical examination which shows the ability to rehearse and not the real ability to teach	13
Better to remove theoretical examination and to focus more on the practical skills and presentations	7
The course should focus on understanding and learning rather than examinations per se	2
There is a need to increase the time of presentation as one cannot judge the exact ability of course participants in 15 minutes	1
E. Logistics aspect	
The course book was old and its contents are from previous courses that were not relevant to the new course in many aspects	3
Participants from different levels of teaching experience were in the same course	2
The course book is better to be distributed to the participants at least one week before the course and not during the course	1

Table 5: Summary of the free comments provided by the respondents

objectives for the course are to send the participants back to their medical schools with new skills in teaching methods, and that they should be full of enthusiasm and information. There were some participants who felt that there was too much passive instruction, and not enough time for them to practice what they heard. Research has shown that effective faculty development programs need to include a diversity of teaching and learning methods and emphasis needs to be placed on practical aspects and experiential learning (8).

A final comment is concerned with the assessment and evaluation of the participants at the end of the course. Many participants felt that there was too much focus on the written part of the examination with little focus on the practical or student's presentation part. While we could understand the students' usual concerns from preparation for and taking long written examinations, their concern about placing more emphasis on how their teaching skills have been developed in the evaluation is appreciated.

It is well documented that measurement of what is valued for standards-based learning requires the use of authentic learning-based assessments beyond the traditional written examinations and standardized multiple choice tests. Therefore, authentic forms of assessments are used to assess skills and concepts taught assisting faculty members to relate learning to classroom practice (10,11).

Given the importance of introducing a medically oriented faculty development course in a setting where the main focus has always been general teaching skills training and the importance of having the views of faculty members in any newly introduced faculty development course, the relevance of this paper might go beyond the Iraqi setting that is primarily of local interest and it can serve as a case study which could be followed by others in other contexts.

This study has evaluated the opinions of participants about the usefulness of the training course. Several other studies in different settings have evaluated the efficiency of medically-oriented faculty development courses from participants' perspectives (12-14). However, it would be rather more useful to elucidate the long-term educational impact of the newly acquired knowledge and skills upon individual and educational performances in the professional life of the participants (15,16).

Conclusions

Most of the participants found the course useful and certainly worth attending. The many comments made by the participants, however, suggest several ways in which the course design might be improved. There is a clear need for the integration of course subjects, increasing the number of practical sessions to reinforce the most vital skills to be learnt and placing more emphasis on the practical skills in the course assessment. Assessment of the long-term and educational development impact of this course is an area for future research.

Acknowledgement

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Occult Hilus Cell Tumor of the Ovary: an Elusive Cause of Virilization Confirmed on Oophorectomy

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Abstract

Ovarian hilus cell tumor is a rare cause of virilization. A 54-year-old female presented with new-onset facial and peri-areolar hair growth, alopecia, and progressive deepening of the voice. She was virilized with male pattern baldness, hirsutism, and clitoromegaly, and a markedly elevated total testosterone. Ultrasound and CT failed to show evidence of an adrenal or ovarian lesion. Other causes of hyperandrogenism were ruled out and the patient underwent a bilateral salpingo-oophorectomy. Pathology showed a well-circumscribed 0.8 x 0.6 x 0.75 cm mass in the left ovary composed of Leydig cells indicative of a hilus cell tumor. One month after surgery the total testosterone level was normal and there was gradual but complete resolution of masculinization. Ovarian hilus cell tumors are rare, difficult to localize, but cause dramatic virilization due to androgen overproduction. Oophorectomy and careful examination of the pathological specimen can confirm the diagnosis and is curative as well.

Key words: Ovary; hilus cell tumor; virilization; testosterone; oophorectomy

Introduction

Virilizing tumors of the ovary have been described in the medical literature for over half a century (1,2). Elevated androgens and masculinizing clinical features have been reported in ovarian lesions of Leydig cell origin in all age groups, including premenopausal females (3), older post-menopausal women (4,5), as well as in girls in the first decade of life (6). Clinical features typically include new-onset hirsutism, alopecia, and deepening of the voice (4,7,8), while biochemical findings of elevated levels of plasma testosterone and urinary 17-ketosteroids and 17-hydroxycorticosteroids are almost always encountered. Interestingly, however, these tumors are usually small in size relative to their signs and symptoms (7). Therefore, whereas a high clinical suspicion of a presumed ovarian source for the culprit lesion can be present, the actual tumor is often difficult to pinpoint. Physical examination and common imaging modalities may fail to localize the lesion with certainty. The frequent occurrence of hilus cell hyperplasia as the sole etiologic diagnosis for the virilization can further confound the situation and cause confusion. We describe a case of virilization from an occult hilus cell tumor of the ovary treated with bilateral salpingo-oophorectomy after failure of preoperative localization by imaging.

Case Report

A 54-year-old white female presented with complaints of increased facial, peri-areolar, and abdominal hair growth, scalp hair loss, and progressive deepening of the voice for 6 months. She was 68 inches tall and weighed 193 lbs. Physical examination showed signs of virilization with male pattern baldness, hirsutism, and prominent clitoromegaly.
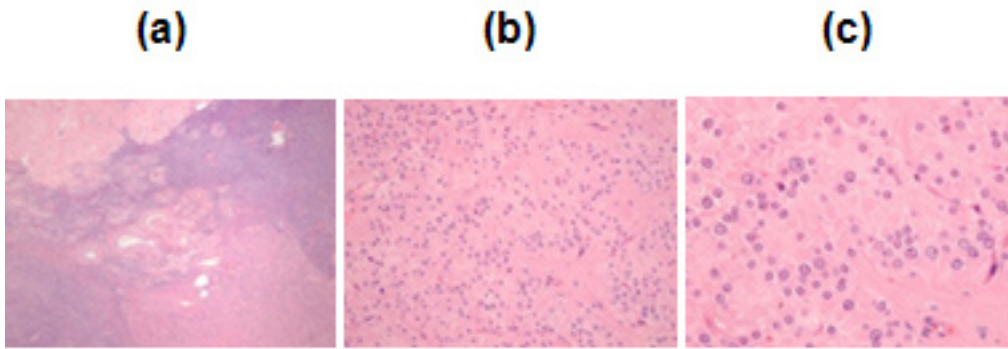
Figure 1: Histology of ovarian lesion showing cellular and cytoplasmic features of Leydig cells. (a) low power, (b) 20 X magnification, (c) 40 X magnification. (Hematoxylin-Eosin stain)

Medications included valsartan-hydrochlorthiazide 160/12.5 mg daily, atenolol 50 mg daily, zolpidem 10 mg daily, and naprosyn 500 twice daily. Laboratory studies revealed total testosterone (T) level of 330 ng/dl (normal range 2-45), free testosterone 68.2 pg/ml (0.2-5.0), bioavailable testosterone 131.4 ng/dl (0.5-8.5), androstenedione 45 ng/dl (20-75), follicle-stimulating hormone (FSH) 16.8 mIU/ml (23-116), luteinizing hormone (LH) 13.1 mIU/ml (5-52), prolactin 7.0 ng/ml (2-20), and morning cortisol 8 mg/dl (6-19). Sex Hormone binding globulin was 18 nmol/l (17-78), and albumin 4.2 g/dl (3.6-5.1). An office endovaginal pelvic ultrasound did not show evidence of an ovarian lesion, but the suspicion of a possible right adrenal mass was raised. However, a subsequent computed tomography (CT) scan of the abdomen with adrenal cuts was normal. Further testing upon referral to endocrinology showed hemoglobin of 15.6 g/dl (11.7-15.5), TSH 3.14 mIU/L (0.4-4.5), total testosterone 231 ng/dl, FSH 3.9 mIU/ml, LH 3.4 mIU/ml, and glucose 108 mg/dl. The patient denied use of topical testosterone- and androgen-containing gels or creams, or other over-the-counter hormone products. A transabdominal pelvic ultrasound revealed multiple uterine leiomyomas and small cysts in otherwise normal-sized ovaries. A repeat CT with attention to the pelvis confirmed uterine fibroids and small bilateral ovarian cysts, but no clear-cut evidence of a mass.
Having ruled out other causes of hyperandrogenism and the suspicion for an ovarian source of virilization

still being high in spite of absence of a lesion on imaging, it was decided that the patient should undergo a bilateral salpingo-oophorectomy. The pathologist was alerted regarding the clinical scenario and the need for a careful examination of the surgical specimen. Examination with 3 mm interval cuts showed a well-circumscribed 0.8 x 0.6 x 0.75 cm nodule in the left ovary. Microscopic evaluation showed mildly pleomorphic cells with light pink granular cytoplasm typical of Leydig cells (Figure 1). Calretnin marker for Leydig cells was positive. Thus pathologic confirmation of an ovarian hilus cell tumor was made. One month after surgery the total testosterone level was 5 ng/dl. There was gradual normalization of hirsutism and other features of masculinization. Hoarseness gradually improved over several months; there was vocal cord enlargement with reduction in size after surgery documented by laryngoscopic examination. After an otolaryngology consultation, estrogen-progesterone hormone therapy was initiated in order to further reduce vocal cord size and improve voice. Two years after surgical treatment the patient had a total testosterone level of 6 ng/dl and there has been no recurrence of virilization.

Discussion
Ovarian hilus cell tumors can present at any age with features of hyperandrogenism and masculinization (1-6). They are extremely rare lesions; a PubMed review of the medical literature

revealed about 50 original reports that deal with these uncommon tumors and their varying presentations. Leydig cells located in the ovary elaborate testosterone, causing relatively rapid onset and progression of virilization, especially alopecia, hirsutism, reduction in breast size, and enlargement of the clitoris, and menstrual irregularities or amenorrhea. These findings are often of a distinct and alarming magnitude to launch a concerted search for the underlying etiology. A careful exclusion of other causes (pituitary-based pathology, Cushing syndrome, adrenal sources, or exogenous ingestion or exposure) can further increase the clinical suspicion for an ovarian source.

Pelvic ultrasound and CT are useful imaging techniques to pinpoint the offending lesion within the ovaries. The mean diameter of these tumors is only 2 cm or less, and numerous case reports and case series have described the failure of diagnostic localization with certainty (7,8,9). In our patient, the ovarian tumor was only 0.8 cm in largest dimension and escaped detection on preoperative imaging studies. These lesions tend to occur in older postmenopausal women; a case series by Raaf found the mean age to be 63 years (8). The authors recommended that all older female patients presenting with virilization be investigated for hormonally-active ovarian neoplasm. They also emphasized careful intraoperative and histologic examination of even normal-appearing ovaries to look for the tumor. In their case report and

review, Loh and colleagues suggested that bilateral oophorectomy be performed for postmenopausal women with significant, recent-onset virilization without Cushing's syndrome and with normal adrenal imaging, an approach that would avoid unnecessary investigations and delays in definitive management (9). As illustrated in our case, a meticulous search of the histological specimen revealed the small virilizing ovarian lesion even in the absence of pre-surgical visualization; "blind" oophorectomy was diagnostic and appears to have been curative as well. It is interesting to note that incomplete suppression of gonadotropins may be seen in postmenopausal individuals with hyperandrogenism of ovarian origin, as in the initial set of hormonal studies in our patient, and does not necessarily mean that the ovary is not the seat of the pathology.

A pitfall in the differential diagnosis that needs to be kept in mind when evaluating women with a suspected virilizing ovarian tumor is the entity of "hilus cell hyperplasia". Lesions in the ovary that appear to be simple cysts may sometimes harbor a diffuse pattern of hilus cells that may be responsible for abnormal androgen production (10). Hilus cell hyperplasia should be suspected in any case of postmenopausal virilization where imaging suggests the presence of a simple ovarian cyst (11). In such cases, careful pathologic examination reveals hilus cells, usually in the wall of the cyst (11,12). An ovarian leiomyoma with hilus cell hyperplasia in the periphery of the mass leading to virilization has also been described (13). Differentiation between tumor and hyperplasia may be difficult on clinical grounds. In a comparison of the two, McLellan et al found that both pathologies were associated with increased testosterone and estradiol secretion (14). However, suppression of testosterone to the 'normal range' in response to exogenous estrogen was seen in the cases with hyperplasia, while tumors showed only partial responsiveness. The authors also observed that bilateral oophorectomy was potentially curative for both

situations. Finally, a case report has described the successful regression of hyperandrogenic features with the short-term (3-month) use of the synthetic gonadotropin-releasing hormone (GnRH) analogue triptorelin prior to surgical intervention (15); such therapy may have a place in the long-term management of advanced, inoperable disease, or when the patient is older, high-risk, or refuses surgery.

Conclusion

New-onset virilization in a woman requires a dedicated search to identify the cause. Ovarian lesions of hilus cell origin are rare but cause dramatic changes such as frontal hair loss, masculinization, voice change, and clitoral enlargement. They are usually small and elusively difficult to diagnose. However, they are hormonally active out of proportion to their size and can cause dramatic virilization that gives a clue to their presence, even in the absence of localization findings on imaging studies. A high index of suspicion for an ovarian hilus cell tumor should be maintained in the appropriate clinical scenario after other causes have been ruled out. Although their small size often precludes definitive localization, ovarian removal and inspection (as in the patient discussed in the case report) is usually successful. As in our patient, surgery can be diagnostic as well as curative. The following "key points" should be kept in mind:

. Ovarian androgen-producing lesions can be a cause of significant signs and symptoms that should alert the clinician to their presence. They should be considered in the differential diagnosis, especially when androgen levels are clearly elevated.
. Hilus cell lesions are small and inconspicuous enough to be missed on imaging modalities such as ultrasound and computed tomography scanning.
. Hilus cell hyperplasia in the ovary can mimic an androgen-producing tumor and escape localization.
. When clinical suspicion is high but imaging is unrevealing, bilateral ovarian extirpation (oophorectomy)

and careful pathological examination of the surgical specimen may be necessary and can be both diagnostic as well as curative.

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An Uncommon Case of Foreign Body in The Ear: Adult Cockroach

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Abstract

In the Family Practice setting, a foreign body in the ear is not an uncommon presentation. Children and toddlers are the most affected age group. Adults seldom come with complaints of foreign body in the ear.

Different types of foreign body can accidentally or incidentally enter the ear. These range from inert objects (pebbles, earrings) to hygroscopic ones (vegetable). This case reports an uncommon foreign body in the ear of an adult patient.

Keywords: foreign body, ear, cockroach

Introduction

Foreign body in the ear is not an uncommon presentation in family practice. In fact, after chronic rhinosinusitis and otitis media, foreign bodies account for the majority of ear, nose and throat presentations in family practice (1, 2). Foreign bodies of different descriptions ranging from hygroscopic objects like vegetables and beans, insects, beads, buttons, earrings or disc batteries can accidentally or incidentally enter the external acoustic canal (2).
Most foreign bodies are inserted to the ear of school children and less commonly toddlers(1). It is unusual for adults to have foreign bodies in their ear except mentally retarded or imbalanced adults (3). Ear foreign body in the latter is usually bizarre such as meat and gravy. This paper reports a cockroach in the ear of an adult.

Case Report

F.A. a 45 year old laboratory Scientist walked into the Family Practice Clinic at Wesley Guild Hospital Unit complaining of purulent left sided ear discharge of four days duration. He gave a history of cockroaches disturbing his sleep a week prior to presentation. During this time, he felt two cockroaches run over his head and neck .After a 1 hour period of right ear discomfort, he felt no other symptom till 4 days after when the purulent discharge started.

On examination, he was anxious looking but otherwise stable. Vital signs were within normal limits (Temperature-37.3°c, Pulse rate-76 beats per minute, Respiratory rate- 19 Cycles per minute, Blood pressure-120/80 mmHg). Systemic examination was normal excepting a right ear with a normal sized appropriately located pinna exuding non mucoid, foul smelling yellowish discharge and an external acoustic meatus with a mottled brown object having brownish "brushlike"

projections on its inferior aspect. Otitis externa secondary to foreign body in the right ear was diagnosed.

Aural syringing using tepid 0.9% normal saline in a large metal syringe was done. A dead adult cockroach, already severed into five parts, was flushed out at the second attempt. Otoscopy of the right ear after syringing showed a clear external acoustic canal (EAC) with an intact shiny tympanic membrane.

The patient was placed on tablets, Amoxycillin 500mg tds for 5 days. At follow up four days after the initial presentation, he had improved clinically as evidenced by cessation of aural discharge. He was then discharged from follow up.

(See images in Appendix opposite)

Discussion

Foreign bodies in the EAC are found most frequently in the pediatric age group or in mentally retarded institutionalized patients. Any object small enough to enter the EAC can become prospective foreign bodies(4). These includes animate, inanimate, or mineral objects. The normal EAC produces a waxy substance having bactericidal and fungicidal properties called cerumen and it functions to moisturize it. The EAC is self cleansing, with desquamated skin and cerumen being slowly pushed laterally to the external meatus. For compulsive cotton-tipped users, they push cerumen medially in the process causing cerumen impaction(2).

Inorganic foreign bodies are often asymptomatic, but organic objects may give rise to Otitis externa by local irritation of the epithelium of the meatal walls. One of the commonest causes of this is cotton wool, and it is not unusual to find this in adult patients who have been attempting to clean their ears(1).

Treatment depends on the type of foreign body in the ear and its position. If in the lateral third, a variety of objects can be used to remove it. These include cerumen loops, alligator forceps and otologic tip suctions. The removal of a foreign body can be safely done under direct visualization, preferably under an operating microscope with the patient in a supine position. As a general rule, most foreign bodies can be removed by syringing. However, objects of vegetable origin, such as peas, beans and nuts, are hygroscopic and should not be syringed(4). Disc batteries should not be irrigated also as they can cause corrosive injury in the EAC. For insects, application of microscope emersion oil or lidocaine is done to drown the insect. Otomicroscopy is often required for safe removal. Cerumenolytics is followed by irrigation with a large syringe and tepid saline. The best chance for removal of a foreign body in the EAC is the first attempt. When it fails, the ear may become extremely painful, and proper anesthesia may be necessary. Once the object is out, Otoscopy and a clinical hearing test (tuning fork test) should be done. At otoscopy, the tympanic membrane and the canal should be examined to ensure there has not been any damage (5).

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Appendix

Metal Syringe and Metal Receiving Bowl Used

Receiving Metal bowl Containing The Cockroach And Tepid Normal Saline