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This section should present comprehensive analysis of the results in the light of relevant previous study. It should emphasize the new and important aspect of the study and the conclusions that follow from them. Repetition of detailed data or other materials given in introduction or result section should be avoided.

Conclusion
Should be linked with the goals of the study. Recommendation may be included when appropriate and it can include the implication of the findings and their limitations.

Acknowledgements
Acknowledgements, if any, should be placed at the end of the body of the text and be limited to no more than 100 words. This section may be used to acknowledge the help of those who do not qualify for authorship or to acknowledge funding, donated resources, or significant material contributions to the research.

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Ethical approval

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A form must be signed by all listed authors indicating the contribution to the paper made by each. The corresponding author is responsible for obtaining signatures from all listed authors and using a check-off form, should indicate by name what each author contributed to each of the various aspects of the study:

- concept of research work
- study design
- data collection or processing
- statistical analysis
- report writing

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Editorial

Only Child Syndrome

An only child is a person with no siblings, either biological or adopted. The term only child is generally applied only to those individuals who have never had siblings. Over the 20th century in particular, birth rates and average family sizes cut down sharply, for a number of reasons including increasing costs of raising children and more women having their first child later in life, increase in literacy rate among the women or increased number of working mother throughout the world in developed and as well as in developing countries including Bangladesh. The Only Child Syndrome (OCS) is obviously found in those kids who are the only child of their parents.

The name itself suggests that the kids are different from the others. It may sound very simple that a child is pampered and he or she behaves differently. However, it is not so simple indeed. The Only Child Syndrome (OCS) can cause serious complications in the lifestyle of a child. However, it has some positive aspects too. The kids who are having Only Child Syndrome sometimes also called "Spoilt" or "Pampered" in non-medical terms[1]. While many only children receive a lot of attention and resources for their development, it is not clear that as a class they are overindulged or differ significantly from children with siblings[2]. The characteristics of the Only Child Syndrome are deeper then they appear. In China, perceived behavioral problems in only children has been called the 'Little Emperor Syndrome'[3] the lack of siblings has been blamed for a number of social ills such as materialism and crime. However, recent studies do not support these claims, and show no significant differences in personality between only children and children in larger families[4]. The kid with Only Child Syndrome tends to remain isolated from the crowd and rest of the people. It gives a huge impact on the childhood which then carries forward to the adulthood as well. The child separates him or herself from the others and generally remains self-centered.

Wide range of characteristics may observe among these children, but not all features in a single child, may have one or combination of some of the features.

These can include :

- Wanting alone time.
- Difficulty in making joint decisions.
- Experiencing stress if they feel they are not succeeding.
- Relying on parents or may be strong independence or highly self-confident.
- A personal agenda for life and goals.
- Inability to ask for help.
- Sharing is not their thing. Or they have a tendency to be selfish.
- Tend to be more mature.
- Emotionally attached to things.
- Highly goal driven, perfectionist which is not a bad thing at all[6].
- Only children are noted to have a tendency to mature faster[5].
- Only Children: Lonely and Selfish?[7].

Some important characteristics are:

- **Emotionally attached to things.** As they have no siblings, so whatever they had like toys are very dear to them. Only children attach themselves to things because of their lack of relationships with others. This type of behaviour is usually seen in the early childhood.

- **Goal driven.** Because their parents focused all their attention on their only child, that child is usually highly goal driven, which is not a bad thing at all. They most likely are on the top of their classes and completed every task at a high level. This type of behaviour is usually seen in during childhood or during adolescent period. This type of children may develop psychological problems due to continuous mental stress.

- **Overprotective parents.** Indeed, this part draws. Because they are an only child, their parents probably

freaked out every minute of the day, making sure their child is performing each and every activity with hundred present accuracy. Because they only have one.

- **Inclines to be more mature.** Only children spend most of their time with adults like parents, grandparents. So, usually, only children are more mature due to their surrounding environment where they are in.

These characteristics are not always bad, but can cause friction with other family members, friends or spouse in married life. However, in the hands of someone who loves and appreciates an only child and their "syndrome", they can flourish and reach their goals standing next to the one who loves them. OCS now a day is an emerging problem in the society which needs study for further evaluation, management and better outcome of these children.

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Original article

Evaluation of Space Occupying Lesion of Liver by Fine Needle Aspiration Cytology

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Abstract

Objective : To find out the magnitude of hepatic SOL, its frequency in different age and sex group, viral marker of the study patients and to study the distribution of the cases by different cytological diagnosis.

Methods : This was a descriptive cross sectional study comprising of 48 cases, carried out at the department of pathology, Dhaka Medical College during the period of July 2013 to June 2015.

Results : Results of all patients were collected and tabulated. Statistical analysis was performed on tabulated data. Out of 48 cases, the cytological diagnosis reveal the highest number of cases to be Hepatocellular carcinoma 22(45.8%) followed by metastatic carcinoma 13(27.1%), abscess 6(12.5%), hepatocellular dysplasia 3(6.3%) and negative for malignant cell 4(8.3%).

Conclusion : Fine needle aspiration cytology in case of space occupying lesion of liver can be relied upon to differentiate between benign and malignant lesion and also from primary from secondary.

Key words :

Introduction

Liver diseases are common health problem throughout the world. Liver diseases are broadly categorized as diffuse and focal lesion. The differential diagnosis of focal lesions are primary liver tumors (benign and malignant), metastatic deposits, congenital and acquired cysts and abscess[1].

Appropriate clinical management depends on accurate diagnosis but evaluation of the lesion is a common clinical problem[2]. Imaging techniques and serological markers are useful in narrowing the differential diagnosis. FNAC mainly indicated in the diagnosis of malignant focal lesions both primary and secondary. FNAC also performed to rule out neoplasm from inflammatory lesion when radiologically inconclusive[3-6].

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Hepatocellular carcinoma (HCC) is responsible for a large proportion of cancer death worldwide Also there is demographic variation in the incidence of HCC

The incidence estimated between 2001-2006 shows, 7.8/100,000 persons in Asians and Pacific and 3/100,000 people in U.S.A[7].

GLOBOCAN global analysis published moderately high incidence (11-20 per 100,000) in Southeast Asia and also shows 82% of liver cancer cases occurring in developing country. HCC is preceded by cirrhosis of the liver in most cases. Majority of them are due to viral hepatitis. The life time risk of HCC in chronic hepatitis related to HBV is 10-25% and related to HCV is (1-4)%7. Indeed, worldwide 50-80% of HCC is due to HBV and (10-25)% of cases are due to HCV infection respectively[8]. Dual infection with HBV and HCV is not uncommon in Southeast Asia[9]. Other causes include alcoholic liver disease, nonalcoholic steatohepatitis, intake of aflatoxin contaminated foods, diabetes and obesity[10].

Liver is the most common site of distant metastasis as it filters most of the blood from the body[11]. Metastasis commonly arises from tumor of colon, pancreas, breast and lung. Accurate diagnosis of the metastatic lesions is essential in determining the stage of tumor and also for therapeutic and prognostic purposes. The treatment vary

from palliative care to partial hepatectomy, specially in those which are potentially chemosensitive or hormonally manipulable. Correlation of clinical, laboratory and radiologic findings is necessary. Radiologically multiple nodules of various sizes distributed randomly suggest metastases[5].

The present study was done to evaluate the space occupying lesion of liver by fine needle aspiration cytology. The subjects were studied according to age, clinical features, USG findings and other relevant investigations.

Materials and Methods

This descriptive cross sectional study carried out in the department of pathology, Dhaka Medical College, during the period of July, 2013 to June, 2015. The study was done on fine needle aspiration material of liver SOL that was received from Dhaka Medical College and Hospital, and Bangabandhu Sheikh Mujib Medical University (BSMMU).

Patients with radiologically diagnosed space occupying lesion (SOL) in liver and suspected as a case of hepatic neoplasm were included in this study. Patient with bleeding disorders, prolonged Prothrombin time, patient with liver abscess, cyst and hemangioma and already diagnosed cases were excluded from this study.

Relevant clinical informations were recorded. Clinical data were obtained either directly from the patients or from the clinical history sheet. The necessary and relevant data were kept methodically in a prepared proforma. Patients having suspected hepatic neoplasm with good coagulation profile underwent ultrasound guided FNAC. According to standard protocol FNAC was done by an expert pathologist or radiologist and USG guidance was provided by an expert radiologist. The procedure done in the pathology department, DMC, the Radiology department, DMCH and also in BSMMU. Monitoring of pulse, respiration and blood pressure was done at least 2 hours after aspiration.

Sample processing: Several cytologic smears were prepared and fixed immediately in 95% alcohol. The smears were left in alcohol at least for 30 minutes at room temperature before staining. The residual material remaining after completion of cytologic preparations were fixed in 10% formalin and later processed to prepare paraffin embedded blocks.

Cytological examination:

a) Staining : Smears prepared by USG guided FNA were stained by papanicolaou stain.

b) Cytopathological examination : of the stained slides of hepatic SOL were carried out under light microscope on the same day or next day. Satisfactory smears contained adequate number of representative cells from the target sites. Stained slides were examined to evaluate the nature of lesion.

Results

Table I shows age of the study patients, of them half (50.0%) belonged to the age group 51-70 years. The mean age was found 53.0±15.0 years with range from 18 to 90 years. Three fourth (75.0%) patients were male and 12(25.0%) patients were female. Male female ratio was 3:1(Fig-1).

Table II shows cytological diagnosis of the study patients, almost half (45.8%) patients were found HCC followed by 13 (27.1%) metastatic Ca, 06(12.5%) were abscess and 03(6.3%) were hepatocellular dysplasia.

Table III shows, the presenting complaints of study patients. Total 29 patients present with abdominal pain only, among them 1(33.3%) patients cytologically diagnosed as hepatocellul ar dysplasia, 15(68.2%) HCC, 5(38.5%) metastatic Ca, 5(83.3%) abscess and 3(75.0%) negative for malignancy.

Nine patients presented with abdominal lump and pain by cytological diagnosis. Of them 1(33.3%) hepatocellular dysplasia, 7 (31.8%) HCC and 1(7.7%) was metastatic Ca. One patient (7.7%) having abdominal pain and ascites cytologically diagnosed as metastatic Ca.

Table IV shows 22 patients were cytologically diagnosed with viral marker as HCC. Among them 11(50.0%) were HBsAg positive and 2(9.1%) were Anti HCV positive. No case was dual positive.

In 42 patients the tumor size was >3 cm, among them 2(66.7%) patients cytologically diagnosedsas hepatocellular dysplasia, 22(100.0%) HCC, 13(100.0%) metastatic Ca and 5(83.3%) abscess.

Total 28 patients present with multiple SOL. Among them 2(66.7%) patients cytologically diagnosed as hepatocellular dysplasia, 10(45.5% HCC, 11(84.6%) metastatic Ca, 2(33.3%) abscess and 3(75.0%) negative for malignancy (table-5).

In USG findings 23 patients were diagnosed as secondary metastasis. Among them 2(66.7%) patients were hepatocellular dysplasia, 6(27.3%) were HCC, 12(92.3%) were metastasic Ca and 1(25.0%) were negative for malignancy.

Tables and Fig.

Table I : Distribution of the study patients by age (n=48)

Age (years)	Number	Percentage
≤30	4	8.3
31-50	17	35.4
51-70	24	50.0
>70	3	6.3
Mean±SD	53.0	±15.0
Range	18-90	

Figure 1 : distribution of the study patients by sex

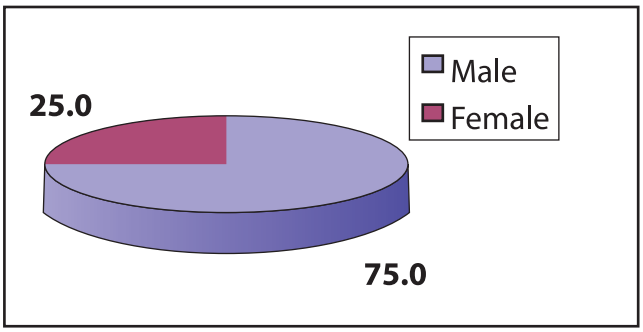

Table II: Distribution of the study patients by cytology

Cytology	Numbers	Percentage
Negative	4	8.3
HD	3	6.3
HCC	22	45.8
Abscess	6	12.5
Metastasic Ca	13	27.1
Adenocarcinoma	9	18.8
Sq. CC	1	2.1
RCC	1	2.1
GIST	1	2.1
Small cell Ca	1	2.1

Table III : Distribution of the study patient with different cytological diagnosis according to clinical feature (n=48)

Clinical feature	Cytological diagnosis									
	Negative (n=4)		HD (n=3)		HCC (n=22)		Metastatic Ca(n=13)		Abscess (n=6)	
	n	%	N	%	n	%	n	%	n	%
Abd lump only	0	0.0	0	0.0	0	0.0	3	23.1	0	0.0
Abd pain only	3	75.0	1	33.3	15	68.2	5	38.5	5	83.3
Lump + pain	0	0.0	1	33.3	7	31.8	1	7.7	0	0.0
Pain + ascitis	0	0.0	0	0.0	0	0.0	1	7.7	0	0.0

Table IV : Distribution of cytologically diagnosed cases with viral marker (n=48)

Viral marker	Cytologcal diagnosis									
	Negative (n=4)		HD (n=3)		HCC (n=22)		MetastaticsicCA(n=13)		Abscess (n=6)	
	n	%	n	%	N	%	N	%	n	%
HBsAg										
Positive	1	25.0	0	0.0	11	50.0	0	0.0	0	0.0
Negative	3	75.0	3	100	11	50.0	13	100.0	6	100.0
Anti HCV										
Positive	0	0.0	0	0.0	2	9.1	0	0.0	0	0.0
Negative	4	100.0	3	100	20	90.9	13	100.0	6	100.0

Table V : Association between cytology status with USG finding (n=48)

USG finding	Cytologica diagnosis										P value
	Negative (n=4)		HD (n=3)		HCC (n=22)		Metastatic Ca (n=13)		Abscess (n=6)		
	n	%	N	%	n	%	N	%	n	%	
Size											
≤3 cm	4	100.0	1	33.3	0	0.0	0	0.0	1	16.7	0.001s
>3 cm	0	0.0	2	66.7	22	100	13	100.0	5	83.3	
SOL											
Single	1	25.0	1	33.3	12	54.5	2	15.4	4	66.7	0.122ns
Multiple	3	75.0	2	66.7	10	45.5	11	84.6	2	33.3	
Diagnosis											
Primary	0	0.0	0	0.0	13	59.1	0	0.0	0	0.0	
Secondary	3	75.0	2	66.7	6	27.3	12	92.3	0	0.0	0.001s
Not diagnosed	1	2 5.0	1	33.3	3	13.6	1	7.7	6	100.0	

Discussion

Many liver diseases particularly neoplasia form focal lesion and are often asymptomatic. Even relevant biochemical tests may not show significant changes12. Diagnosis and management of space occupying lesions in liver is a great challenge. FNA cytology is used in evaluation of SOL in liver. The present study was carried out to evaluate the space occupying lesion of liver by USG guided FNAC.

The mean age of this study cases with hepatic SOL was forth to fifth decades. In Bangladesh Rahman et al (2014) showed similar observations. Similar findings also observed by Nasit et al (2013) in India and Nazir et al (2010) in Pakistan. In this study, the incidence was more in male than female. According to World fact book 2014, the M:F at the peak age of HCC between 31-50 years & 9 male/10 female.

Common clinical features were abdominal pain, lump and other constitutional symptoms. Most of the patients with HCC presented with only abdominal pain. In metastatic group abdominal pain was frequently accompanied by lump in abdomen. Most of the patients with abscess presented with the complain of abdominal pain. Similar observations regarding the clinical presentations were observed in the study done by Nasit et al (2013) and Hossain et al (2010).

Viral marker was significantly positive in patient with hepatic malignancy. Half of the patients with HCC were HBsAg positive and 9% were anti-HCV positive. Rahman et al (2014)13 and Rahman et al (2010)15 also observed similar findings in Bangladesh.

In this study, most of the cytological diagnosis cases of metastatic carcinoma had multiple SOL in USG. Similar findings regarding distribution of cases according to cytological diagnosis was observed by Mohammed et al (2013) and Najir et al (2010). Also there are some overlap in radiologic features of liver abscess, HCC and metastasis16.

Regarding cytological diagnosis of suspected hepatic SOL in this study, hepatocellular carcinoma was more than metastatic neoplasm.

Also metastatic cases include mostly adenocarcinoma. Similar findings were observed by Mohammed et al (2013) and Najir et al (2010).

Conclusion

Treatment modalities are rapidly developing worldwide. Long term survival requires detection of small tumors. FNAC is a safe, minimum invasive procedure and multiple samples can be obtained with the small diameter needle. FNA cytology in case of SOL of liver can be relied upon to differentiate benign and malignant lesion and also primary & secondary lesion. The patients with chronic liver diseases and other known primary lesion need proper evaluation as well as follow up.

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Original article

Pulmonary function status in nonsmoker female cotton ginners & weavers in Rangpur district, Bangladesh

Md. Abul Hasanat[1], Chandra Rani Sarkar[2], A.T.M Zoadur Rahim Zahid[3]

Objectives : The health of individuals will largely depend upon the working environment. Cotton ginners & weavers exposed to fine cotton dusts in their work places usually have varying degree of impaired pulmonary functions, The present study was conducted to observe the effects of cotton dust on the ventilatoryfunctions of lung by measuring Forced vital capacity (FVC), Forced expiratory volume in 1st second (FEV1), The ratio of Forced expiratory volume in 1st second to Forced vital capacity (FEV1 %).

Methods : This cross-sectional analytic study was conducted in the department of physiology, Rangpur Medical College, Rangpur from 2014 July to 2015 June. Total 50 nonsmoker female subjects were selected aged 20-40 years, among them 25 were apparently healthy ginners & weavers exposed to cotton dust as experimental group (Group-B). Age, sex, height, weight & BMI matched apparently healthy 25 subjects not exposed to cotton dust were selected from surrounding community as control (Group-A). Their pulmonary functions were studied by measuring FVC, FEV1, and FEV1%. For statistical analysis unpaired't'-test was performed by computer based software SPSS-17.0 version for windows.

Results : The mean measured value of FVC &FEV1were significantly lower ($p<0.001$) in the female experimental group compared to control. FEV1 / FVC ratio also decreased in female experimental group but statistically notsignificant.

Conclusions : Decrease values of FVC, FEV1 and FEV1% in female cotton ginners & weavers indicate impaired pulmonary functions. but the level of awareness about these occupational hazards among the cotton ginners & weavers and authorities are limited.

Key words : Cotton dust workers, pulmonary functions, forced vital capacity, Forced expiratory volume in 1st second & the ratio FEV1/ FVC.

Introduction

Occupation is the one in which person not only earn his daily bread but also spend one third of average adult life. Health hazards caused due to a particular occupation is yet to gain importance in public health measures[1]. Occupational pulmonary diseases are more widespread and more disabling than any other group of occupational diseases. The lung has extensive surface area, high blood flow and thin alveolar epithelium. It is an important site of contact with the substances present in the environment. Hence the inhalation of dust over periods of time leads to proliferation and fibrotic changes in lungs[2]. There is consistent evidence from epidemiologic studies that never-smokers may also develop chronic airflow limitation. Occupational exposures, including organic, inorganic dusts, chemical agents and fumes, are considered as an underappreciated risk factor for COPD.[3,4]

One such occupational group is cotton ginning & weaving. Occupational exposure to cotton dust has been a great threat to the lung functions.1 Hundreds of cotton ginners earn their living by local ginning method in houses and on the streets, or in informal small scale industries and there is a family trend in the occupation of cotton ginning[5]. Weavers also play an important role in community which fulfill the clothing needs. Weavers and ginners are constantly exposed to fine cotton dust[1].

Methods

This cross-sectional study was carried out in the department of physiology, Rangpur Medical College, Rangpur from 2014 July to 2015 July. Total 25 apparently healthy non-smoker female workers aged 20-40 years, exposed to cotton dust for at least 6 months as experimental group (Group-B) and were selected from different fabric weaving and cotton ginning factories of Rangpur district. Twenty five age & BMI matched

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apparently healthy nonsmoker female subject not exposed to cotton dusts were taken as control (Group-A). All the subjects belonged to lower socioeconomic group. After obtaining necessary permission and maintaining all the ethical issues the subjects were interviewed. A detail medical and family history of all subjects was recorded in a preformed questionnaire. Thorough physical examination of the subjects were done and documented. Height and weight of the subjects were recorded for calculation of BMI. For assessment of lung function, FVC, FEV1 and FEV1/FVC of all subjects were measured by using a digital spirometer. For statistical analysis unpaired 't'-test was performed by using software SPSS-17.0 for windows.

Results

Demographic data of all subjects are presented in Table-I. The mean measured value of FVC & FEV1 were significantly lower ($p<0.001$) in the female experimental group compared to control. FEV1 / FVC ratio also decreased in female experimental group but statistically not significant. (Table II)

Table-1 : Statistical analysis of age, height and weight and body mass index of the study subjects of different groups:

Age			
Groups	Mean ±SD	't' value	P value
A Vs B	30.12±5.11794/ 30.36 ±3.63868	-0.191	0.849NS
Height			
Groups	Mean ±SD	't' value	P value
A Vs B	157.016±7.97468/ 156.524±6.30854	0.185	0.810NS
Weight			
Groups	Mean ±SD	't' value	P value
A Vs B	59.2760 ±8.02056/ 57.412 ±7.48907	0.850	0.400NS
BMI			
Groups	Mean ±SD	't' value	P value
A Vs B	23.7472±1.42143/ 23.0680 ±1.77672	0.306	0.142NS

Data are expressed as mean ±SD. Statistical analysis was done by unpaired student's 't' test. NS=P>0.05, A= Control group, B= Experimental group.

Table-II : Statistical analysis of mean measured value of FVC, FEV1, FEV1% of the study subjects of different groups

Parameter	A (Control) n=25	B (Experimental) n=25
FVC (L/min)	2.9312 ±0.41370	2.1304 ±0.28385***
FEV_1(L/min)	2.8036 ±0.23295	1.9664 ±0.22440***
FEV_1%	92.6424 ±6.26650	90.0232 ±10.06632NS

Data are expressed as mean ±SD. Statistical analysis was done by unpaired student's 't' test. ***=P<0.001, NS= P>0.05.A= Control group, B= Experimental group, n=Total number of subjects.

Discussion

In this study mean observed value of FVC, FEV1, FEV1 were significantly lower in female cotton ginners & weavers as compared to unexposed controls. These findings are similar with those of some other researchers[1,4,6-11]. Various mechanisms have been proposed by different investigators for the impairment of lung functions of non-smoker female cotton ginners & weavers. Some suggested that endotoxin is the principal component of cotton dusts responsible for the development of inflammation in airway. Chronic occupational exposure to cotton dust endotoxin is associated with faster decline in lung function[6,7,12]. It has been suggested that repeated micro-insults to the lungs on each exposure to the toxic component of cotton dust would have damaging effect. Airway hyperreactivity resulting from an inflammatory response to an inhaled cotton dust cause progressive impairment of lung functions and adversely affect the parameters such as FVC, FEV_1, FEV_1%[4,13,14]. According to a study findings of Journal of Basic and Applied Scientific Research, Inhalation of cotton dust causes release of histamine from mast cells. Histamine directly stimulates vagus nerve causing smooth muscle contraction resulting bronchoconstriction. Histamine also causes increase airway mucus secretion that reduces the air entry into the lung which might be associated with decreased FVC, FEV[12,15]. Moreover accumulation of cotton dusts in the airways increases sputum and cough production resulted greater decline in FVC, FEV_1 and FEV_1/FVC in workers exposed to cotton dust.8 Prolong exposure to cotton dust

causes accumulation of dust particles in peri-bronchial lymphoid and connective tissues along with varying degrees of wall thickening and remodeling in terminal and respiratory bronchioles. Bronchiolar walls with marked thickening is associated with increase in collagen and interstitial inflammatory cells including dust-laden macrophages. Cotton dust induces histamine release or immunological reaction mediated by endotoxin as mechanism of impaired FVC, FEV_1 and PEFR[1,2]. In addition, an immunological dysfunction such as atopy might be a risk factor in the development of reduced ventilatory functions of the lung induced by cotton dust[9].

In the present study, decreased lung functions observed by significant changes in FVC & FEV_1 in female cotton ginners and weavers is likely due to chronic allergic effects of cotton dust. Allergic effects of cotton dust usually produce sufficient IgE in the body. IgE binds with mast cell and basophil and some of the mast cell and basophil rupture and release agents including slow-reacting substance of anaphylaxis (SRSA), protease, histamine, neutrophil and eosinophil chemotactic factor at alveolar or bronchiolar site. These substances may cause dilatation of local blood vessels, increased capillary permeability with loss of fluid into tissues, contraction of local smooth muscle cells and even local cell damages by protease. Such type of chronic allergen-antibody reaction may impair lung functions by increasing lung parenchymal and airway resistances secondary to tissue damages and inflammation mediated fibrotic changes. Continued exposure to cotton dust may arrest the activity of cilia lining the bronchi with decreased rate of airway clearances and subsequently there occur inflammatory responses, hypertrophy/ hyperplasia of mucous glands which are causing progressive impairment of lung functions with increased work of breathing. So nonsmoker female cotton ginners & weavers have impaired lung functions than non-smoker non-exposed female workers and this is supported by significantly lower FVC & FEV_1 in nonsmoker female cotton ginners & weavers than that of control group.

Conclusion

It can be concluded that non-smoker female cotton ginning & weaving factory workers suffer from significant impairment of lung functions than non-smoker non exposed female workers.

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Original article

Iatrogenic geniatourinary fistula - a clinical study of 30 cases at national fistula center at Dhaka Medical College, Hospital

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Objective : Genito-urinary fistula constitutes a social calamity for the women in the developing countries, the most common cause being obstructed labour. Objectives of the study were to find out the general information about iatrogenic genitourinary fistula.

Methods : This observational study was carried out on patients presented with incontinence of urine due to iatrogenic factors who attended in national fistula center in DMCH, Dhaka, during the period from January 2008 to June 2009. A total number of 30 patients with iatrogenic genitor-urinary fistula were admitted under National Fistula Centre in DMCH having complains of continuous dribbling of urine and fistula was confirmed by vaginal examination using sim's speculum.

Results : Repair was done successfully in 86.0% cases. After repair operation all patients received post-operative antibiotics and had indwelling catheters for a minimum period of weeks. Postoperative complication didn't occur in 22 cases and 4 patients had variable forms of urinary tract infections. Most troublesome complication was wound infection in 2 patients.

Conclusions : Most of the cases were repaired through the vaginal route. Almost all of the fistulas were repaired by the gynecologists.

Key words : vesico-vaginal fistula, genito-urinary

Introduction

A fistula is defined as an abnormal communication between two or more epithelial surfaces. In the context of gynaecology, urinary tract fistulae connect the genital tract (vagina, uterus, perineum) and the urinary tract (bladder, ureters or urethra)[1]. The close embroyologic development and anatomic proximity of the urinary and genital organ predisposes the urinary tract injury during surgical procedure in the female pelvis[2]. Fistula is common in developing countries because of the higher incidence of obstetric complication. In contrast in the developed countries, 90% of vesicovaginal fistulae are caused by gynecological procedures[3]. Hysterectomy, both transabdominal and transvaginal Kochakarn et al3 reported in 2000, and found 164 cases of 230 fistulae caused by transabdominal hysterectomy (71.3%), 23 cases (10%) caused by transvaginal hysterectomy and 08 cases caused by radical hysterectomy for malignancy[3].

Bai et al reported an overall incidence of urinary tract injury in pelvic surgery of 0.33%.The bladder is the most common organ to be injured, comprising 76% of the cases[3]. Lee, in series of 35000 hysterectomies, found more than 80% of genitourinary fistulas arise from gynaccological surgery for benign disease. Uncomplicated TAH accounted for more than these surgeries. The indication for these TAH surgeries excluded the more complexes diagnoses, such as pelvic inflammatory disease primarily for diagnoses such as abnormal bleeding, fibroid, and prolapse. In approximately 10% of cases of vesicovaginal fistula, the associated etiology was obstetrical trauma. Radiotherapy & surgery for gynecologic disease each account for 5 % cases[4]. Gynecologic procedures are the most common iatrogenic factor. The vast majority of fistulas following hysterectomy are noted to be high in the vaginal vault above the inter-ureteric ridge and coinciding with the vaginal apex scar. In addition to this type of fistula would be found in the mid- vaginal vault[5]. Injury usually occur when surgery is done in a hurry by a person without

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adequate skill in complicated cases and in adverse situation (e.g. without adequate light or exposure)[6]. The gynecological ureteric injury occurred during Wertheim's operation, when the ureter was accidentally transected near the uterine vessels[2].

In developing countries like Bangladesh, obstetrical injury is the main cause of genito-urinary fistulas and it usually gives rise to complicated fistulas but iatrogenic fistulas are seen and are due to frequently reflects lack of experiences of the young surgeons, most of whom did not have sufficient and methodic tutoring during their obstetrics & gynaecologic training. This study aim to critically analyze the different aspect of iatrogenic fistula with the hope that finding as this studies may help to develop the awareness among the health provider about the fistula.

Materials

This observational study was carried out on patients presented with incontinence of urine due to iatrogenic factors who attended in national fistula center in DMCH, Dhaka, during the period from January 2008 to June 2009. The fistula was visualized noting its number, size, anatomical location & surrounding tissue morbidity when this was difficult a pre-operative examination under anesthesia was done and similar information was obtained. The method of repair was varied with the location and type of fistula patients required labial graft and one patient required urethral reconstruction. Bladder wall was sutured by delayed absorbable poly glycolic acid suture & for vaginal wall i/o chromic catgut was used. All the patients were evaluated by detail history and by clinical examination. All these information were collected in a pre-designed structured data collection sheets.

Statistical analyses of the results were obtained by SPSS-20. Percentages were calculated to find out the proportion of the findings. The results are presented in Tables and Figures.

Results

Size of the fistula was determined during per speculum examination under proper light. Some patients were examined under anaesthesia and some during the operation. Calculation of size of fistula was just an approximation, where 20 (66.67%) fistulas were less than 2 cm, 6 (20.0%) belonged to 2 – 4 cm and 4 (13.33%) more than 4 cm. A total of 28 patients underwent surgery and two patients didn't fit for surgery at the time of study period, among them 25 cases used flap splitting method, accounting for 1 case urethral reconstruction and rest 02 was corrected by ureteroneocystotomy. All patients were repaired locally and 24 (85.71%) fistulas were repaired through vaginal approach & rest of 4 (14.29%) cases through abdominal approach.

Table-1 : Causes of fistula of the study patients

Name of cause	No. of patients (n=30)	Percentage
Total Abdominal Hysterectomy	19	63.33
PID	6	20.00
Fibroid Uterus	5	16.67
Endometriosis	4	13.33
DUB	4	13.33
Caesarian section	4	13.33
Vaginal hysterectomy	4	13.33
Radiation	2	6.67
Vaginoplasty	1	3.33

Table-2 : Position of fistula of the study patients

Position of fistula	No. of patients (n=30)	Percentage
Vesico Vaginal	**26**	**86.68**
High Vaginal vault	16	53.34
Mid Vaginal vault	8	26.67
Juxtra-cervical	2	6.67
Uretero-vaginal	2	6.67
Urethro-vaginal	2	6.67

Table 3 : Distribution of patients by size of the fistula

Size (cm)	Total number N=30	Percentage
< 2 cm	20	66.67
2 cm to 4 cm	6	20
> 04cm	4	13.33

Table-4 : Approach/route of surgical repair

Route	Total Number N=28	Percentage
Abdominal	4	14.3
Vaginal	24	85.7

Table -5 : Procedure of repair of the fistula

Name of operation	Total Number N=28	Percentage
Flap splitting	25	89.29
Urethral reconstruction	01	3.57
Ureteroneocystomy	02	7.14

Fig.-1 : outcome of the surgical procedure of patients having fistula

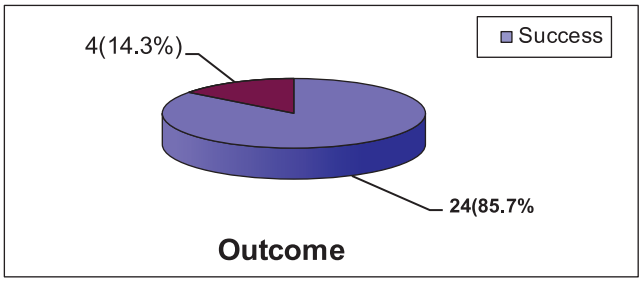

Table-6 : Post-operative complications of the study patients.

Name of complication	Total Number n=28	Percentage
No	22	78.57
UTI	4	14.29
Vaginal wound infection	2	7.14

Discussion

The most common (63.33%) cause of iatrogenic genitourinary fistula in present study is due the procedure of hysterectomy. In a study done by Jeffrey L. Cornella MD., observed that 85.0% of the VVFs were related to pelvic operations and 75.0% were related hysterectomy with more than 50% being secondary to simple uncomplicated total abdominal or vaginal hysterectomy[5]. The investigator also found that 10.0% fistula occurred after radiotherapy, which is 6.67% in the present study. The days more and more Cesarean Section is carried out and fistulas are encountered either after the first CS or after a repeat one. Most of them occurred when bladder is pushed down vigorously with the finger & these maneuver frequently result in trauma to the bladder with haematoma formation that ends with sloughing and late vesico-vaginal fistula formation. According to a study done by Pharaon S., a few cases of vesico-vaginal and vesico-uretero-vaginal fistulas noted after Lower Segment Cesarean Section that resulted from unwary suturing of the lower segment and inadvertent inclusion of the bladder wall and/or distal end of the ureter[7]. In this present study fistula occurred after CS at 13.0% cases. Certain precaution to be taken to prevent urinary tract injury and postoperative fistula formation are: a thorough knowledge of anatomy and common sites where urinary injury is likely to occur is essential. The patient at high risk should be identified and these are the cases with possibility of altered anatomy, fibrosis, direct extension of disease process as in cases of chronic PID, endometriosis, large fibroid, previous pelvic surgery, malignancy, previous irradiation and congenital abnormalities of urogenital system, abnormal relation of the uterus and bladder caused by the uterine leomyoma[8].

A fistula may appear a few months to several years after the radiation treatment is completed. Radiation therapy induced vesicovaginal fistulae are usually large and located in the apex of the vagina. The tissue surrounding the fistula becomes fixed, relatively avascular and fibrotic. So this type of fistula are usually complicated and difficult to close[8].

All patients in this study had undergone local repair. The present study finding of repaired through vaginal route and transabdominally were almost consistent with C.R. majinge[3]. Vaginal approach was favoured because it gives a less stormy post-operative recovery; surgeons feel comfortable & get the opportunity to use labial fat pad graft[3].

Regarding postoperative complications in this study, it was observed that 04 patients had variable forms of urinary tract infection which was controlled with antibiotics. In this study, among 30 patients repair was done successfully in 24 cases and the success rate was 86%. The remaining 4 (14.3%) repair was not successful.

Conclusion

Vesico-vaginal fistula is the most common type of fistula that occurred mostly during the complicated gynecological surgery and during the complicated cesarean section. To prevent these iatrogenic fistula complicated patients should be referred to the experienced specialist by the junior gynecologist and careful surgery is mandatory. These can minimize the risk of injury to the bladder and the ureter during the pelvic surgery.

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Original article

The role of lifestyle modification in controlling blood sugar in gestational diabetes mellitus

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Background : Gestational diabetes mellitus is one of the most common and dangerous condition in pregnancy.It is also a predisposing factorfor developing type-II diabetesin future.Incorrect lifestyle can cause various diseases,like diabetes.But all patients do not need inulin during pregnancy. Life style modification can prevent glucose intolerance.So, this study was conducted to compare the prevalence of insulin intake and life style modification of women with gestational diabetes mellitus.

Methods : A comparative observational study was conducted on 60 pregnant women with definite diagnosis of gestational diabetes. Data were collected by a researcher–made questionnaire. Informed consents were taken and data were analyzed using SPSS -18 software.

Results : Out of 60 GDM patients only 17 patients needed insulin to control their blood sugar whether 43 pt controlled their glucose intolerance by changing their lifestyle and statistically lifestyle modification(0.037) is more significant than insulin therapy.

Conclusion : Women's lifestyle varies from person to person. This study shows the importance of woman's diet,self-care, moderate physical exercise and perceived social support during pregnancy. Incidence of glucose intolerance can be controlled by life style modification instead of insulin intake.

Key words : Lifestyle modification, Glucose intolerance, GDM.

Introduction

Gestational diabetes mellitus is a heterogenous disorder characterized by intolerance to carbohydrates and hyperglycaemia in varied degrees of intensity with onset or first diagnosis during pregnancy[1]. It is a physiological condition of insulin resistance, so that, it may be the first time in her life to test her capacity to respond to a physiological stress. Recent data show that gestational diabetes mellitus (GDM) prevalence has increased by 10 to 100% in several race/ethnicity groups during the past 20 years[1]. Age, obesity and family history of diabetes are well known risk factors for gestational diabetes mellitus. Other factors are still controversial, such as low birth wt, short stature, multiparity, race or ethnicity, gestational weight gain, socio-economic factors etc. But it is true that several lifestyle factors affect the incidence of type 2 diabetes[1,2]. Obesity and weight gain dramatically increase the risk[3,4]. Cigarette smoking is associated with a small increase[7,8]. In addition a low fiber diet with a high glycemic index has been associated with an increased risk of diabetis[3].

Nowadays Gestational diabetes mellitus is increasing globally[2]. In the 21st century, people are witnessing industrialization, globalization, increased life expectancy and changes in lifestyle of the people around the world. One of the consequences of these changes is disease pattern and the prevalence of chronic disease like diabetes[10]. Inappropriate lifestyle can lead to the incidence of various disease including diabetes, which is a serious health risk[11]. Proper lifestyle is so important that a new branch has been created in medical sciences called "lifestyle medicine" with application in control and prevention of disease. Lifestyle is associated with the person's daily life patterns such as diet, food habits, leisure time, smoking habit, physical activity, stress, fiber rich food intake and normal use of health care services[11].

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Many studies have been conducted to see the risk factors of diabetis, prevalence of this disease, treatment of diabetis etc. Here in this study, we tried to observe whether each patient of GDM need insulin or it can be treated by lifestyle modifications.

Methodology

This comparative observational study was conducted on 60 pregnant women with gestational diabetes mellitus between the age group 18 to 35 years, among the pregnant women recruited from Gynaecology and Obstetrics outpatient department of Ad-din Medical College, Mogbazar, Dhaka from September 2016 to December 2016.

Study inclusion criteria were positive oral glucose tolerance test (OGTT), aged between 18-35 years, gestational age between 24-28 weeks based on accurate and reliable first day of last menstruation or the first trimester ultrasound, singleton pregnancies, no history of neonatal mortality in previous pregnancies, no infant or embryo malformation in previous pregnancies, no previous gestational diabetes, no known chronic disease such as, hypertension, cardiovascular disease, kidney disease, thyroid and autoimmune disease etc.

In this study, data were collected using form 1 for entry criteria and blood sugar check list and form 2 containing demographic and obstetrical details and a researcher made life style questionnaire including diet, physical activity, self-care in pregnancy, perceived stress and perceived social support.

Physical activity was assessed using Pregnancy Physical Activity Questionnaire in which type of activity is divided into three groups of exercise, activity at home, and in leisure time.

After obtaining written consent, sampling was carried out in the hospital. Study objectives and methods were explained to study subjects, data forms including demographic and obstetrical details and also lifestyle questionnaire were completed using interviewer technique.

Data were analyzed using SPSS-18 softwere. Descriptive statistics were used to present frequency, percentage, mean and standard deviation in tables and inferential statistics were used for analysis of data. To find out relationship, statistical tests including unpaired 'T" test, Chi-square test were done.

Results

Table-1 : Association of age of the patients with GDM (n=60)

Age group (in years)	Life style modification (n=43)		Insulin (n=17)		P value
	No.	%	No.	%	
< 25 yrs	14	32.6	1	5.9	0.032s
≥ 25 yrs	29	67.4	16	94.1	
Total	43	100.0	17	100.0	

P value reached from Chi-square test.
s : significant
n : number of patients

Table-2 : Association of BMI of the patients with GDM (n=60)

BMI (kg/m^2)	Life style modification (n=43)		Insulin (n=17)		P value
	No.	%	No.	%	
< 25 kg/m^3	10	23.3	0	0.0	0.029s
≥ 25 kg/m^3	33	76.7	17	100.0	
Total	43	100.0	17	100.0	

Table-3 : Association of family history of DM of the patients with GDM (n=60)

Family history of DM	Life style modification (n=43)		Insulin (n=17)		P value
	No.	%	No.	%	
Yes	27	62.8	5	29.4	0.019s
No	16	37.2	12	70.6	
Total	43	100.0	17	100.0	

Table-4 : Comparison of FBS and 2 hrs OGTT (n=60)

Blood sugar	Life style modification (n=43) Mean±SD	Insulin (n=17) Mean±SD	P value
FBS	108.1±16.6	119.4±22.7	0.037s
2 hrs after BS	163.4±32.7	181.7±38.3	0.068ns

Discussion

In this study, it was found that out of 60 pregnant women with GDM, 43 women were treated only by life style modification and 17 pt. were treated by insulin. According to this study, we also found that, increased age, BMI, positive family history of DM are important risk factors for developing GDM but Incidence of glucose intolerance can be controlled by life style modification rather than insulin intake.

Study conducted by Rimm et al., reported that age greater than 25 years of old[13,14] is a risk factor for GDM. In this study, it has found that out of 43 pt that were treated by lifestyle modification, 32.6% were under 25 years and 67.4% were above 25 years. Again, out of 17 pt who were treated by insulin, 5.9 % were under 25 years and 94.1% were above 25 years and statistically the relation between life style change and insulin therapy is significant (0.032).

The increase in BMI is also a risk factor for gestational diabetes mellitus. In present study it was found that out of 43 pt. who were treated by behavioral modification, 10 pt.(23.3%) were under 25kg/m3 of BMI and 33(76.7%) were above 25 kg/m3. Again, out of 17 pt. who were treated by insulin, all 17(100%) were above 25kg/m^3 and statistically the relation between life style change and insulin therapy is significant (0.029).

Family history of diabetes is also a risk factor for gestational diabetes mellitus. In all studies, conducted on GDM considers family history as an independent risk factor for the development of GDM[14]. In this study it was found that the patients who were treated by behavioral modification, 27 pt (62.8%) had positive family history. Again, out of 17 pt who were treated by insulin, only 5(29.4 %) had positive family history and statistically the relation between insulin therapy and life style change is significant (0.019).

In case of controlling the FBS and 2 hrs after Breakfast, it was found that, average FBS was 108.1±16.6 mg/dl in case of life style modified patient whereas it was 119.4 ± 22.7 mg/dl in case of insulin treated patients. On the other hand, the average blood sugar of 2 hrs after breakfast, it was 163.4 ± 32.7 gm/dl in case of life style modified patient, but it was 181.7 ± 38.3 mg/dl in insulin treated patients. Statistically life style modification (0.068) was more significant than insulin therapy.

In this study, it was found that women who modified their lifestyle during pregnancy experienced a controlled blood sugar. Women who were active both before and during pregnancy particularly benefited. Walking appeared somewhat protective and sedentary lifestyle somewhat harmful. Manson JE et al., showed that the physical activity has a protective effect against the development of diabetes, which has previously been demonstrated among adult men and non-pregnant women[9,10]. Our study also support that physical activity was particularly beneficial among the diabetic pregnant women. Independent of exercise levels, sedentary behavior, especially television viewing, has been directly associated with risk of type 2 diabetes in non-pregnantadults11 and in one study with risk for GDM[14].

Wei M et al., suggested that skeletal muscle contraction triggers glucose uptake and promotes insulin sensitivity, and more intense exercise has a stronger hypoglycemic effect[14]. Many women reduce the intensity of their physical activity when they are pregnant, our finding suggests that even light-to-moderate activity during pregnancy reduces risks allows for recommendations that many pregnant women will likely be able to follow. Associations of physical activity with abnormal glucose tolerance were generally similar to, although perhaps slightly weaker than, associations with GDM. Because a much large proportion of pregnant women have abnormal glucose tolerance than GDM[9] and abnormal glucose tolerance is associated with similarly adverse outcomes[6] interventions to promote physical activity among women may have substantial population impact.

Conclusion

From the above study, it can be concluded that regular physical activity before pregnancy and continuation of activity into early pregnancy may reduce patients risk for developing abnormal glucose tolerance and GDM. With few exceptions, regular physical activity is salutary for everyone, including pregnant women8. Clinicians should consider recommending mild to moderate physical activity to their patients who are contemplating pregnancy or are in early pregnancy to promote normal glucose tolerance and to establish healthy lifelong habits.

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Original article

Clinicopathological study on parotid gland neoplasm at a tertiary level hospital

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Abstract:

Objective : To find out the distribution, frequency of benign vs malignant, clinical presentation and to compare the findings of FNAC and postoperative histopathological reports of parotid gland neoplasm.

Methods : An observational study was conducted in Shaheed Suhrawardy medical college hospital and Dhaka Medical College Hospital from July 2012 to January 2013. Forty consecutive cases of parotid gland neoplasms were admitted in Otolaryngology & Head Neck Surgery department for treatment.

Results : In this study highest number of patients was in the 5th decade (26%), benign parotid tumours were more common in female (M: F= 0.93:1). Malignant parotid neoplasm was more common in male (M: F= 1.2:1). In this study for both benign and malignant neoplasm- male and female ratio is equal.

All the cases were presented with swelling of parotid gland. Size of the swelling in most pleomorphic adenoma were more than 2 cm and malignant tumours varied between 2 to 4cm. Most of the patient of malignant tumours (60%) admitted in the hospital at stage-2. In this study, all malignant tumors were presented with pain, 01 had facial nerve palsy and 01 had neck node metastasis. Among them, 26(65%) were pleomorphic adenoma 5(12.50%) cases were malignant neoplasm. Amongst the parotid malignancy- mucoepidermoid carcinoma were the most common 3(7.50%). In this study, only 6 (15%) aspirates were found to be non-diagnostic results. Regarding investigations, FNAC was done in all 40 cases (100%) out of which 34(88%) were positive and 6 cases had doubtful results. All cases were confirmed by histopathological examination. All patients had undergone different types of surgery.

On analysis of histopathological pattern of parotid gland neoplasm, pleomorphic adenoma was the most common benign neoplasm 26(65%) and the second most common benign neoplasm was the warthin's tumor 8(20%). Amongst malignancy mucoepidermoid carcinoma was the most common malignant neoplasm with a frequency of 3(7.5%).

Conclusion : There is no substitute for detailed clinical history and examination in the assessment of salivary gland neoplasms. Imaging studies determine the exact extension of the disease for proper surgical planning. FNAC is a useful diagnostic tool for preoperative diagnosis provided a well experienced cytologist examines the specimen.

Key word : Clinicopathological study, parotid neoplasm.

Introduction

The salivary glands are divided into major and minor salivary gland categories. The major salivary glands are the parotid, the submandibular and the sublingual glands.

Salivary gland neoplasm's represent the most complex and diverse group of tumors encountered by the head neck oncologist. Their diagnosis and management is complicated by relative infrequency (1% of head and neck tumors), the limited amount of pretreatment information available and the wide range of biologic behavior seen with the different pathologic lesions. Further complicating the analysis of these tumors in the pediatric population is that fewer than 5% of all salivary gland tumors occur in patients younger than 16 years[1].

Nearly 80% of these tumours occur in the parotid glands, 15% in the submandibular glands and remaining 5% in the sublingual and minor salivary glands[2]. Benign tumors of the parotid glands occur in the age group of 30-70 years.

At least 75% of salivary gland neoplasm develops in the parotid glands are benign. Incidence of these benign tumors is 3 to 4 per 100,000 populations. Most common benign tumors are - pleomorphic adenoma and adenolymphoma.

Malignant tumors are more frequent in women than men. The pick incidence for malignant tumors is 6th and 7th decades[3]. Most common malignant tumors are mucoepidermoid carcinoma, adenoid cystic, acinic cell and adenocarcinoma[4].

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In Great Britain the incidence of malignant salivary gland neoplasm is 1.2/100,000 population. Salivary malignancy is increasing with increased smoking and alcohol consumption. In Sweden, salivary malignancy forming 0.3% of all diagnosed cancer[5]. Salivary gland tumors have a high incidence in the Eskimos and atomic bomb survivors of Japan. Several other predisposing factors have been postulated including race, diet, occupation, E.B. virus etc[3].

Incidence of salivary gland neoplasm in USA 3-4% of all neoplasm of the head and neck[6]. Based on National Cancer Institute of USA data 2.2 to 2.5 cases of salivary gland tumors per 100,000 people occur each year in the United States. Various series from around the world report annual incidence for all salivary gland neoplasm to be between 0.4 to13.5 cases per 100,000[7].

Pleomorphic adenoma is considered as the most common benign salivary gland neoplasm, comprises about 50%-74% of all parotid tumors. It is followed by Warthins tumor which accounts for about 4-14% of all parotid tumors. Approximately 90% of parotid tumors occur in the superficial lobe while remaining 10% occur in the deep lobe[7].

Fine needle aspiration cytology is being increasingly used in the diagnosis of the salivary gland lesions. Cytological correlation is available of which diagnostic accuracy is 87.5%, 3.12% false positive and 9.37% false negative reports. Thus fine needle aspiration cytology is a useful diagnostic tool in evaluating neoplastic lesions of the salivary gland[8,9].

Methods

This observational study was conducted in Shaheed Suhrawardy medical college hospital and Dhaka Medical College Hospital from July 2012 to January 2013. Forty consecutive cases of parotid gland neoplasm admitted in Department of Otolaryngology and Head-Neck Surgery, irrespective of age and sex were included in this study.

The parotid gland swelling which diagnosed as non-neoplastic lesion by FNAC was excluded from the study.

Results

Table-I : Incidence of benign and malignant tumours

		No	%	P value
Parotid	Benign	35	87.50	
gland	Malignant	5	12.50	0.001

Table-II : Age distribution of the patient

Age in years	No	Percentage
00-20 yrs.	4	10%
21-30 yrs.	5	12.50%
31-40 yrs.	5	12.50%
41-50 yrs.	13	32.50%
51-60 yrs.	9	22.50%
61yrs and above	4	10%

Table-III : Sex incidence of the patient

	Parotid				P value
	Benign		Malignant		
	No.	%	No.	%	
Male(n= 20)	17	48.57	3	60	
Female(n=20)	18	51.43	2	40	0.633
Total	35	100	5	100	

Table-IV : Histopathological types on the basis of FNAC

FNAC	Parotid gland N (%)
Benign tumour	
Pleomorphic adenoma	23(57.5%)
Warthin'stumour	6(15%)
Haemangioma	1(2.50%)
Malignant tumour	
Mucoepidermoid carcinoma	3(7.50%)
Adenoid cystic carcinoma	1(2.5%)
Doubtful	6(15%)

Table-V : Histopathological types on the basis of Histopathlogy

Histopathlogy	Parotid gland
Benign tumour	
Pleomorphic adenoma	26(65%)
Warthin'stumour	8(20%)
Haemangioma	1(2.50%)
Malignant tumour	
Mucoepidermoid carcinoma	3(7.50%)
Adenoid cystic carcinoma	1(2.5%)
Adenocarcinoma	1(2.50%)

Table-VI : Duration of symptom before admission into Hospital

Duration of symptom	Pleomorphic adenoma (n=26)	Haemangioma (n=1)	Warthin's tumours (n=8)	Adenoid cystic carcinoma (n=1)	Muco epidermoid carcinoma (n=3)	Adeno carcinoma (n=1)	P value
	No. %	No.%	No.%	No.%	No.%	No.%	0.347
1-4 yrs.	11 42.29	1 100	6 75	1 100	% 2 66.67	1 100	
>4yrs.	15 53.84		2 25		1 33.33		

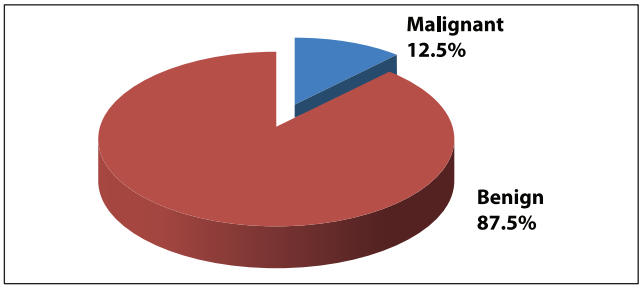
Table-VII : Symptoms on admission

Symptoms	Parotid gland	
	Benign 35	Malignant 5
1. Swelling	35	5
2. Pain		5
3. Facial nerve paralysis		1
4. Skin involvement		2
5. Trismus		2
6. Palpable lymph node		1

Table- VIII : Staging of carcinoma of parotid gland

	Parotid gland	
	No.	%
Stage-1	1	20
Stage-2	3	60
Stage-3	1	20
Stage-4	0	00
Total	5	100

Fig-1 : Overall malignancy rate amongst parotid gland neoplasm



Discussion

In this study, 40 cases of parotid gland neoplasm were analyzed with their incidence pattern and clinical presentation. The findings have been compared to those in others reports from the different part of the worlds. Diagnosis of all tumours were confirmed by histopathological examinations. The results obtained in this study are more or less in general agreement with the similar reports in the literature.

This study does not reflect the actual incidence of the community as because the study was done in a limited period on a limited number of patients at a tertiary level hospital. In this study highest number of patients were in the 5th decade (26%) which is consistent with other studies[16,18]

Regarding the sex distribution of different neoplasms, benign parotid tumours were more common in female (M: F= 0.93:1). Malignant parotid neoplasm is more in common in male (M: F= 1.2:1). In this study for both benign and malignant neoplasm- male and female ratio is equal although other studies from abroad there is slight female preponderance[16,18]

The benign tumour generally have no pain or other distressing symptoms for which they do not care for it. Moreover they fear for the operative treatment. In developing countries like us, due to poor socio-economic conditions and non availability of modernized hospital facilities nearby- patient often resort to local nonqualified doctors for their treatment before attend to a concerned specialist, for this reasons patient often reports late and sometimes with complication of the disease. In my series most patients report within 2 to 4 years of the disease.

In this study, all the cases were presented with swelling. Size of the swelling in most pleomorphic adenoma were more than 2 cm and malignant tumours varied between 2 to 4cm. The longer the duration, larger the swelling and in more advanced stage. Most of the patient of malignant tumours admitted in the hospital at stage-2 which was consistent with the study done by Obaid M.A., Yusuf A. in 2004[17]

In this study, all malignant tumors were presented with pain, 1 had facial nerve palsy and 1 had neck node metastasis. In this study, 26(65%) were pleomorphic adenoma which corresponds with other studies[16,17]

Amongst the parotid malignancy- mucoepidermoid carcinoma are most common 3(7.50%) in this study which is consistent with other studies[5,17].

In this study, only 6(15%) aspirates were found to be

non-diagnostic results. Failure to obtain a representative smear could be the result of needle positioning outside the target tissue or of necrosis, hemorrhage, or cystic areas in the tumor. In order to decrease chances of these errors and to increase the diagnostic accuracy some authors have utilized ultrasonography to assist FNAC but in our series it was not used[21].

Regarding investigation in my series, FNAC was done in all 40 cases (100%) out of which 34(88%) were positive. All 40 cases were confirmed by histopathological examination. All patients had undergone different types of surgery.

On analysis of histopathological pattern of parotid gland neoplasm, pleomorphic adenoma was the most common benign neoplasm 26(65%) and the second most common benign neoplasm was the warthins tumor 8(20%). Amongst malignancy mucoepidermoid carcinoma was the most common malignant neoplasm with a frequency of 3(7.5%) which was in accordance with other studies[19, 20].

Conclusion

Pleomorphic adenoma was the most common benign neoplasm and amongst malignancy mucoepidermoid carcinoma was the most common malignant neoplasm. Highest incidence of tumours were found in 5th decade (40-50 yrs) of life. Most of the patient of malignant tumours admitted in the hospital at stage-2.

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Original article

Need of routine thyroid screening during pregnancy

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Abstract:

Background : Thyroid hormone varies in pregnancy in both healthy women and those who has thyroid dysfunction. The prevalence of thyroid dysfunction in pregnant women is relatively high. The objective of this study is to determine the current prevalence of thyroid dysfunction including hypothyroidism, hyperthyroidism in pregnancy and their outcome.

Methods : This observational study was done in Ad-Din Women's Medical College hospital, Dhaka, Bangladesh from January 2016 to January 2017. Eighty one pregnant women who gave consent to volunteer were enrolled in this study. Of them 27 patients were in First trimester, 16 patients were in Second trimester and 38 patients were in Third trimester. Demographic and clinical information were collected by pre-tested questioner. Investigations done for evidence of thyroid dysfunction, Serum Thyroid Stimulating Hormone, Free Tri-iodothyronine, Free Thyroxine. Thyroid Ultrasonography, Thyroid antibody also done as needed. Pregnancy outcome of all enrolled participants were monitored during delivery.

Results : Of 81, 13 (16%) were hypothyroid before pregnancy, one (1.2%) were hyperthyroid before pregnancy and 67 (82.8%) were unknown. Of 81 patients only one patient was positive for both TG antibody and TPO antibody. Of all patients, one (1.2%) was sub-clinical hypothyroidism, one (1.2%) sub-clinical hyperthyroidism, six (7.4%) overt hypothyroidism and 73(90.1%) was diagnosed normal.

Conclusion : From this study it can be concluded that newly diagnosed hypothyroidism in pregnancy is not so low and it is 7.4%. As thyroid dysfunction in pregnancy has many adverse effects both on mother and baby, thyroid screening may be done as a routine investigation during pre-conceptional period and during pregnancy to avoid unwanted pregnancy outcome.

Key word : Pregnancy, routine thyroid screening

Introduction

Thyroid disorders are encountered frequently during pregnancy and the postpartum period. It is the second most common endocrine condition in women of childbearing age after diabetes. Most of these conditions are treatable, evaluated and managed appropriately. Pregnancy is a time of complex hormonal changes. In women with normal thyroid function, there is an and may affect mother and fetus adversely if they are not in thyroxine(T4) and triiodothyronine(T3) production, which results in inhibition of thyroid-stimulating hormone (TSH) in the first trimester of pregnancy, due to a high human chorionic gonadotropin (hCG) level that stimulates the TSH receptor because of partial structural similarity[1,2].

As plasma volume increases in pregnancy, distribution of thyroid hormone is altered, thyroid hormone metabolism increases, renal clearance of iodide increases, and higher levels of hepatic production of thyroxine-binding globulin (TBG) in the hyperestrogenic state of pregnancy are responsible for higher thyroxine requirement in pregnancy[3]. It is very important to remember that biochemical thyroid function should be free thyroid hormone, as total hormone will mislead showing more than normal value when the patient is euthyroid.

According to recent American Thyroid Association (ATA) guidelines, if laboratory-dependent, trimester-specific ranges for TSH are not available, the recommended reference ranges for TSH are 0.1 to 2.5 mIU/L in the first trimester, 0.2 to 3.0 mIU/L in the second trimester, and 0.3 to 3.0 mIU/L in the third trimester[4].

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Materials and Methods

This observational study was done in Ad-din Women's Medical College Hospital a renowned Hospital specially for women and children, located in Moghbazar, Dhaka, Bangladesh. We conducted this study from January 2016 to June 2016 .We enrolled 81 pregnant women who gave consent to volunteer from different areas of Bangladesh were selected as subject in this study. Among them 27 patients were in First trimester, 16 patients were in Second trimester and 38 patients were in Third trimester. Detailed medical history and obstetric history were recorded. A morning blood sample were sent to the immunochemistry laboratory of the Department of Pathology for thyroid testing. Thyroid function studies were done by using chemiluminescent assays for TSH and free thyroxine. These assays were performed specifically using an Immulite 1000 systems. We also did Thyroid Ultrasonography, Thyroid Peroxidase antibody as needed. Pregnancy outcome of all enrolled participants were monitored during delivery. We determined the thyroid dysfunction by using trimester specific TSH reference ranges as suggested by the American Thyroid Association (ATA).

Results

We enrolled thyroid function test in 25(30.9%) in first trimester, 16(19.8%) in second trimester and 40(49.4%) in third trimester (pie chart-1). Of 81 patients only one patient was positive for both tr antibody and TPO antibody. Of all patients, one had increased TSH level according to her gestational age and based on American Thyroid Association Guideline and thyroxin level was normal who was diagnosed sub-clinical hypothyroidism that accounts 1.2%.Another one patient had normal thyroxine level and decreased TSH level according to her gestational age and was diagnosed sub-clinical hyperthyroidism and it accounts 1.2%.Other six patients (7.4%) were diagnosed overt hypothyroidism as they had decreased thyroxine level and 73(90.1%) were diagnosed normal (Fig 2). Of 81 subjects thyroid dysfunction percentage is 9.8%. Among thyroid dysfunction overt hypothyroidism in first trimester is 12.5%, and in third trimester it is 62.5%. In third trimester both sub-clinical hyperthyroidism and sub-clinical hypothyroidism is 12.5%. In our study population, second trimester is devoid of thyroid dysfunction (fig 3).

Fig-1 : Showing percentage of patient according to trimester

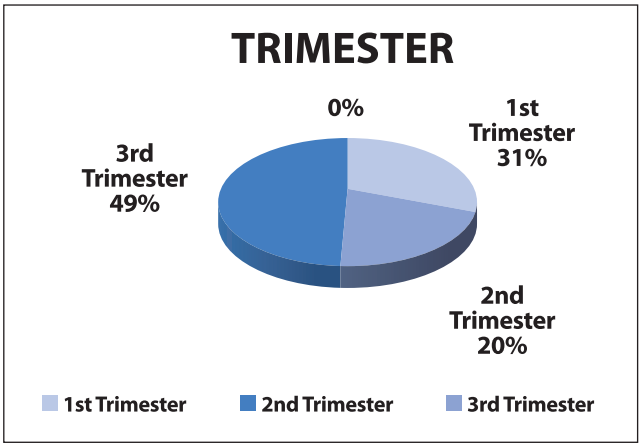


Fig-2 : Percentage of thyroid dysfunction in pregnancy

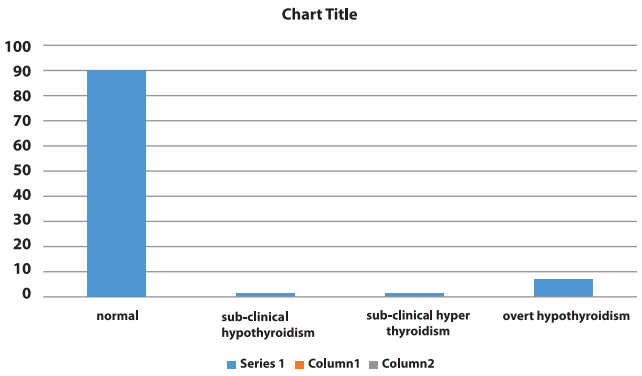
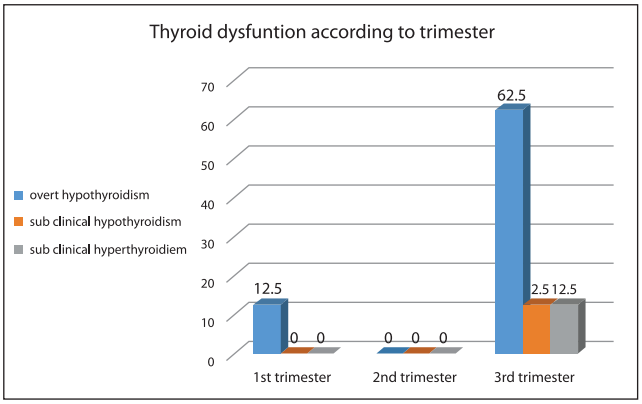


Fig-3 : Percentage Thyroid dysfunction according to trimester



In our cross sectional descriptive study one (1.2%) was diagnosed sub-clinical hypothyroidism, one (1.2%) was diagnosed sub-clinical hyperthyroidism, six (7.4%) were diagnosed overt hypothyroidism and 73(90.1%) were diagnosed normal. Pregnancy outcome was good. No fetal abnormality was detected. Although neurodevelopmental abnormalities could not be detected properly as it is too early to measure in women with sub-clinical thyroid disorder. In a study of Bangladesh shows the prevalence of sub-clinical hypothyroidism is 16.5%, overt hypothyroidism is 6.5% and hyperthyroidism is 4%[5]. The prevalence of hypothyroidism during pregnancy varies geographically. According to a western study, it is 2.5%[6] whereas in India it is 4.8% that seems that prevalence of hypothyroidism is more in Asia compared to West[7]. A Chinese study shows the prevalence of hypothyroidism in pregnancy is higher in high-risk group than in non-high-risk group (10.9 vs 7.0%, p=0.008)[8]. Another study in India found that in their study population 13.3% pregnant women was hypothyroid. Anti-TPO antibody was positive in 20.74% of all pregnant women, whereas 40% of hypothyroid pregnant women were positive for anti- TPO antibody. A total of 36.07% of pregnant women were found to be hypothyroid9. A community-based large-scale study in USA involving over 500,000 pregnant women showed a 15.5% hypothyroidism[10]. Some studies have reported that mothers having hypothyroidism also faces complications as abortions, still births, pre-term delivery and pregnancy-induced-hypertension[11-14]. It is found that sub-clinical hypothyroidism has been associated with miscarriage in both first and second trimesters[15]. Also the presence of antibodies to thyroid peroxidase or thyroglobulin is associated with miscarriage[16]. A study done by Glioner et al[17]. established an increased rate of pre-term birth in 87 women who have autoimmune thyroid disease.

Conclusion

From this study it can be concluded that newly diagnosed hypothyroidism in pregnancy is not so low. As thyroid dysfunction in pregnancy has many adverse effect both on mother and baby, It is proposed that thyroid screening may be done as a routine investigation during pre-conceptional period and during to avoid unwanted pregnancy outcome.

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Original article

Early Experience of Total Extraperitoneal Inguinal Hernia Repair

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Objective : Inguinal hernia is a common surgical condition. Open hernioplasty is a traditional procedure practiced for decades all over the world. But the newer procedure of Total Extraperitoneal (TEP) inguinal hernia repair is the current trend in Western World. Researchers are trying to cope with the recent trend and initiate and practice TEP in BIRDEM.

Methods : This observational analytic study was doneduring April 2012 and March 2015. All inguinal hernia patients reporting to BIRDEM outpatient department were approached for TEP. Those who consented were treated electively with a TEP repair for a unilateral or bilateral hernia defect, either direct or indirect. A total of 50 patients, all adult males (over 18 years) were included in this study. All procedures were completed with patients under GA. Polypropylene mesh was placed in preperitoneal space. All patients were followed up in outpatient department in one week, one month, one and two years after surgery. Patients' age, hernia types and locations, complications, length of stay in hospital, return to work and recurrence were noted.

Results : Patients' age was between 22years and 72years. All of them had primary hernias and 72% of them underwent unilateral repairs. None of the cases required conversion to TAPP or anterior procedures. In two patients (4%) intraoperative complication occurred and post-operative courses were complicated in 3 patients (6%). Patients were able to resume their daily activities after a mean period of 7 days (3 to 10 days). None required a readmission and there were no mortality.

Conclusion : In patients with uncomplicated inguinal hernias, TEP is associated with a very low overall risk of serious complications and recurrence with a very good functional outcome. It is equally applicable with bilateral inguinal hernias as well, without added risk. It must be concluded that it is very much possible to perform TEP successfully even with limited resource and without any added expenditure.

Key words : Inguinal hernia, Total Extraperitoneal (TEP)

Introduction

Inguinal hernia repair is one of the most common surgery and over twenty million procedures are done every year across the globe[1,2]. The most common standard open technique of tissue based suture repair had few changes over a hundred years[3]. Use of a synthetic mesh for a tension free repair has revolutionized hernia surgery with a significantly lower recurrence rate[2,4] and lower chronic post-operative pain[5]. The development of laparoscopic technique to cover the myopectineal orifice with a mesh placed in preperitoneal space might be the next big change in hernia repair[3,6]. Since the first reported case in 1992[7] endoscopic repair of inguinal hernia is becoming an increasingly popular method (16.8% to 41%) in USA[8,9] as an alternative to open hernioplasty. This minimally invasive technique has the benefits of lower wound infection, faster wound recovery, reduced post-operative stay, less pain, better cosmetic outcome, and earlier return to physical activity and work[5,10-14] and less chronic pain[15]. Disadvantages of the technique include a higher risk of serious intraoperative complications, has to be performed under general anaesthesia and sizeable learning curve to master the technique[5,10,16]. Among the two alternative approaches Trans Abdominal Pre Peritoneal (TAPP) and Total Extra Peritoneal (TEP), some author concluded that both are safe and effective[17,18], while others preferred TEP since it can avoid entry into the peritoneal cavity and consequently, possible intraperitoneal complications[6]. Since 2010, TEP has been performed in this hospital. In the present study, outcome of TEP inguinal hernia repair (IHR) was analyzed.

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Methods

An observational analysis was done in all cases of inguinal hernia who had undergone TEP repair between April 2012 and March 2015. A total of 50 male patients were treated electively with TEP repair for a unilateral or bilateral hernia defect. They were either direct or indirect inguinal hernia cases. A total of 64 procedures were done, where bilateral repair was counted as two separate surgical procedures.

All adults (over 18 years) were included in the study including patients who had concomitant procedures at the same time of inguinal hernia repair. Patients with incarcerated hernia and those deemed unsuitable for surgery under general anaesthesia (GA) were excluded from the study. All the procedures were performed on an ambulatory care basis. Post-operative follow up was made in the outpatient department.

Patients were asked to void just before operation. All procedures were completed with patients under GA and supine Trendelenberg position with upper limbs tucked at the sides.

An infraumbilical vertical incision of 1.5 cm was made, blunt dissection of subcutaneous fat was done to expose the Linea Alba which was opened transversely and care was taken not to breach the parietal peritoneum. Blunt dissection was made with a hemostat in the extraperitoneal space aimed towards the pubis in the midline. A 10 mm trocar was placed, carbon dioxide inflation was done and a pressure of 10-12 mm was maintained. A zero degree 10 mm telescope was introduced and blunt dissection was done with the tip of the telescope keeping close to the peritoneum, first towards the pubis and then to the side of the hernia to the level of the anterior superior iliac spine. Indirect hernia sac was reduced high enough to hold down behind the mesh at the conclusion of the procedure. Medial dissection was extended across the midline to opposite side halfway to epigastric vessels. Polypropylene mesh (15x10 to 15x12 cm^2 sizes) was folded in halfway with 3 sutures. Then folded completely and introduced through the 10 mm cannula, then freed, half uncurled and laid flat to cover the space below the inguinal ligament. Spiral tacks were then used to fix the mesh. The sutures were then removed to uncurl the other half of the mesh to cover the space above the inguinal ligament, thus covering the hernia sites – inguinal, femoral and obturator. A similar technique was performed on the opposite side if warranted. The hernia sac was placed behind the mesh, hemostasis secured, deflation and closure of the fascial and skin incision were performed.

All patients were followed up in outpatient department in one week, one month, one and two years after surgery. Data analysis was done in following outcome items-Patients' age, hernia types and locations, complications, length of stay in hospital, return to work and recurrence.

Results

Most of the patients (23.33) were in the age group 41-50 years (Table-1).

Thirty two percent having an ASA (American society of Anesthesiologists) score of 1, 62% of 2 and remaining 6% an ASA score 3. Mean duration of complaints was 2 years (3 months to 12 years). All of them had primary hernias and 72% of them underwent unilateral repairs. None of the cases required conversion to TAPP or anterior procedures. The mean operation time for unilateral and bilateral cases was 55(45 to 65) minutes and 85(70 to 100) minutes respectively (Table-2).

In two patients (4%) intraoperative complication occurred and post-operative courses were complicated in 3 patients (6%) (Table-3). Excessive bleeding during operation occurred in 2 patients, one while the peritoneum was peeling off from obturator area and another due to injury to a branch of the epigastric vessel during retraction of the peritoneum off the triangle of doom. Both were managed endoscopically by gauze pressure and limited cautery. None required blood transfusion, none of the complications was associated with general anaesthesia. Two patients developed seromas noticed at one month follow up and were managed expectantly. In one patient recurrence was observed in one year follow up that was subsequently treated with a Lichtenstein procedure. Post-operative pain was mild in all case. Two patients complained of persistent pain at one month which was treated by reassurance and analgesics. Patients were able to resume their daily activities after a mean period of 7 days (3 to 10 days). None required a readmission and there was no mortality.

Table-1: Age distribution of the patients (n=50)

Age in years	No.	%
21-30	05	08.33
31-40	11	18. 33
41-50	14	23.33
51-60	11	18.33
>60	09	15
Total	60	100
Mean age 54 years		

Table-2 : distribution of the Patient by hernia characteristics

Variables	Data
ASA	
1	16 (32%)
2	31 (62%)
3	3 (6%)
Location of Hernia	
Unilateral	36 (72%)
Bilateral	14 (28%)
Duration of complaints	2 years (3 months-12 years)
Number of procedures	64
Duration of operation	
Unilateral	55 (45 to 65) minutes
Bilateral	85 (70 to 100) minutes

Table-3 : Distribution of the patients by complications (N-5)

Variables	Data
Mortality	0 (0%)
Intraoperative Complication (Bleeding)	2 (4%)
Postoperative Complication (Seroma)	2 (4%)
Recurrence	1 (2%)

Discussion

All the patients in the present study of inguinal hernia were male, as we found in open surgery as well. The reason behind very low incidence of female groin hernia surgery in our setup may be due to socioeconomic and religious state. The incidence of bilateral inguinal hernia has been variably reported in literature based on clinical examination alone (6%)[19], routine contralateral exploration[20] and with laparoscopy[21,22]. We offered and did bilateral TEP IHR in those presented with bilateral inguinal hernias and those with a unilateral direct inguinal hernia as the incidence of future development of a direct hernia on the other side is more in case of direct inguinal hernia.

In the post-operative period ketorolac trimethamine was our analgesic of choice unless contraindicated when tramadol hydrochloride was the alternative. Regarding operation time literatures suggested that time depends on the experience of the surgeon and it drops below an hour only after a century of procedures were performed[23]. TEP has a long learning curve compared to Trans-Abdominal-PrePeritoneal (TAPP) hernioplasty procedure[24].

Bleeding occurred intraoperatively twice during very early cases, certainly related to inception with the new procedure, though not severe, not eventful, this never happened once surgeon became familiar with the relatively avascular pre peritoneal space and dissecting closer to peritoneum.

This study does not encounter bladder or bowel injury though some publications reported TEP procedures to have higher incidence of serious perioperative complications than open procedures[25,26]. Another study reported that bilateral TEP was associated with significantly higher reoperation and urinary bladder injury ralated[27] while Mark A et al suggested that bilateral repair does not have notably higher risks or mortality than a unilateral repair[28]. Seroma in the inguinal area were encountered in two patients and none required intervention. Flore Varcus et al also reported that many patients had some degree of seroma that did not require drainage3. Lau et al concluded that old age, large hernia defects, scrotal hernias and left behind residual distal sac were associated with seroma formation[29].

The strength of the study is inclusion of all uncomplicated cases who were willing to undergo TEP IHR. Limitation of the study is its modest number of cases and potential selection bias as a substantial number of patients were excluded as they were operated by an anterior approach during study period due to financial constraints.

Conclusion

In patients with uncomplicated inguinal hernias TEP is associated with a very low overall risk of serious complications and recurrence with a very good functional outcome. It is equally applicable with bilateral inguinal hernias as well without added risk.

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Original article

Three years case study of autopsy in drowning death at Dhaka South

Md. Mazharul Islam[1],TC Das[2]

Abstract

Objectives : Drowning is one of the burdens of country's accidental death rate. In Bangladesh it is one of the commonest causes of death during rainy season in flood affected areas. There are more than 5 million people lived in Dhaka south. This study was done from autopsy conducted at Sir Salimullah Medical College morgue to find out the burden of drowning death.

Methods : A retrospective case study of drowning autopsy death at Sir Salimullah Medical College morgue was taken to analysis data during 2007-2009.

Results : The study showed that there were 136 drowning cases out of 1545 post-mortem cases. All were accidental Death.

Conclusion : All necessary measures to be taken for prevention of drowning.

Key words : Autopsy, Post-mortem, Drowning death

Introduction

Drowning is the process of experiencing respiratory impairment from submersion /immersion in liquid; outcomes are classified as death, morbidity and no mortality. In 2004, an estimated 388000 people died from drowning, making drowning a major public health problem worldwide. Injuries account for nearly 10% of global mortality. Drowning is the 3rd leading cause of unintentional injury death, accounting for 7% of all injury-related deaths[1]. It is a form of violent asphyxial death due to aspiration of fluid in to the air passage caused by complete immersion or submersion in water or other fluid medium at the level of mouth and nostrils for a certain period of time[2].

The definition and types of drowning varies from country to country. In Bangladesh it is one of the commonest causes of death during rainy season in flood affected areas. Victims of drowning are most commonly children and old people. There is a wide range of uncertainty around the estimate of global drowning deaths.

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Materials and method

Three years retrospective case study of drowning autopsy death at Sir Salimullah Medical College morgue was taken to analysis the data of Dhaka south Police stations respectively. There are 136 autopsy of drowning cases held during those three years out of 1546 autopsy cases at Sir Salimullah Medical College morgue.

The post-mortem of SSMC comprises the Dhaka South; there were 12 police stations under it. The 12 police station are - Kotwali, South Keranigang, Dhohar, Kamrangirchar, Kadamtoli, Shampur, Lalbag, Nababgang, Hazaribag, Sutrapur, Demra and Jatrabari. There were more than 3 million people resided there during these period. The three years case study shows different trends of age distribution, monthly case distribution, gender distribution, Thana distribution and manner of death.

Results

The study showed that there were 136 drowning cases out of 1545 post-mortem cases. All of drowning death was regarded as accidental cases. Age distribution states that drowning victims are common among young adults. Most common age group was 10-39 years. Most common victims are in 20-29 years (Fig-1). Of them 118 were male, 23 were female,116 cases were Muslims whereas 08 cases were Hindu and 07 cases are of unknown religion (Table-1). Out

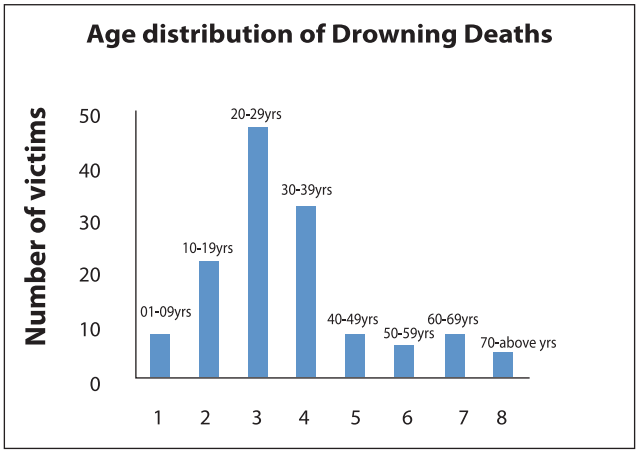
of 136 drowning death, 104 cases were unknown death and 32 were known (Fig-2). Most of the downing cases were coming from South keranigonj Ps which resides on the bank of river Buriganga (Table-2).

Statistic showed drowning was more common in rainy season than winter season. Due to the River Buriganga is the center of Dhaka south, so cases of drowning death is one of the important factors of post-mortem examination in SSMC morgue (Table-3).

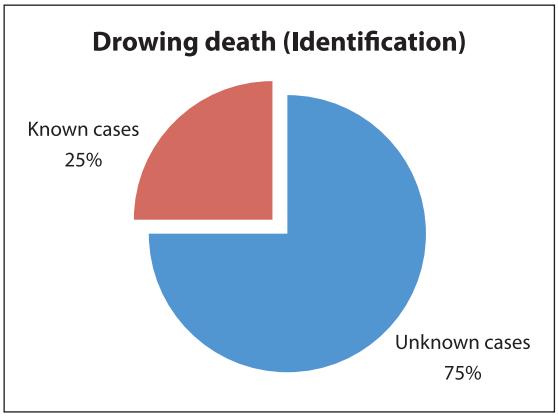
Table-1: Sex and Religion distribution of Victims

Sex	frequency	%
Male	118	
Female	23	
Religion		
Muslim	116	
Hindu	08	
Unknown	07	

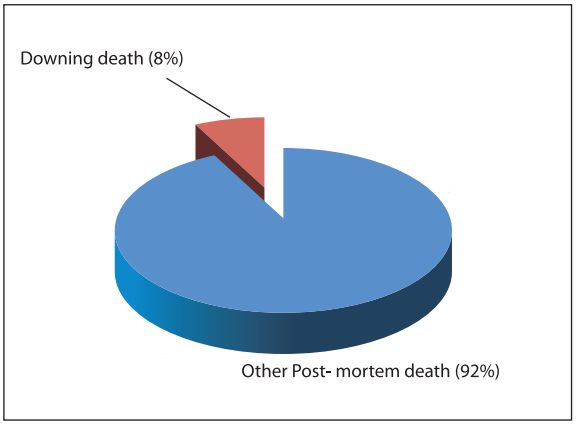
Fig–1 : Age distribution pattern of drowning death



Fig–2 : Identification of Drowning cases



Fig–3 : Statiscal data showning Drowning death during the year of 2007-2009)



Fig–4 : Yearly distribution of drowning death.

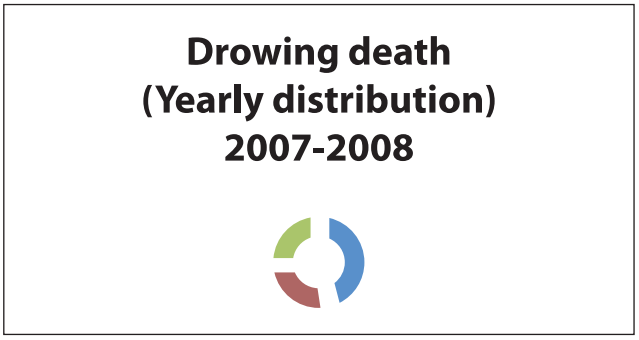


Table-2 : shows three years case study of Downing cases in P.S level.

Police station	No of victim
South Keraniganj	90
Kotwali	06
Nababgang	06
Dohar	02
Demra	05
Lalbag	02
Shampur	04
Jatrabari	05
Sutrapur	04
Kamrangirchar	10
Hazaribag	02
Kamrangirchar	10
Hazaribag	02

Table-3 : showing monthly distribution of drowning cases

Month	No of victim
January	09
February	13
March	10
April	05
May	21
June	14
July	15
August	12
September	13
October	08
November	05
December	11

Discussion

Study showed in years 2007-2009; there were 1545 post-mortem held at SSMC Morgue, of them 136 cases were drowning death. About 1/12 deaths are drowning cases. Study showed rainy season was the most vulnerable time for drowning death.

Bangladesh is the land of river. Most of the peoples live in village. During rainy season, every year country faces flood in most of the district. So drowning cases were more frequent during rainy season(May-September). This three years case study suggests that most of the victims were young adult and incidence was frequent in rainy season. Male victims were more than female because of their more exposure to pond, river, sea etc. Non-swimmers are most common victims of drowning death in our country.

Another major problem in autopsy was identification of unknown victims. About 8% from all autopsy cases were drowning death which is the one of important factors of accidental death in our country. In Dhaka south, South keraniganj is the most vulnerable place of drowning cases due to river Buriganga.

International study

Drowning is a common cause of death and disability. In 2002 over 400,000 (worldwide) people died from drowning; of the 400,000 deaths, 129,000 were in China. In the US it is the third most common cause of accidental death, with 3,500 deaths per year, or 10 per day. Twenty-five percent of the victims are children aged 14 and younger. The death rate from drowning does not reflect the potential morbidity (disability) due to brain injury for those who survive a drowning episode[5].

WHO response

Prioritizing research and public health initiatives to determine the burden and risk factors for drowning worldwide is crucial. Defining clear objectives such as quantifying the magnitude of the problem, identifying vulnerable populations, risks, exposures, and strengthening emergency response services is necessary, while focusing prevention interventions and advocacy on those populations most affected[3,4].

Risk-factors of drowning (WHO study)

Major risk factors for drowning by all causes include:

Sex:

- Males are more likely to die or be hospitalized due to drowning than females
- Males in the African region and Western pacific region have the highest drowning-related mortality rates.
- WHO Studies suggest males have higher drowning rates than females due to
  - Increased exposure to water and riskier behaviour, such as swimming alone
  - Drinking alcohol before swimming alone, and boating

Age

- Among the various age groups, children under five years of age have the highest drowning mortality rates worldwide Canada and New Zealand are exceptions, where adult males have the highest rates
- Drowning is the leading cause of injury death to children aged 1-14 years in China
- In Bangladesh, 20% of all deaths in children aged 1-4 years are due to drowning
- Drowning was the second leading cause of unintentional injury death in children aged 1-14 in the United States in 2000 (18.1%)

- Drowning is the leading cause of unintentional injury death in children aged 1-3 in every Australian state
- Drowning in young children is often associated with a lapse in supervision

Occupation

- The occupational mortality rate in Alaskan commercial fishermen is 116 per 100000. Approximately 90% of these deaths are by drowning
- Small-boat subsistence fishing in low-income countries is associated with many drowning deaths

Floods*

- Large numbers of drowning deaths are associated with floods worldwide, including thousands of deaths in single countries, such as China

Transportation*

- Vessels that may be unsafe or overcrowded (including refugee boats and poor weather conditions are associated with large, though unknown, numbers of drowning deaths every year
- 90% of Canadian boating victims of drowning were not wearing a floatation device

Alcohol

- Alcohol is a risk factor for drowning among adolescents and adults, though the proportion of drowning victims testing positive for blood alcohol concentration levels depends on the country reported
- Alcohol may impair parental supervision of children near water.
- Alcohol or drug use was implicated in 14% of unintentional drowning fatalities in Australia in persons greater than 14 years, of whom 79% were male

Epilepsy

- Children with epilepsy are at significantly greater risk of bath and pool drowning, compared to children without epilepsy.
- In Sweden, drowning was the cause of death in approximately 10% of people with a history of epilepsy (1975–1995)
- In Canada, most epilepsy-associated drowning deaths occur to adults in bathtubs

Socio-economic status

- Ethnic minority groups generally have higher drowning death rates, possibly due to differences in opportunities to learn to swim.[1]
- In Bangladesh, children whose mothers have only primary education are at significantly greater risk of drowning compared with children whose mothers have secondary or higher education

Access to water

- In Bangladesh, most young children who die from drowning are aged 12-23 months, with most fatalities occurring as a result of falling into ditches and ponds.

Prevention of drowning : (International approach)

Remove the hazard:

- Drain unnecessary accumulations of water (e.g. baths, ponds, buckets, etc.).

Create barriers

- Build flood control embankments in flood-prone areas
- Implement and enforce mandatory isolation fencing for swimming pools
- Where possible, fence around rural fish ponds, construction ditches (where filled with rainwater) and other bodies of water around houses and in the community.
- Encourage fencing around rural homes in proximity to water (e.g. farmhouses).
- Encourage the use of grills over water wells

Protect those at risk

- Promote "learn to swim" programs for primary school children, especially in low- and middle-income countries
- Increase access to public swimming pools to promote learning to swim
- Swimming and water-safety skills are associated with significant reductions in drowning fatalities
- Increase awareness of the need to supervise children both in and outside the home, and establish parent groups or other childcare mechanisms in rural communities, especially around harvest times

- Instruct children to avoid entering fast-flowing streams, and not to swim alone.
- Train lifeguards for regular deployment in supervised swimming locations
- Harmonize internationally the flags and symbols used for beach safety.
- Educate and/or legislate against consuming alcohol while boating or around large bodies of water
- Increase education in boat safety regulations as well as of the need for personal floatation devices when boating
- All boats and larger vessels should be checked regularly for safety, including safety equipment, and never exceed the maximum passenger capacity for which they were designed[2].

Counter the damage

- Train the general community in resuscitation. Timely resuscitation initiated by layperson bystanders increases the survival prospects of pediatric drowning victims.

Conclusion

Drowning is one of the burdens of country's accidental death rate. Male predominance, Young adult victim, low socio-economic status, yearly flood due to global climate revolutionize, unrevealed victim are the most common problem to avert the drowning cases. So, all necessary measures to be taken for prevention of drowning to reduce overall morbidity and mortality rate of unintentional death of our country.

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Review article

Antibiotic resistance: A Crisis needs to be encountered

Sanjoy Saha[1], Khan Shakil Ahmed[1], Richmond Ronald Gomes[1], Masud Imtiaz[2], Md. Salahuddin Khan[3], Champa Saha[4]

Abstract

Bacteria are said to be resistant if their growth is not halted by the maximum level of an antibiotic that is tolerated by the host. Antimicrobial agents among the most frequently prescribed and inappropriate use are associated with allergic reactions, toxicities, super infection and more importantly the development of antimicrobial resistance. Antibiotics are frequently prescribed inappropriately in terms of type, dose, duration and indication. The excessive and inappropriate use of antibiotics add unnecessary economic burden to the healthcare system and cause increasing antibiotic resistant organisms which result use more of expensive and toxic drugs. It is known that patients infected with drug-resistant organisms are more likely to require hospitalization, have a longer hospital stay and death. And all efforts to contain the problem must include manufacturers, prescribers, dispensers and consumers of antimicrobial agents to work in a group for prevention of antibiotic resistance.

Key Words : Antibiotic resistance, rational use of antibiotic

Introduction

Antibiotic resistance is a worldwide problem. New forms of antibiotic resistance can cross international boundaries and spread between continents with ease. Many forms of resistance spread with remarkable speed. World health leaders have described antibiotic resistant microorganisms as "nightmare bacteria" that "pose a catastrophic threat" to people in every country in the world[1]. We are enjoying the benefits of some wonder drugs from their discovery. And those wonder drugs are nothing but antibiotics. For the last 60-65 years since the antibiotic penicillin was first used, bacterial assaults on us have been controlled, diminished, and cured. The great power of the antibiotic, however, is failing. This failure is due to what has been called an international public health nightmare that is increasing bacterial resistance to many antibiotics that once cured bacterial diseases readily[2]. In other words, the antibiotic is unable to destroy the bacteria. Since antibiotics were first introduced, it was noticed that some bacteria would not respond to them. Bacterial resistance has always been around. Resistance genes preexisted in nature, in soil, and water, and their presence was probably related to the production of antibacterial agents, synthesized naturally in the environment[3]. The excessive and inappropriate use of antibiotics adds in an unnecessary economic burden to healthcare system and coincides with an increase in drug resistant organisms, which has resulted in the use of more expensive and toxic drugs. It is known that patients infected with drug-resistant organisms are more likely to require hospitalization, have a longer hospital stay and die[4]. In Bangladesh, misuse and waste of antibiotics appear to be frequent. Over the-counter availability of all types' antibiotics makes the situation worse. The widespread and inappropriate use of antibiotic results in the development of a progressively antibiotic-resistant microbial ecosystem in Bangladesh. This is clearly indicated by the high prevalence of antibiotic resistance among community- acquired Shigella, Salmonella, Vibrio cholerae, Escherichia coli, Neisseria gonorrhoe, Mycobacterium tuberculosis, Sptreptococcus pneumoniae and Haemophilus influenzae infections in Bangladesh[4]. Penicillin was first discovered in 1928[5]. In 1969, the US Surgeon General summarized this enthusiasm with the following historical words to the

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Congress "The time has come to close the book on infectious disease." While many praised this vision, the realities of infectious diseases were to take an unexpected and completely different course in the following period. Even before penicillin was used clinically, Abraham and colleagues had discovered an enzyme capable of destroying penicillin[6,7]. By 1950, half of the S. aureus isolates were resistant to penicillin[8]. Penicillin-resistance first became prevalent among hospital-acquired staphylococci[9], but by the late 1960s also in community acquired infections[10]. However, the implications of antimicrobial resistance were seriously underestimated and there was widespread confidence that science would find new solutions to this problem. Methicillin, introduced in 1959, offered a solution for treating penicillin-resistant staphylococci, however, already in 1961 Jevons described the first methicillin-resistant S. aureus (MRSA)[11]. Vancomycin was approved for clinical use in 1958 and was suitable to treat MRSA, and unfotunately by 1986, vancomycin-resistance started to emerge in enterococci in Europe[12]. The infectious disease experts feared that the much more virulent S. aureus would acquire resistance to vancomycin too. In 1997, vancomycin-intermediate resistant S. aureus (VISA) was discovered in Japan[13]. In 1948, Guiseppe Brotzu discovered that a substance produced by Cephaloporium acremonium effectively killed Salmonella typhii, laying the foundation for a whole new group of beta-lactam antibiotics, the cephalosporins. Starting with the use of cefalotin in 1964, the first-generation cephalosporins were succeeded by second-generation cephalosporins such as cefuroxime, and later on the third-generation oximino-cephalosporins, such as cefotaxime and ceftriaxone, which became fundamental in the treatment of Gram-negative bacteria, and ceftazidime, which had additional anti-pseudomonas effect. Ampicillin, the first penicillin with a broad-spectrum and activity against Gram-negative bacteria, was introduced in the early 1960s. Shortly after, Datta and colleagues in Greece described in a strain of E. coli a plasmid-mediated ampicillin-hydrolyzing beta-lactamases, which was named TEM-1 after the patient, whose name was Temoniera[14]. In the coming years, mutations have lead to the emergence of a large number of ESBL enzymes[15]. The optimism of the "golden age" of antibiotics, has given way to a reserved feeling, as bacteria have generated resistance against virtually any antimicrobial agent that humans have developed. While the pharmaceutical industry has largely been passive in developing new antimicrobials the last few decades seem to herald that we may be entering what Cohen called the post-antibiotic area[16].

Types of resistance

1. **Primary resistance :** Some bacteria posses an innate property to certain drug.
2. **Acquired resistance :** Either from mutation or gene transfer.

Causes of antimicrobial resistance

1) Indiscriminate use of antimicrobials.
2) Use of wrong antimicrobials.
3) Right antimicrobials-but not given in right doses, interval & duration.
4) Use of less quality antimicrobials.
5) Overuse or abuse of antibiotics in non-humans.

Brief mechanism of development of Resistance

a) Genetic alterations leading to drug resistance

1) Naturally resistant strains.
2) Spontaneous mutation
3) Transmission of genes from other organisms by:
   - Plasmids (extra-chromosomal genetic elements)
   - Bacteriophages (virus infected bacteria)

b) Altered expression of proteins in drug resistant organism

- Bacteria produce enzyme that inactivate drug.
- Bacteria synthesize modified target against which drug has no effect.
- Bacteria reduce permeability of a drug.
- Bacteria actively export drugs using "multidrug resistance pump" (MDR pump or efflux pump)

Common Antibiotic resistant pathogens in Bangladesh

In Bangladesh, misuse and waste of antibiotics appear to be frequent. Over the-counter availability of all types of antibiotics makes the situation worse. Antibiotic prescribing by the physicians appears to be less than ideal. The widespread and inappropriate use of antibiotic results in the development of a progressively antibiotic-resistant microbial ecosystem in Bangladesh. This is clearly indicated by the high prevalence of antibiotic resistance among community- acquired Shigella, Salmonella, Vibrio cholerae, Escherichia coli, Neisseria gonorrhoe, Mycobacterium tuberculosis, Sptreptococcus pneumoniae and Haemophilus influenzae infections in Bangladesh. Antibiotic resistance is also frequent in human gut flora in Bangladesh. A high

prevalence of resistant gut flora in healthy human and probably in animals appears to be the source of antimicrobial resistance genes, the dissemination of which is enhanced by extensive use and misuse of antimicrobial pathogens agents and by environmental conditions such as crowding, poor sanitation or contamination of food.

Emergence and spread of Antibiotic Resistance

There are many factors that contribute to the emergence, persistence and spread of resistant bacteria. Selective pressure on microorganisms resulting from imprudent indiscriminate use of antibiotics in humans and animals is the key factor for the emergence of antibiotic resistance gene among bacterial population.Mobile genetic elements such as plasmid or transposon arries and transports antibiotic resistance gene from one bacterium to another bacterium of the same or different species or genus. The intensive use of antibiotics, for treatment and prophylaxis, make hospital a prime site for the emergence, maintenance and spread of resistant pathogens. After discharge of patients from the hospital, resistant pathogens establish in the community and are transmitted from persons to persons or persons to household pets or vice versa17. More than half of the total production of antimicrobials in the world is used in farm animals and in agriculture. All of these uses contribute significantly to the emergence, maintenance and spread of resistant pathogens in the community.

Detection of Antibiotic Resistance

Antibiotic resistance in bacteria is commonly detected as a part of standard clinical microbiological procedure for the identification of cause of infection and appropriate treatment. Detection depends on the collection of clinical samples from the patient, and on the isolation, identification and susceptibility testing of the pathogens in good Clinical Microbiology Laboratory by trained personnel in a cost- effective way. A good representative database on the current status of antibiotic resistance among common and important pathogens is essential for the proper treatment of infectious diseases in the country.

Measures to be encountered against antimicrobial resistance

Energetic measures to slow down the emergence and spread of antimicrobial resistance should include programs on surveillance, education and research on antimicrobial resistance, and regulation of use of antimicrobials in the hospitals and in the community. The efforts include:

- Detection and awareness of problem of antimicrobial resistance by microbiology laboratory and public media.
- Surveillance (local, regional and international) on antimicrobial resistance should be established in collaboration with WHO18.
- Antibiotic use guidelines and committee should be developed for each country.
- Antibiotic use in hospitals should be regulated and rationalized.
- Detection and targeting the resistance
- Education on antibiotic resistance to manufacturers, prescribers, dispensers and consumers through continuing education and other means.
- Vaccines for preventing infectious diseases should be encouraged in all circumstances.
- Hygiene and sanitation should be improved and practiced.
- Nutritional status should be maintained and improved.

Guidelines for using antibiotics

1. Diagnose infections first - whether community or nosocomial in nature
2. Isolate or predict infecting pathogen
3. Knowledge about antibiotic susceptibility of the pathogen in the locality, country and region.
4. Consult Clinical Microbiologist for opinion, if necessary
5. Select an appropriate narrow spectrum, low- cost, 1st-choice bactericidal drug
6. Prescribe for appropriate duration
7. Ensure adequate concentration at the site of infection
8. Inform patient about potential side-effects

Conclusion

An all through collaboration significantly national and international is urgently needed for prudent and rational use of antimicrobials in human and animals through more stringent regulations of marketing, sale, use and consumption is essential for the prevention and control of antimicrobial resistance. And all efforts to contain the problem must include manufacturers, prescribers, dispensers and consumers of antimicrobial agents to work in a group for prevention of antibiotic resistance.

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Case Report

A Case of Dermatomyositis : Diagnostic Challenge in Low Resource settings

Richmond Ronald Gomes[1], Sanjoy Saha[1], Khan Shakil Ahmed[2], Masud Imtiaz[3], Serajul Islam[4], Mir Moyeedul Islam[5]

Abstract

Dermatomyositis is one of the idiopathic inflammatory myopathies. It is characterized clinically by progressive symmetrical proximal muscle weakness and a characteristic rash. Although the process primarily attacks the skin and the muscles, it is a systemic disease with frequent manifestations in the gastrointestinal tract and pulmonary system. Dermatomyositis has been linked to internal malignancy in somewhere between 15% and 25%. This case report involving a 30 years old fair female nurse who presented with extensive erythema involving face, upper neck, upper back and deteriorating proximal muscular weakness for three months. Later muscle enzymes, EMG and biopsy were done from BSMMU, Dhaka, confirmed the diagnosis of Dermatomyositis. Oral prednisolone along with azathioprine, hydroxychloroquine and photo protection with sun screen were initiated and showed good response both clinically and biochemically.

Key words : Dermatomyositis, heliotrope rash, shawl sign, poikilodermic changes

Introduction

Dermatomyositis is one of the idiopathic inflammatory myopathies[1-3]. It has two peaks of occurrence, one in childhood and one between the age of 45 and 65 years[4-5]. The estimated annual incidence rates ranged from 2 to10 cases per million6. In 1975, Bohan and Peter[4] published a classic article that suggested a set of criteria to aid in the diagnosis and classification of Dermatomyositis and polymyositis (PM). Of the 5 criterias, 4 related to the muscle disease: (1) progressive proximal symmetrical weakness (2) elevated muscles enzymes, (3) an abnormal electromyogram, and (4) an abnormal muscle biopsy, while the fifth was the presence of compatible cutaneous disease.

It was felt that DM differed from PM only by the presence of cutaneous disease. Recent studies of the pathogenesis of the myopathy have been controversial, some suggesting that the myopathies in DM and PM are pathogenetically different with DM being due to a vascular inflammation[5], whereas other studies of cytokines suggest that the processes are similar[6-9]. There has been a renewed interest in the pathogenic mechanisms involved in the myopathy with recent studies revealing abnormal levels of nitric oxide, elevation of circulating tumor necrosis factor (TNF) receptors, elevated soluble CD40 expression, and increased expression of major histocompatibility complex class I and interleukin 1a within the muscle. The pathogenesis of the cutaneous disease is poorly understood.

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Case Presentation

On 15th January 2015, a 30 years old fair female married nurse came to the department of Medicine of Ad-din Sakina Medical College & Hospital, Jessore, Bangladesh with extensive photo sensitive erythema involving face, neck, upper chest, upper back; alopecia and deteriorating proximal muscular weakness for three months. But patient denied any joint pain, oral ulcer, history of abortion, haematuria, features supporting raynaud's phenomenon, any respiratory and gastrointestinal complaints. On examination there was wide spread violaceous erythema involving face, "V" of neck and upper back (shawl sign). There were some poikilodermic changes (atrophy, hypopigmentation, talangiectesia) over upper aspect of the back with focal alopecia. Some periorbital oedema was also noted with heliotrope rash. But gottron's papules, hyperkeratosis of hands (mechanical hands), periungual talangiectesia and holsters sign (poikiloderma of upper

lateral thigh) were absent. Neurological examination revealed reduced proximal muscle strength (3+/5) in both upper and lower limb compared to distal power (5/5). No other focal neurological signs were elicited. Cardiovascular, respiratory and abdominal examinations were unremarkable.

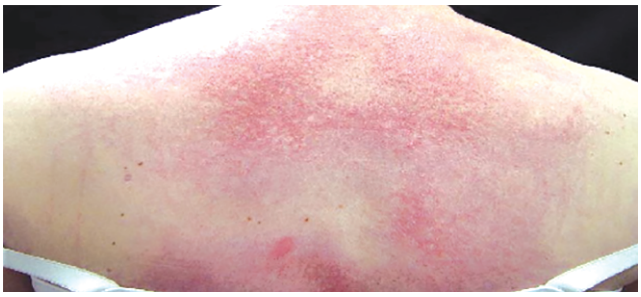

Figure-1 : Poikiloderma on the upper aspect of back is typical of the shawl sign.

Baseline haematological and biochemical investigations revealed normal complete blood count, Hb%-12.4gm/dl, WBC-7600/cmm, Neutrophil-50%, Lymphocyte-42%, Eosinophil-4%, total platelet count 393000/c mm. Inflammatory markers were elevated with ESR-42 mm in Ist hour and CRP 45. Lactate dehydrogenese (LDH), aspartate amino transferase (AST), levels were elevated at 2290U/L and 243U/L respectively. Her Creatin phosphokinase (CPK) level was significantly raised with 13738/L (Normal: 30-135U/L). Antinuclear antibody (ANA), Anti double-stranded DNA, Rheumatoid factor, ENA (extractable nuclear antigen) profile, HBsAg were negative. electromyography (EMG) findings were consistent with inflammatory myositis. Skin biopsy from upper chest revealed hyperkeratosis, keratotic plugging, mild atrophy of the epidermis, basal liquefaction and lympho histiocytic infiltration at dermoepidermal junction as well as
perivascular region in the upper dermis. Cancer screening including chest X-ray and ultrasonography of whole abdomen were normal. Based on the clinical features and investigations, the patient was diagnosed as a case of Dermatomyositis.

Her treatment was started with oral prednisolone along with azathioprine, hydroxychloroquine and photo protection with sun-screen. With treatment there was a clear response to treatment with resolution of skin lesions, gradual improvement of her muscular weakness and reducing level of CPK and LDH (780U/L and 417U/L respectively after one month of treatment). She was advised for regular follow up.

Figure-2 : Mild periorbital oedema with marked facial Erythema

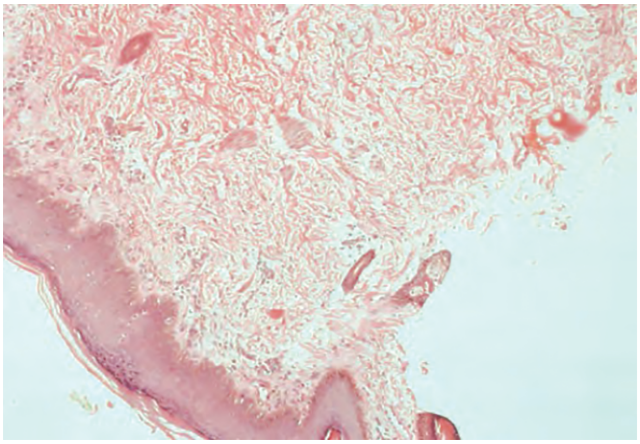

Figure-3 : Histopathology slide showing hyperkeratosis, keratotic plugging, basal cell liquefaction and lymphohistiocytic infiltration in to the upper dermis

Muscle/ Slide	Inser. Act	Fibs	Pos. wave	Fasc.	MYO Disch	Normal MUP	Poly	Low Amp	High Amp	Dur	Rec	Int. Patt
TA L	Inc	+2	+2	0	0	0	N	+3	0	Sh	F	F
Q L	Inc	+1	+3	0	0	0	N	+3	0	Sh	F	F
Q R	Inc	+3	0	0	0	0	+++	+3	0	Sh	F	F
GM L	Inc	+3	0	0	0	0	++	+2	0	Sh	F	F

TA: Tibialis Anterior, Q: Quadriceps, GM: Gluteus Medius, Inc: Increment, Sh: Short, F: Full
EMG findings Summary: Inflammatory myopathy

Discussion

Dermatomyositis (DM) is one of the idiopathic inflammatory myopathies[1-3]. Bohan and Peter[4] suggested 5 subsets of myositis—DM, PM, myositis with cancer, childhood DM/PM, and myositis overlapping with another collagen vascular disorder. In a subsequent publication, Bohan et al[10] noted that cutaneous disease may precede the development of the myopathy; however, it was only recently recognized that another subset of patients with disease that only affects the skin (amyopathic DM [ADM] or DM-sine myositis) may occur[11]. A seventh subset known as inclusion body myositis has been recognized in 1979[12,13]. Perhaps there is an eighth group in which characteristic cutaneous disease is drug-induced[14]. Finally, Sontheimer[15] has proposed that other subsets exist for patients with cutaneous disease including classic DM, ADM, and at least two additional subsets known as hypomyopathic DM, when the skin disease is present with subtle muscle disease, evident with studies other than enzymatic analysis, and finally, a subset known as post-myopathic DM when patients with previous classic DM have the myositis resolve, but the skin disease remains active.

DM is autoimmune in pathogenesis and results from a vasculopathy. Both cell mediated immunity to muscle antigen and immune complex disease may play role in the pathogenesis[16]. Along with symmetrical proximal muscle weakness the characteristic and possibly pathognomonic cutaneous features of DM are the heliotrope rash and Gottron's papules. Other skin manifestations of DM include, erythematous malar rash, confluent macular violaceous erythema overlying the extensor aspect of the upper extremity, V area of anterior neck and chest, central aspect of the face, periorbital areas, forehead of the scalp, lateral aspect of the hip and thigh, periungual telangiectasia, poikiloderma, hyperkeratosis or mechanical hands, cuticular over growth, panniculitis, cutaneous vasculitis. The skin lesions of DM are probably photoaggravated. Clinical observations suggest that not only is the skin disease exacerbated by light, but muscle disease may be worsened after sun exposure[17-20]. Phototesting has however not been able to reliably reproduce the skin lesions; thus, the wavelength of light that is responsible for the clinical manifestations (action spectrum) is not known. Scalp involvement in DM is relatively common and is manifested by an erythematous to violaceous, psoriasiform dermatitis[21]. in our case there was focal non scaring alopecia.

Nitsche et al first published a case of widespread subcutaneous edema as part of the dermatomyositis syndrome in 1988[22] in contrast to some periorbital oedema noted in our case. The underlying pathogenesis for the subcutaneous edema remains to be elucidated. It has been thought that increased vascular permeability in the tissues and muscles leads to extensive leakage of fluid into surrounding structures[23]. This implies that subcutaneous edema may be a result of severe inflammation and an indirect indicator of aggressive disease. On the other hand, there may also be a role for an immune complex mediated vasculitis[24].

Recently, evidence has emerged linking the pathogenesis of dermatomyositis to type I interferons. A case report of severe dermatomyositis exacerbated/induced by interferon beta therapy was published in 2008, supported by in vitro evidence of enhanced type 1 interferon signaling in response to interferon beta[25]. The optimal treatment of dermatomyositis associated remains unclear. The mainstay of therapy involves glucocorticoids, which are thought to act through anti-inflammatory and immunosuppressive effects[25,26]. However, additional immunosuppressive agents such as azathioprine, hydroxychloroquine, mycophenolate-Mofetil and methotrexate are often employed as a more aggressive attempt to gain control of disease. IV Ig has also been administered in severe, life threatening cases; eight out of nine patients given IVIg eventually recovered from their illness[26-33]. Newer biological agents have shown great promise in refractory cases of dermatomyositis. Rituximab has been successfully used in the treatment of refractory dermatomyositis and other inflammatory myopathies[34, 35].

Conclusion

Dermatomyositis is a condition primarily of skin and muscle, but other systemic features may occur. The pathogenesis of the muscle disease is becoming better understood but the cutaneous disease mechanisms remain enigmatic. Dermatomyositis in adults is associated with malignancy. So that, to exclude malignancy proper evaluation of each patient is necessary during initial and follow-up assessments. Patients should also be evaluated for the presence of esophageal, pulmonary and cardiac disease. Corticosteroids, immunosuppressive agents, biologic agents, and/or immune globulin are effective therapies for the myopathy of DM, whereas the skin disease is best managed with sun protection, topical corticosteroids, antimalarials, methotrexate, and/or immune globulin.

The prognosis is good except for patients with malignancy, those with severe weakness, and those with cardiac dysfunction, interstitial lung disease, or the presence of a myositis-specific autoantibody other than Mi-2.

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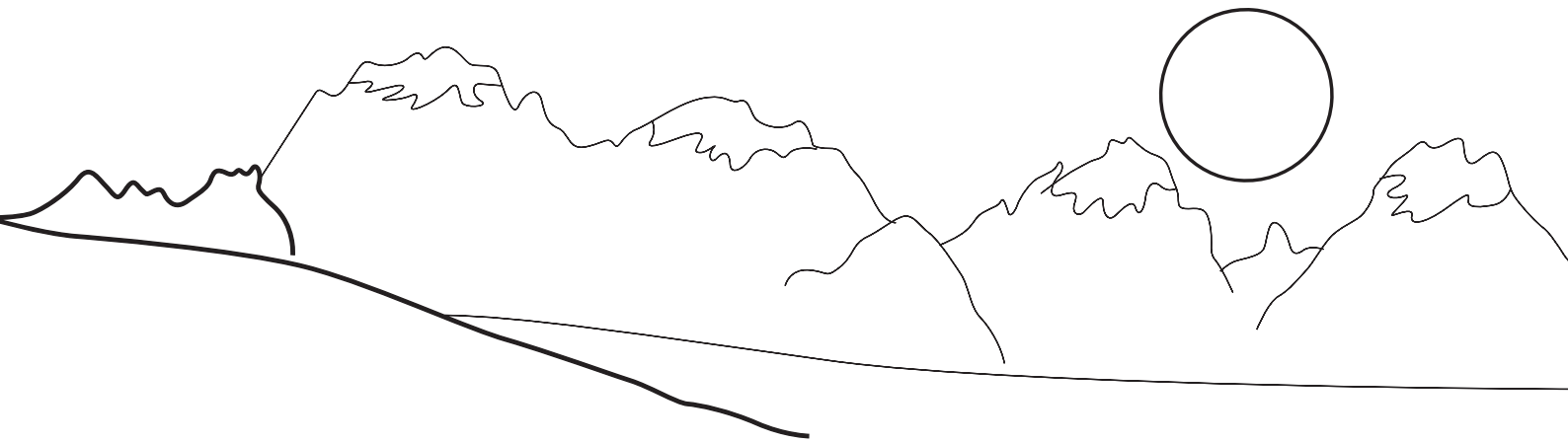

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