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From the Desk of the Editor-in-Chief

Congratulations

All praises to the Almighty. It is a great pleasure that Diabetic Association Medical College, Faridpur is the first private medical college in the South part of Bangladesh, going to publish its second scientific journal. I solely praise our devoted researchers and doctors who contribute themselves to achieve this great task.

The aim of this journal is to enhance and upgrade the research work of our teachers in the field of medical science. It provides an integrative forum for medical researchers across the globe to exchange their knowledge and views. It also helps us to promote communication among fellow academicians and researchers worldwide. It provides an opportunity to academicians in exchanging their knowledge that is directly relevant to all domains of health sciences.

I would like to congratulate our journal committee and all concerned personnel for the publication of this first issue. I hope this journal will develop a new channel for authors for disseminating their research findings. Honorable medical researchers are invited to submit their research paper for the next issues.

Lastly, I express my heartfelt gratitude to all the researchers for their cordial Endeavour. I expect regular publication of the biannual issues of this journal would brighten the academic and research environment of this institution. I am very much hopeful for the better outcome of this journal.

Professor Dr. Jitesh Chandra Saha Editor-in-Chief, JDAMC

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Information for Authors

General Information

Aims & Scope:

The Diabetic Association Medical College journal is a scientific journal dealing with clinical medicine, basic sciences, epidemiology, public health and various health care specialities. It is an official organ of Diabetic Association Medical College and going to be published biannually (January and July).

The journal publishes articles of authors from any part of the globe/country. It intends to publish the highest quality material on all aspects of medical science. It accepts original research articles, review articles, short communications, case reports and letters to editor. In addition, it provides readers with opinion regarding the articles published in the journal. Complimentary print copies of the journal are sent to libraries of all medical colleges and other relevant academic institutions in the country.

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The Prevention of Acute Respiratory Infection and Vitamin D Supplementation

Biswas B K

Among the leading causes of under 5 mortality and morbidity in Bangladesh, Acute respiratory infections (ARI) are at the top of the list .These are a major cause of global mortality and morbidity and are responsible for 10% of ambulatory and emergency department visits in the USA¹ and an estimated 2.65 million deaths worldwide in 2013². Observational studies report consistent independent associations between the low serum concentrations of 25hydroxyvitamin D (the major circulating Vitamin D metabolite) and susceptibility of acute respiratory tract infections^{3,4}. This Article highlights the indication of vitamin D supplementation in the prevention of acute respiratory Infection.

Vitamin D, or the "sun-shine vitamin", is not just as a vitamin; it is also prohormone with numerous functions in the body⁵. "Prohormone "refers to a group of fat soluble seco-steriods. The best-understood function of Vitamin D is in the absorption of calcium from the small intestine, which helps to prevent diseases such as rickets in children and osteoporosis and osteomalacia in adults⁶. In addition to causing rickets, vitamin D deficiency has been linked to respiratory infection such as tuberculosis and Bronchiolitis along with pneumonia⁷. The effects of Vitamin D are mediated by a cytosolic receptor called Vitamin D Receptor (VDR). VDR is ubiquitously expressed, and this ubiquity accounts for the numerous and varied mechanisms that are regulated by vitamin D⁸. The VDR gene, which is located on chromosome 12q13.1, has several polymorphic regions, some of which are associated with predisposition of certain diseases. This means that not only is vitamin D deficiency is associated with considerable risk of diseases, but there is wide interindividual variation in vitamin D sensitivity, which may influence risk⁹.

Vitamin D has an important influence on the host's immune system, modulating both innate and adaptive immunity and regulating the inflammatory cascade. Vitamin D supports induction of antimicrobial peptides in response to both viral and bacterial stimuli, suggesting a potential mechanism by which vitamin D inducible protection against respiratory pathogens might be mediated¹⁰⁻¹². Vitamin D metabolites have also been reported to induce other innate antimicrobial effector mechanisms, including synthesis of reactive nitrogen intermediates and reactive oxygen intermediates. These epidemiological and in vitro data have prompted numerous randomized controlled trials to determine whether vitamin D can decrease the risk of

Correspondence to:

Professor Dr. Barun Kanti Biswas Professor and Head, Department of Paediatrics, Diabetic Association Medical College, Faridpur. Email: drbarun2008@yahoo.com ARI. A total of five aggregate data meta-analyses incorporating data from up to 15 primary trials have been conducted to date, of which two reports statistically significant protective effects and three not statistically significant¹³.

This heterogeneity might have arisen as a result of variation in participant characteristics and dosing regimens between trials, either of which may modify the effects of vitamin D supplementation on immunity of respiratory pathogens¹⁴ .In this regard, it is very important to understand the definition of deficiency and insufficiency of vitamin D and how to treat this condition. Unfortunately, there is no consensus, although a level of at least 10ng/ml 25(OH)D is thought to be necessary to promote bone mineralization and calcium homeostasis and a concentration between 20ng/ml and 50 ng/ml is considered adequate to provide an immunomodulatory effect¹⁵. Overall, in children as well as in adults, the term "Vitamin D deficiency" indicates values <20ng/ml, whereas insufficiency is defined as between 20ng/ml and 30ng/ml, with at least 30ng/ml required for optimal health benefits¹⁶⁻¹⁸. Although hypervitaminosis D is arbitrarily defined as 25 (OH) D concentrations >100ng/ml, symptoms of vitamin D intoxication typically do not manifest until circulating 25 (OH) D concentrations rise above 150ng/ml¹⁹.

Now, a major role of vitamin D supplementation for the prevention of acute respiratory infections should be considered seriously specially for children, the most vulnerable group of population of the developing nations.

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Study on Awareness Regarding Health Hazards among the Garments Workers in a Selected Garment Factory

Tarafdar MA^{1} , Miah MAM^{2} , Asaduzzaman AKM^{3} , Biswas MA^{4}

Abstract

A descriptive type of cross sectional study was carried out to assess the level of awareness regarding health hazards among the garments workers in a selected garment factory with a sample size of 129. Study showed that majority of the respondents (93.8%) was in 18-35 years of age and only 6.2% of the respondents were above 35 years of age with mean age of 26.05 ± 5.549 years. It revealed that 42.6 % of the respondents educational status was secondary level followed by 39.5 % was completed primary, level 1.6 % was graduate and 9.3% was illiterate. Study showed that 77.5% of the respondents were married, 15.5% was unmarried, 4.7% was separated and 2.3% was widows. It explored that 96.9% of the respondents was Muslim and 3.1% was Hindu. 32.6% of the respondents worked at kneeting section, 21.7% was in trumming, 20.2% was in linking, 10.1% was in finishing section and very negligible percent of respondents worked at various sections. It is found from the study that 60.5% of the respondents had knowledge on occupational health hazards, 78.3 % had knowledge about training regarding health hazards, 72.1% had knowledge about training & education regarding operation of instruments and 62% had knowledge about labor laws. Study further revealed that majority of the respondents worked at 8-10 hours, 26.4% worked 6-8 hours and 11.7% worked more than 10 hours. 100% of the garments had sufficient lighting facilities but only 27.1% of the garments had enclosed harmful materials facilities, 65.2% of the garments had no storage and segregation facilities of hazardous products, 64.4% of the garments had no emergency ambulance service and only 35.7% of the garments had proper personal protective equipment (PPE). It was found from the study that 100% of the garments had medical center facilities but only 62.8% had periodic health check-up. Study revealed that 42.6 % of the respondents source of information about training regarding health hazards from trainer and 28.7 % from doctors and authority, 35.7% knew about training & education regarding operation of instruments from authority, 17.1% from supervisor, 12.4% from HR department and 43.9% from others and 54.9% responded were informed about labor laws from the trainer, 27.9% from HR department and 17.1% from authority. Study found a statistically significant association between use of PPE and sex of the respondents (p=0.032). Availability of PPE and enforcement of their use along with display of proper safety signs and information and appropriate places can be effective to increase workers knowledge and create safer and better work place environment.

Key words: Garments factory, Health hazards, Awareness

Introduction:

In a developing country like Bangladesh, Readymade Garment (RMG) sector plays an important role in the overall economic development. At present, approximately 20 lakh workers (among which 80% is female) are working in this sector which is a great source of employment. It is also mentionable that about 76% of our foreign exchange is earned by this sector. The garment industry of Bangladesh

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Professor Monowar Ahmad Tarafdar Professor and Head, Department of Community Medicine ZH Sikder Women's Medical College, Dhaka E-mail: E-mail: babla762@yahoo.com has been expanding rapidly since late 1970s.¹ It was the global market that created an environment congenial to the growth and development of garment industry in Bangladesh.² Bangladesh's garment industry provides employment to about 3.6 million workers which 2.8 million are women.³ The RMG industry created employment opportunities i.e. especially for female workers and now this sector is considered as one of the main sources of employment for female workers of Bangladesh. This industry has provided the largest employment opportunities for women in the industrial sector where more than 85 percent of the production workers are women.⁴

Work related injuries are a major public health problem. These result in serious socio-economic consequence. By taking appropriate measures we can prevent it. It has been found that, more than 2 billion people suffer from work related injuries and two million die as a consequence of these injuries every year. In developed countries, 20- 50% of workplace have access to some kind of occupational health services. For the developing countries the percentage is only 5-10%.⁵ The garment workers in Bangladesh had to work from dawn to dusk in a confined environment where proper ventilation of air is absent. In a study N Nahar, R N Ali and F Begum concluded that the particular nature of work in garments create various types

of health hazards among the garment workers such as headache, malnutrition, musculoskeletal pain, eye strain, less appetite, chest pain, fainting, diarrhea, hepatitis (jaundice), food poisoning, asthma, fungal infection, helminthiasis and dermatitis⁶. Most of the health problems that the garment workers suffering arose from the occupational hazards including long working hours, absence of leave facilities, congested and over-crowded working conditions, absence of health facilities and safety measures, absence of staff amenities, lack of safe drinking water etc.¹ In these circumstances Jana P (2008) suggested that recognizing ergonomic risk factors in the workplace is an essential first step in correcting hazards and improving worker protection⁶. Health and productivity of labourers are highly correlated. The garment workers are basically poor. Safe conditions in the garment industry are very crucial for worker's health and productivity⁷.

Materials and Method

A descriptive type of Cross sectional study was done in a selected garment factory at Savar, Dhaka during the period of 17.12.2016 to 22. 12. 2017 having a sample size of 129 among the workers available during the study period. The respondents were selected randomly from the workers available on the study period using a pretested semi structured questionnaire. The data were obtained through face to face interview of the respondents. Data was managed and analyzed with the help of SPSS.

Results

Majority of the respondents (93.8%) was in 18-35 years age group and only 6.2% was above 35 years of age with mean age 26.05 ± 5.549 years.



Figure 1: Distribution of th	e respondents b	y Sex	(n = 1)	129)
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It is evident that in the present garment industry, there is female preponderance of worker with a ratio of male: female of 1: 3. Study reveals that 42.6 % of the respondents educational status was Secondary level followed by 39.5 % was completed primary, 1.6 % was graduate and 9.3% was illiterate. The study also explores that 34.9% spouses educational status was Secondary followed by 27.1% was completed primary, 21.7% others, 3.9% was graduate, 3.1% completed informal education and 9.3% was illiterate.

Among the respondents 77.5% were married, 15.5% unmarried, 4.7% separated and 2.3% widows. It was found that 32.6% of the respondents worked at knitting section, 21.7% was in trimming, 20.2% was in linking, 10.1% was in finishing section and very negligible percent of respondents worked at various sections.

The study reveals that 65.2% of the garments had opined that there were no storage and segregation facilities of hazardous products. Only 35.7% expressed that the factory had emergency ambulance service.

 Table 1: Distribution of the respondents by knowledge on occupational health hazards

knowledge on occupational health hazards	Frequency	Percent
Yes	78	60.5
No	51	39.6
Total	129	100.0

 Table 2: Distribution of the respondents by types of disease

 and illness (Multiple responses)

Types of disease and illness	Frequency	Percent
Headache	72	55.8
Musculo-skeletal pain/back pain	40	31.0
Eye Strain	33	25.6
Loss of appetite	12	9.3
Chest pain	21	16.3
Diarrheal diseases	8	6.2
Food Poisoning	7	5.4
Faint	9	7.0
Respiratory Problem/ Asthma	8	6.2
Fungal Infection	5	3.9
Numbness and tingling of fingers and arms	19	14.7

 Table 3: Distribution of the respondents by History of Mechanical Injury

History of mechanical Injury	Frequency	Percent
Cut Injury	47	36.4
Crush Injury	3	2.3
Wound	1	.8
Burning	7	5.4
Stampede	2	1.6
Others	69	53.5
Total	129	100.0



Figure 2: Distribution of the respondents by Length of Working Hour (n = 129)

Table 4: Distribution of the respondents by use of proper personal protective equipment (n = 129)

Use of proper personal protective device	Frequency	Percent
Yes	46	35.7
No	83	64.3
Total	129	100.0

Table 5: Distribution of the respondents by availability of health care facilities (Multiple responses) (n = 129)

Availability of health care facilities	Frequency	Percent
First-Aid	113	87.6
Medical center facilities	129	100.0
Full-time physician employed	119	92.2
Full -time nurse employed	124	96.1
Day care center	107	82.9
Periodic health check-up	81	62.8
Pre placement health check-up	100	77.5
Medical supervision during duty time	89	69.0

Table 6: Distribution of the respondents by knowledge about training regarding health hazards

Knowledge about training	Frequency	Percent
Yes	101	78.3
No	28	21.8
Total	129	100.0

 Table 7: Distribution of the respondents by source of information about training regarding health hazards

Source of information about training	Frequency	Percent
Authority	37	28.7
Doctor	37	28.7
Trainer	55	42.6
Total	129	100.0

Table 8: Distribution of the respondents by knowledgeabout training & Education regarding operation ofinstruments

Training & Education regarding operation of instruments	Frequency	Percent
Yes	93	72.1
No	36	27.9
Total	129	100.0

Table 9: Distribution of the respondents by source ofinformation about training & Education regardingoperation of instruments

Informer	Frequency	Percent
From Authority	46	35.7
HR Department	16	12.4
Supervisor	22	17.1
Others	45	43.9
Total	129	100.0

 Table 10: Distribution of the respondents by knowledge

 about labor laws

Knowledge about labor laws	Frequency	Percent
Yes	80	62.0
No	49	38.0
Total	129	100.0

 Table 11: Distribution of the respondents by the source of knowledge about labor laws (Multiple responses)

Sources	Frequency	Percent
From Authority	22	17.1
HR Department	36	27.9
Trainer	71	54.9

 Table 12: Distribution of the respondents by association

 between PPE use and sex of the respondents

Sex of the respondents	Use of prop protectiv	per personal ve device	p-value
	Yes	No	
Male	25	26	
Female	21	56	0.032
Total	46	83	

Discussion

A descriptive type of cross sectional study was carried out to assess the level of awareness regarding health hazards among the garments workers in a selected garment factory with a sample size of 129.

It was found from the study that 60.5% of the respondents had knowledge on occupational health hazards, 78.3 % had knowledge about training regarding health hazards, 72.1% had knowledge about training & education regarding operation of instruments and 62% had knowledge about labor laws. It showed that majority of the respondents was suffering from headache, 31% from musculo-skeletal pain/back pain, 25.6% had eye strain, 16.3% had chest pain, 6.2% had diarrheal disease, 14.7% had numbness and tingling of fingers and arms and other percent of respondents was suffering from different types of disease and illness. 36.4% of the respondents had history of cut injury, 5.4% had burn, 2.3% had crush injury and 53.5% had history of other types of mechanical injury. Study further revealed that majority of the respondents worked at 8-10 hours, 26.4% worked 6-8 hours and 11.7% worked more than 10 hours. 100% of the garments had sufficient lighting facilities but only 27.1% of the garments had enclosed harmful materials facilities, 65.2% of the garments had no storage and segregation facilities of hazardous products, 64.4% of the garments had no emergency ambulance service and only 35.7% of the garments had proper personal protective equipment. A study showed that the knowledge of personal protective equipment differed by section. More than half of the workers were aware of the benefits of personal protective equipment (PPE), but only a few workers in the cutting section were using PPE⁸.

It is found from the study that 100% of the garments had medical center facilities but only 62.8% had periodic health check-up. Study revealed that 42.6 % of the respondents source of information about training regarding health hazards from trainer and 28.7 % from doctors and authority, 35.7% knew about training & education regarding operation of instruments from authority, 17.1% from supervisor, 12.4% from HR department and 43.9% from others and 54.9% responded informed about labor laws from the trainer, 27.9% from HR department and 17.1% from authority. It is similar from a study conducted in Hong Kong $\frac{3}{2}$ that being informed of safety precautions

by health and safety training and being supplied with safety information by supervisor were the significant factor leading to safe practice. This study found a statistically significant association between use of PPE and sex of the respondents (p=0.032); similar findings were observed by JP Sah in Nepal in the year 2015.⁹

Conclusion

Generally less than half of respondents knew about safety information however, practice towards safety information was inadequate. Safety training was the common factor to increase knowledge and practicing habits which needs to be encouraged. Regular supervision is also recommended to ensure and promote work place safety.

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Mechanical Bowel Preparation in Preventing Wound Infection in Elective Colo-rectal Surgery: A Comparative Follow up

Ahmad M S

Abstract

Mechanical bowel preparation is routinely done before colorectal surgeries to reduce morbidity and mortality all over the world. The role of mechanical bowel preparation in preventing complications is recently disputed. The aim of the study was to assess whether elective colorectal surgery can be performed without mechanical bowel preparation. This cross sectional comparative study was carried out to assess the role of mechanical bowel preparation in post-operative complications in elective colon and rectal surgery in the department of surgery of Bangabandhu Sheikh Mujib Medical University, Dhaka Medical College Hospital and SSMC-Mitford Hospital during one year period. Fifty patients undergoing surgery for carcinoma of colon and rectum were included in the study. Patients were allocated in two groups by non-probability convenient consecutive technique-one group with mechanical bowel preparation with polyethylene glycol and one group with no preparation before surgery. All patients in the study group were followed up for at least one month after surgery for wound infection, anastomotic leakage and intra-abdominal infection. Total 50 patients were randomly divided into two groups (group A, 25 patients & Group B, 25 patients). Group A was the preparatory group and Group B was the non-preparatory group. The type of surgical procedure and the type of anastomosis did not differ significantly between two groups. Sixty percent patients of group A developed post-operative complications; on the other hand fourty percent patients of group B developed postoperative complications. This study concluded that no advantage is gained by pre-operative mechanical bowel preparation and can be easily avoided in order to save the patient from unwanted events like nausea, vomiting, electrolyte imbalance and also increased chance of post-operative complication.

Key words-: Mechanical bowel preparation, anastomotic leakage, colo-rectal surgery.

Introduction:

Infectious complications including anastomotic and wound dehiscence are major causes of mortality and morbidity in colorectal surgery¹. Pre-operative mechanical bowel preparation is practiced for many years to prevent post-operative complications in elective colon and rectal surgery. But there is paucity of data showing that mechanical bowel preparation by itself separately from other peri and per-operative measures actually reduce anastomotic and wound dehiscence. Mechanical bowel preparation is done to clean the large bowel of faecal content thereby reducing the rate of infection caused by colonic bacteria. Traditionally bowel cleansing was achieved using enemas in conjunction with laxatives². Recently more efficient cleansing can be done using new bowel preparation agent, such as poly ethylene glycol that induce diarrhea and cleanse the bowel of solid faecal matter.

Mechanical bowel cleansing has some theoretical advantages. It may decrease the intraluminal bacterial load, prevent disruption of anastomosis by passage of hard

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Dr. Molla Sharfuddin Ahmad, MCPS (Surgery), MS (General Surgery) Senior Consultant, Department of Surgery Faridpur Medical College Hospital, Faridpur. Email: drmsahmad64@gmail.com faecal mass and decrease operating time by improving bowel handling during construction of anastomosis. In practice, mechanical bowel preparation doesn't alter concentration and slightly modifies the relative composition of faecal flora³. A meta-analysis found that, contrary to expectation use of mechanical bowel preparation significantly increased the risk of anastomotic leakage and wound infection⁴.

Methods

This cross sectional comparative study was carried out to assess the role of mechanical bowel preparation in preventing post-operative complications in elective colon and rectal surgery in the department of surgery of Bangabandhu Sheikh Mujib Medical University, Dhaka Medical College Hospital and SSMC-Mitford Hospital during the period of one year. Fifty patients between 32-50 years of age irrespective of gender were included in this study. Patients over 50 years of age immunocompromised patients, patient with inflammatory bowel disease were excluded from the study.

Results

Total 50 patients of both sexes were entered into this study according to the inclusion and exclusion criteria during the period of one year. The total patients were randomly divided into two groups (group A & Group B). Group A was the preparatory group and Group B was the nonpreparatory group.

 Table 1: Distribution of patients groups by sex.

Sex	Gro	oups	P value
	Group A	Group B	
Male	18(72.0)	13(52.0)	
Female	7(28.0)	12(48.0)	0.145
Total	25(100.0)	25(100.0)	

Chi-square test was done to measure the level of significance. Figure within parenthesis indicates the percentage.

Table-2: Distribution of patients groups by age.

Age(in years)	Groups		P value
	Group A	Group B	
≤30	11(44.0)	9(36.0)	
31-50	13(52.0)	11(44.0)	
>50	1(4.0)	5(20.0)	
Total	25(100.0)	25(100.0)	0.409
Mean \pm SD	34.80 ± 11.72	$37.80 \pm \! 13.70$	

*test was done to measure the level of significance. Figure within parenthesis indicates the percentage. Sex and age distribution of the study subjects by groups were shown in Table-1 & 2. Mean age and sex distribution did not differ significantly.

Table 3: Distribution of preoperative diagnosis (carcinoma)by groups.

	Groups		P value
	Group A	Group B	
Carcinoma	25(100.0)	25(100.0)	0.999
Total	25(100.0)	25(100.0)	

*Fisher's exact test was done to measure the level of significance. Figure within parenthesis indicates percentage. In both group A & B 25 patients had carcinoma colon in each group (table 3)

Table 4: Distribution of adverse effects and precautionwith poly ethylene glycol.

Poly-ethylene	Gro	oups	P value
Glycol	Group A	Group B	
Adverse effects	20(80.0)	2(8.0)	0.001
Precaution	20(80.0)	2(8.0)	0.001

Chi square test was done to measure the level of significance. Figure within parenthesis indicates percentage. Eighty percent of the Patients in Group A had adverse effects like nausea, vomiting, bloating, loose motion and precaution had to be taken for them whereas only 8% of Group B had the same adverse effects which is highly significant between two groups (Table 4).

Table 5: Distribution of ber-oberative events by group	Table 5:	Distribution	of per-operativ	e events by groups
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Per operative	Groups		P value
events	Group A	Group B	
Per-operative antibiotic	25(100.0)	25(100.0)	Not done
Transfusion	24(96.0)	23(92.0)	0.999

*Fisher's exact test was done to measure the level of significance. Figure within parenthesis indicates percentage. All the patients of both groups were given peroperative antibiotics whereas 24 patients of Group A and 23 patients of Group B were given transfusion, but it does not differ significantly (Table 5).

Table 6: Distribution of post-operative surgicalcomplications by groups (Follow up up to 7th POD)

Post-Operative	Groups		P value
Surgical complications	Group A	Group B	
Wound Infection	10(40.0)	7(28.0)	0.001
Anastomotic leak	2(8.0)	2(8.0)	ns
Intra-abdominal abscess	2(8.0)	1(4.0)	0.001
Peritonitis	1(4.0)	0(0.0)	0.001
Total	15(60.0)	10(40.0)	

*Chi-square test was done to measure the level of significance. Figure within parenthesis indicates percentage. Majority of the patients of Group A developed post-operative surgical complications. The majority number of patients of Group A developed surgical wound infection 40%) followed by anastomotic leak, Intraabdominal abscess and peritonitis whereas in Group B wound infection developed in 28% patients. The post-operative complications were significant between the two groups (Table 6).

Table 7: Distribution of post- operative Non-surgicalComplication by groups (Follow up upto 7th POD)

Post-Operative non-	Groups		P value
surgical complications	Group A	Group B	
Respiratory	5(20.0)	2(8.0)	0.001
Cardiac	1(4.0)	0(0.0)	0.001
UTI	7(28.0)	3(12.0)	0.001
Total	13(52.0)	5(20.0)	

Among non-surgical post-operative complications UTI was high in group A followed by respiratory and cardiac ones. On the other hand, respiratory complications and UTI developed in 2 and 3 patients respectively in Group B (Table 7).

Table 8: Distribution of re-	intervention by groups
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Re-intervention	Groups		P value
	Group A	Group B	
Anastomotic leak	2(8.0)	2(8.0)	ns
Intra-abdominal abscess	6(24.0)	3(12.0)	0.001
Peritonitis	2(8.0)	1(4.0)	0.001
Total	10(40.0)	6(24.0)	

Chi square test was done to measure the level of significance. Out of 25 patients of Group A who developed post-operative surgical complications, 10(40%) patients underwent re-intervantion. Among them 2(8%) were for anastomotic leak and 6(24%) for intra-abdominal abscess. But 2(8%) for anastomotic leak and 3(12%) for intra-abdominal abscess from Group B needed re-intervantion, which was significant statistically (Table 8).

Discussions

Preparation for elective colon and rectal surgery with mechanical cleansing and antibiotic prophylaxis, in conjunction with improved surgical techniques and advances in Preoperative care, served to reduce the rate of infectious complications in colorectal surgery. Although mechanical bowel preparation before elective colorectal surgery has become a surgical dogma, there is a paucity of scientific evidence demonstrating the efficacy of this practice in reducing the rate of infectious complications.

Further evidence questioning the utility of mechanical bowel preparation in colorectal surgery comes from the literature regarding the management of urgent cases, such as patients with penetrating colonic trauma or acute colonic obstruction. In cases of penetrating trauma, prospective randomized studies have shown that primary colonic anastomosis is safe even though the colon is not prepared¹. In cases of acute colonic obstruction, resection with primary anastomosis in one stage is not the common practice, as the colon is not prepared. Few authors however, have challenged the dogma that colon resection with primary anastomosis is unsafe in patients with obstructing colon lesions. Few suggested that anastomosis between the small bowel and the colon, as performed in right or subtotal colectomy, may be safe without mechanical preparation since this type of anastomosis avoids the stool column proximal to the anastomosis². Other authors have suggested that colo-colonic anastomosis may also be safe in an unprepared bowel in the face of an obstructed colon^{2,3,4}. Recently, Naraynsing and his co-workers reported a prospective series of 58 unselected patients with left colonic obstruction⁵. All underwent segmental colonic resection with primary colo-colonic anastomosis, without a proximal diverting stoma. There was one case of anastomotic leak and one mortality, unrelated to infection.

Efficient mechanical bowel preparation is generally supposed to help to prevent infectious complications after

colorectal surgery. Theoretically, this procedure diminishes faecal load in the bowel and prevents disruption of the anastomosis by reduction of faecal impaction at the site of the anastomosis. Therefore, the risks of faecal contamination or infection of the peritoneal cavity and the abdominal wound are thought to be decreased. However, mechanical bowel preparation liquefies solid faeces, which could increase the risk of intraoperative spillage of contaminant^{6,7}. Although some investigators believe that mechanical bowel preparation can reduce the bacterial load in the bowel, the large number of microorganisms in the digestive tract makes this almost impossible^{8,9}. Mechanical bowel preparation has been shown to have potentially negative side-effects in terms of bacterial translocation^{10,11}. electrolyte disturbance¹² and discomfort to patients^{12,13}. Despite these drawbacks, mechanical bowel preparation is still commonly practiced in colorectal surgery, without evidence from randomized trials that it decreases complication rates in patients¹⁴.

Mechanical bowel preparation is not harmless. It almost invariably causes significant discomfort to the patient, including nausea, abdominal bloating, and diarrhea^{15,16}. Mechanical bowel preparation is also associated with electrolyte imbalance and dehydration which may complicate the induction of anesthesia and peri-operative care¹⁶. Zmora et al stated that mechanical bowel preparation should be treated as a medication and used only when indicated². The result of my study was consistent with their findings and I also agree to their proposal.

Miettinen RP study¹⁶ did not show any differences in anastomotic leakage between patients who were given preoperative mechanical bowel preparation before elective colorectal surgery and those who were not. In their study, mortality and length of hospital stay were also similar in the two groups. But those differed in my study. In this study, there was no death, but length of hospital stay was more in Group A than that in Group B (14.9 ± 13.1 days vs. 9.8 ± 3.8 days). Zmora et al² concluded that elective colon and rectal surgery may be safely performed without the use of routine mechanical bowel preparation.

Miettinen RP et al¹⁶ also concluded that elective colorectal surgery can be safely done without mechanical bowel preparation. In view of possible disadvantages of this practice, patient discomfort, and the absence of clinical value, they advised that mechanical bowel preparation before elective colorectal surgery should be abandoned. The results of my study strongly supported their opinion.

Conclusion

Considering the findings of this study and reviewing literatures it can be concluded that mechanical bowel preparation before elective colon and rectal surgery cannot prevent wound infection, intra-abdominal sepsis, abdominal abscess and without any mechanical preparation of the bowel colorectal surgery can be done safely.

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Effects of Human Papillomavirus Infection with Pre-invasive Cervical Lesions: Bangladesh Perspectives

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Abstract

In Bangladesh, Cervical cancer is the second most common disease among female with an estimated 11,956 new cases and 6,582 deaths in 2012. Hospital based statistics indicated that cervical cancer constitutes 22-35% of the female cancer in different areas of Bangladesh. Majority of the patients diagnosed with this preventable cancer present in clinically advanced inoperable stages. Cervical cancer and pre-invasive cervical cancer constitutes a major health problem for the women. Almost all cervical cancers contain genetic material from the high risk HPV types. The screening has dramatically reduced the incidence of the cervical cancer. However in our country cervical cancer has a very high incidence, being the second as a cancer related cause of death. In our country perspective there is limited study regarding association of HPV with pre-invasive cervical lesions. The present study was undertaken to identify the Effects of Human Papillomavirus infection with Pre-invasive cervical lesions. This cross sectional study was carried out at the colposcopy clinic of Gynaecology and Obstetrics department of Bangabandhu Sheikh Mujib Medical University during the period from January 2015 - December 2015. A total of 65 consecutive women with VIA +ve cases of all three grades of CIN (CIN I, CIN II, CIN III) were enrolled in this study. Women having VIA-ve cases, patients having invasive cervical disease and women who not interested were excluded in this study.

The study revealed that more than one third (35.3%) patients were in 3^{rd} decade. More than one third (35.4%) patients had normal colposcopic findings followed by 23(35.4%) was CIN I, 11(16.9%) was CIN II and 8(12.3%) CIN III. Majority (42.6%) patients was found CIN I, 11(26.1%) CIN II, 8(19.4%), CIN III and 5(11.9%) had normal in Histopathology. CIN I histopathological finding was found 18 cases, among them 8(44.4%) in positive HC-2/Viral load/ RLU index and 10(55.5%) in negative HC-2/Viral load/ RLU index. In multivariate analysis CIN III significantly 1.34 times increased HC-2/Viral load/RLU index positive (human Papillomavirus) with 95%CI 0. 22- 8.9%. The difference CIN III was statistically significant (p<0.05). Validity test of benign HPV DNA test of the study women. Benign HPV DNA had sensitivity 51.4%, specificity 92.9%, accuracy 69.2%, positive predictive values 90.5% and negative predictive values 59.1%. Benign Colposcopic finding had sensitivity 86.5%, specificity 64.3%, accuracy 76.9%, positive predictive values 76.2% and negative predictive values 78.3%. CIN III significantly 1.34 times increased HC-2/Viral load/ RLU index positive (human Papillomavirus) in multivariate analysis. Colposcopy is a useful screening test for detection of cervical lesions and Human Papillomavirus found associated with pre-invasive cervical lessons. In addition HPV DNA test can also be used as a co-test with Colposcopy for screening of cervical lesions.

Key words: Effects, Human Papillomavirus, Infection, Pre-invasive, cervical lesions.

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Introduction:

In Bangladesh, Cervical cancer is the second most common disease among female with an estimated 11,956 new cases and 6,582 deaths in 2012¹. Hospital based statistics indicated that cervical cancer constitutes 22-35% of the female cancer in different areas of Bangladesh². Majority of the patients diagnosed with this preventable cancer present in clinically advanced inoperable stages. The literature identifies several risk factors for the acquisition and prevalence of HPV infection. Age is a strong predictor. Other factors include number of recent / life time sexual partners, age at onset of sexual activity, socio-economic status, male circumcision, extended use of condom, oral contraceptive use, cigarette smoking^{3,4,5,6,7}use of public bath houses and low education⁸. High parity will also be identified as a risk factor for HR-HPV infection⁹. In this study cervical sample from the consecutive cases with CIN were taken and control group will be included. Human papilloma virus (HPV) is one of the most commonly acquired sexually transmitted infection and significant

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source of morbidity and mortality¹⁰. HPV is recognized as estimated cause of cervical cancer and pre-invasive condition for last few decades². Persistent infection with certain types of HPV is a leading cause of Cervical cancer and about 10-15 types of high and intermediate risk HPV (HRHPV) types are responsible for more than 90% of cervical cancer and were referred to as disease associated HPVs¹⁰. Higher percentage decline in Ca-cervix is observed in countries where organized screening programmes are available. For example the cervical cancer rates in the United States have progressively declined because of the widespread application of cervical cancer screening and treatment of precancerous lesions, but in the low income countries the incidence in still high because of lacking of well-organized screening programme. The persistence and severity of precancerous changes influences the progress of the diseases. The likelihood of regression of CIN I, CIN II, CIN III is 60%, 40%, 33%, respectively and progression to invasive stage is 1%, 5% and greater than 12% respectively. The time interval between infection and development of cervical cancer varies and is apparently more than 15 year¹¹. Apart from the risk factors that are already described, the most important risk factor in low income countries is infrequent cervical screening or lack of accessible cervical screening services. Infections with high-risk strain of Human Papilloma Virus (HPV) are of the root causes of cervical cancer. The virus cancer like works by triggering alterations in the cell of the cervix, which can lead to the development of cervical intraepithelial neoplasia (CIN), which may be turned into invasive cervical cancer (ICC) subsequently in women with multiple sexual partner¹².

Methods

This cross-sectional study was conducted in colposcopy clinic of BSMMU during January 2015 to December 2015. For each of every subject separate data collection sheet were prepared. The subjects were 65 women with VIA + ve cases attending the colposcopy clinic of BSMMU fulfilling the mentioned criteria. The purpose and procedure of the study were discussed with the patients. Written consent was taken from those who agreed to participate in the study. On receipt of the informed written consent, cervical sample was taken with a special cytobrush and transport media used for collection and transport of cervical specimen. The specimens were stored at -20°C upon receipt, until processing. Detection of HPV DNA from cervical samples was performed by hybrid capture 2 (HC-2) tests. HC-2 test was used to examine the existence of HPV DNA in each specimen. Data were collected from the study population on variables of interest using structured design by interview, observation, clinical examination, HPV DNA test and from the history sheet of the respondents.

Results

It was observed that more than one third (35.3%) patients belonged to age 31-40 years. The mean age was found 35.5 ± 9.6 years with range from 21 to 58 years. Age of marriage was found 17.0 ± 3.6 years with range from 13 to 26 years. Majority (89.2%) patients were muslim. Majority (84.6%) patients were housewives. Twenty (30.8%) patients had completed primary education. More than a half (55.4%) of the patients came from 10,000-20,000 taka monthly income family. The mean age at 1st child was found 19.3 ±3.7 years with range from 13 to 29 years (Table 1).

Table 1: Distribution of the study population by
demography variable (n=65)

Demography variable	Number of population		Percentage
Age (in years)			
21-30	21		32.3
31-40	23		35.3
41-50	17		26.2
51-60	4		6.2
Mean± SD		35.5±9.6	
Range (min, max)		21, 58	
Age of marriage			
<18	43		66.2
>18	22		33.8
Mean± SD		17.0±3.6	
Range (min, max)		13, 26	
Religion			
Islam	58		89.2
Hindu	7		10.8
Occupational status			
House wife	55		84.6
Service holder	8		12.3
Other work	2		3.1
Educational status			
No education	7		10.8
Primary	20		30.8
Secondary	17		26.2
Higher secondary	11		16.9
Graduate	10		15.4
Monthly income (taka)			
10,000-20,000	36		55.4
21,000-30,000	12		18.5
>30,000	17		26.2
Age at 1 st child			
<18	26		40.0
18-20	17		26.2
>20	22		33.8
Mean± SD		19.3±3.7	
Range (min, max)		13, 29	



Figure 1 Proportion of using oral contraceptive pill (OCP) by the respondents.

Table 2: Distribution of the respondents based oncolposcopic findings (n=65)

Colposcopic findings	Number	Percentage
Normal	23	35.4
CIN I	23	35.4
CIN II	11	16.9
CIN III	8	12.3

Table 2 shows that majority 23(35.4%) patients were found normal colposcopic followed by 23(35.4%) were CIN I, 11(16.9%) were CIN II and 8(12.3%) were CIN III.

 Table 3: Distribution of the respondents by histopathological findings (n=65)

Histopathological findings	Number	Percentage
Normal	28	43.1
CIN I	18	27.7
CIN II	11	16.9
CIN III	8	12.3

Table 3 shows that 28(43.1%) women were found colposcopically normal followed by 18(27.7%) were CIN I, 11(16.9%) were CIN II and 8(12.3%) were CIN III.

Table 4: Distribution of the respondents by HPV DNA test(n=65)

HPV DNA test	Number	Percentage		
<1 (Negative)	44	67.7		
≥ 1 (Positive)	21	32.3		
Mean± SD Range (min. max)	23.0 0.1.)±82.0 461.0		

Table 4 shows Positive HC-2/Viral load/ RLU index were found among 65 cases, of them more than two third 44(67.7%) had negative and 21(32.3%) had positive. The mean viral load was found 23.0 ± 82.0 with range in 0.1 to 461.0. The threshold of 1 pg of HPV DNA/ml of test solution was used for a positive result.

Table 5:	Findings	of HPV	DNA	test	according	to	age	of
marriage	(n=65)							

Age of marriage			Viral	load	
(in years)		Positiv	ve (n=21)	Negativ	re (n=44)
	Ν	n	%	n	%
≤18	40	13	61.9	27	61.4
>18	25	8	38.1	17	38.6

Table 5 shows that 13(61.9%) patients belonged to ≤ 18 years in HC-2/Viral load/RLU index positive and 27(61.4%) in HC-2/Viral load/RLU index negative.

 Table 6: Distribution of findings of HPV DNA test among oral contraceptive pill (OCP) users (n=65)

Age of marriage		HC-2/Viral load/ RLU index				
(in years)		Positive (n=21) Negative			e (n=44)	
	Ν	n	%	n	%	
Yes	25	8	38.1	17	38.6	
No	40	13	61.9	27	61.4	

Table 6 shows that 8(38.1%) patients had OCP in HC-2/Viral load/RLU index positive and 17(38.6%) in HC-2/Viral load/RLU index negative.

Discussion

In this present study it was observed that 35.3% women belonged to age 21-30 years. The mean age was found 35.5 ± 9.6 years with ranged from 21 to 58 years. Nahar et al. $(2014)^{12}$ reported that HPV infection to be most common in younger women with the peak prevalence occurring in women younger than 25 years of age; prevalence started to decline after 30 years of age. From the present study it was found that HPV infection 35.3% in the age 20-30 years and 32.3% in age 31-40 years. In this study it was observed that age of marriage were found 17.0 ± 3.6 years with range from 13 to 26 years. In another study Franceschi et al. $(2005)^{13}$ had showed that age at first marriage and numbers of pregnancies among women were unrelated to HPV positivity. In this study, 66.2% women had age of marriage \leq 18 years & HPV infection were 61.9% and 33.8% woman had age of marriage >18 years & had HPV infection 38.1%.In this current study, it was observed that majority (58.5%) patients received OCP. Franceschi et al. $(2006)^{1}$ showed among contraceptive methods, tubal ligation were unrelated to HPV positivity. In the present study, the histopathological finding of the study population were observed that (43.1%) population were found normal histopathological followed by 18(42.6%) were CIN I, 11(26.1%) were CIN II and 8(19.4%) were CIN III. Santos et al. (2003)¹⁵ reported that (19%) were found to have a normal cervix via colposcopy, (76%) presented with minor abnormalities and (4.0%) with major abnormalities. Of the women with colposcopically guided biopsy (5.0%) presented with cervicitis in the histological analysis, 78(66.0%) showed CIN I and 13(11.0%) had either CIN II or CIN III. In our country Rahman et al; $(2013)^{16}$ found a

distinct upward trend of high-risk HPV DNA viral load, which had correlated with the histologic grade of the lesion, being highest for invasive carcinoma followed by CIN III, CIN II, CIN I and lowest for chronic cervicitis. There were a strong correlation between CIN2 or CIN3 and positivity for HPV DNA when this group was compared with women with only CIN1 or normal cervix. In the present study, the highest viral load was detected in a patient with CIN III, while the lowest viral load was detected from a case of normal. Sun et al; (2002)¹⁷ described women with viral load, were found to be at significantly greater risk squamous intraepithelial lesion. Hubbard, 2002 had speculated that there may be a relationship between highrisk HPV DNA viral load with persistent infection and the subsequent development of pre- invasive cervical cancer.

Conclusion

Colposcopy had a high sensitivity and optimum specificity; HPV DNA test had lower sensitivity and higher specificity. Colposcopic findings were greatly associated with Histopathology, where the validity test was high with compared to HPV DNA test. So it can be concluded that the Colposcopy is a useful screening test for detection of cervical lesions and Human Papillomavirus is associated with pre-invasive cervical lessons. The HPV DNA test can also be used as a co-test with Colposcopy for screening of cervical lesions.

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Benefits of Introduction of licensing Examination for Registration of Medical and Dental Practitioners: Bangladesh Perspectives

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Abstract

Basic standard was not maintained in the USA a hundred years ago, when Abraham Flexner was appointed to make a basic standard for medical education in the USA (Flexner 1910). Immediately after basic degree of health professionals a licensing examination for registration to practice medical and dental profession will be of essential tools World Health Organization has been addressing the issue of reorientation of medical education and recognition undergraduate medical education (WHO, ECFMG-1995) for health of population and individual. In Bangladesh govt., non govt. and semi govt. medical and dental colleges are providing MBBS and BDS degree. Presently the numbers of medical colleges are about 101 and dental colleges about 35 (DGHS, MOHFW). Around 5500 medical graduates are coming out as qualified health professionals. Licensing examination for registration will help to gain knowledge and new developments in medical science. The present study was undertaken among categories of health professionals, policy makers and administrators to identify the benefits of introduction of licensing examination for registration of medical and dental practitioners in Bangladesh.

It was a cross sectional type of descriptive study conducted among the health policy makers, health administrators, doctors including medical teachers, intern doctors, clinically exposed medical students and patients. The study was conducted at government and non-government medical colleges of Dhaka and outside Dhaka from 1st July 2015 to 30th June 2016. Total respondents were 372 and information was collected through in-depth interview schedule and self-administered semi structured questionnaire. Benefits of introduction of licensing examination for registration of medical and dental practitioners 294(79%) agree, 40(10.8%) strongly agree about Individual professional development with mean score and standard deviation 3.98 and \pm .571 respectively. Regarding overall professional development, 298(80.1%) agree, 25(6.7%) strongly agree with mean score and standard deviation 3.94 and \pm .442 respectively. Introduction of licensing examination for registration for registration for registration of medical and dental practitioners will increase Individual professional development and competency.

Key words: Benefits, Licensing, Examination, Registration, Medical Practitioner, Dental practitioner.

Introduction:

Globalization of medicine is increasing, as manifested by the growing number of migrating doctors and cross-border education providers. In addition, new medical schools of dubious quality are proliferating. This situation accentuates the need to define standards and introduce effective and transparent accreditation systems¹. The need for reforms and quality improvement in medical education, the remarkable increase of the number of medical schools around the world over the last decades, many of which have been established under questionable conditions, as well as the goal of safeguarding the quality of healthcare systems in a world of increasing globalization and mobility of the medical workforce, have increased the awareness of accreditation as a quality assurance tool². The health workforce is a crucial element of the health system in providing quality health services to the Population. Qualified health personnel are critical not only for attaining the health-related Millennium Development Goals, but

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Brig Gen (Dr) Md Abdullah Al Harun Director, (Hospital), Bangabnadhu Sheikh Mujib Medical University E-mail: mahbubur.rahman07@yahoo.com also for the post-2015 development agenda and for achieving universal health coverage. Global shortage of health workers exists, with most countries facing imbalances in their health workforce, both of a geographical nature, and because of skill mismatches, e.g. related to a difference between the competencies or skills needed and the competencies and skill-mix provided by the current health workforce³. The Standards for Basic Medical Education have been used extensively all over the world, offering medical education institutions at various stages of development, and with different educational, socio-economic and cultural conditions, a template for defining institutional, national and regional standards, and a lever for reform of medical schools and their programmes. The improved health of all peoples is the main goal of medical education. This is also the overall mission of the World Federation for Medical Education (WFME). In keeping with its constitution, as the international body representing all medical teachers and medical teaching institutions, WFME undertakes to promote the highest scientific and ethical standards in medical education, initiate new learning methods, new instructional tools, and

innovative management of medical education⁴. The quality assurance scheme provides a systematic framework to measure the implementation and effectiveness of quality initiatives in medical institutions. It is intended that they will complement, but not duplicate, existing quality assurance programmes and they will provide an opportunity to share and disseminate good practice. Quality assurance has been widely accepted as the arrangement by which an institute discharges its corporate responsibilities for the quality of teaching and learning it offers by satisfying itself that the structures and mechanisms for monitoring quality control procedures are effective and, where appropriate, they promote the enhancement of quality⁵. Scope of knowledge relating to medicine is growing fast, and because many aspects of practice are changing rapidly, emphasis in basic medical education should be placed more on the principles underlying medical science, fundamental practical skills and critical judgment based on evidence and experience than on the acquisition of a detailed compendium of current knowledge or a comprehensive list of clinical skills. The quality of each medical school will ultimately be judged by the ability of its graduates to responsibly perform in the roles the community requires of its medical practitioners. This requires responsiveness to changing needs and a commitment to a lifetime of continuing medical education⁶. The improved health of all peoples is the main goal of medical Quality is one of the most important issues facing the education (WFME Global standard for quality improvement medical institute nationally and internationally today 2012). This is also the overall mission of the WFME. In (WFME Global standard for quality improvement 2012). accordance with this mandate, WFME in a position paper Defining "quality" is difficult as it is subjective and dynamic. in 1998 launched the programme on International Standards. It has different meaning for different stakeholders. Grifin (2003) defines quality as 'the totality for quality improvement in medical education, in a global of features and characteristics of a product or service that context, to be applied by institutions responsible for medical bears on its ability to satisfy stated or implied need'. Quality education, and in programmes throughout the continuum of in medical education can be defined in relative terms as a medical education WFME, Global Standards for Quality state of reaching required standards as prescribed by the Improvement 2012⁷.

Methods

It was a cross sectional type of descriptive study conducted among the health policy makers, health administrators, doctors including medical teachers, intern doctors, clinically exposed medical students. The study was conducted at government and non-government medical colleges of Dhaka and outside Dhaka from 1st July 2015 to 30^{th} June 2016. Total respondents were 372 and information was collected through in-depth interview schedule and selfadministered semi structured questionnaire. The qualitative information was collected from Health policy makers including administrators by in-depth interview which was complimentary to the findings obtained by selfadministered semi structured questionnaire.

Results

Table 1. Distribution of the respondents by their academic qualification (n=372)

Academic qualification	Frequency	Percentage
Under graduate	91	24.46
MBBS	201	54.03
BDS	66	17.74
Post graduate	4	1.07
Fellowship	3	.8
Others	7	1.88
Total	372	100.0

Table 1 Shows that Out of total 372 respondents 91 (24.6%) were under graduate, 201(54.03) were MBBS, 66 (17.74%) were BDS, 04 (1.07%) were post graduate, 03(.8%) were Fellowship holder and others were 7(1.88%).

Table 2. Distribution of the respondents by their opinion for the purpose of registration of medical and dental practitioners (n=372)

Statement	SD 1	D 2	NAND 3	A 4	SA 5	Mean
	f (%)	f (%)	f (%)	f (%)	f (%)	± SD
Licensing examination for the registration of the medical and dental practitioners is justified	20 (5.4)	33 (8.9)	57 (15.3)	164 (44.1)	98 (26.3)	3.77 ± 1.098
Possible reasons for medical/dental practitioners lice	Possible reasons for medical/dental practitioners licensing examination for registration					
Uniform standard of medical/dental education	-	-	30(8.1)	305(82)	37(9.9)	4.02 ± 0.425
Standard of individual medical/ dental education will be upgraded	-	1(.3)	83(22.3)	277 (74.5)	11(3.0)	3.80 ± 0.474
Legal advantage in practice	-	12(3.2)	115(30.9)	233(62.6)	12(3.2)	3.66 ± 0.596
Embodiment of updated professional knowledge	-	15(4.0)	79(21.2)	275(73.9)	3(.8)	3.72 ± 00.549
Public safeguard	28(7.5)		120(32.3)	198(53.2)	11(3.0)	3.44 ± 0.836

Table 2 shows 20 (5.4%) strongly disagree, 33(8.9%) disagree, 57 (15.3%) neither agree nor disagree, 164 (44.1%) agree, 98 (26.3%) strongly agree with the statement 'licensing examination for the registration of the medical and dental practitioners is justified' and mean score and standard deviation were 3.77 and ± 1.098 respectively. Regarding the statement possible reasons for medical/dental practitioners licensing examination for registration uniform standard of medical/dental education 30 (8.1%) neither agree nor disagree, 305 (82%) agree, 37(9.9%) strongly agree with the statement and mean score and standard deviation were 4.02 and \pm .425 respectively. Standard of individual medical/ dental education will be upgraded included in the statement 1 (0.3%) disagree, 83 (22.3%) neither agree nor disagree, 277 (74.5%) agree, 11 (3.0%) strongly agree with the statement and mean score and standard deviation were 3.80 and \pm .474 respectively. Regarding legal advantage in practice included in the statement 12 (3.2%) disagree, 115 (30.9%) neither agree nor disagree, 233 (62.6%) agree, 12 (3.2%) strongly agree with the mean score and standard deviation were 3.66 and \pm .596 respectively. Embodiment of updated professional knowledge included in the statement 15 (4.0%) disagree, 79 (21.2%) neither agree nor disagree, 275 (73.9) agree, 3 (0.8%) strongly agree with the mean score and standard deviation were 3.72 and \pm .549 respectively. Regarding Public safeguard included in the statement 28 (7.5%) strongly disagree, 120 (32.3%) neither agree nor disagree198 (53.2%) agree, 11(3.0%) strongly agree with the statement and mean score and standard deviation were 3.44 \pm .425.

Table 3. Distribution of the respondents by their opinions on benefits of introduction of licensing examination for registrationof medical and dental practitioners (n=372)

Statement in relation to Benefits of introduction of	SD 1	D 2	NAND 3	A 4	SA 5	Mean
licensing examination for registration	f (%)	f (%)	f (%)	f (%)	f (%)	± SD
Individual professional development	5 (1.3)	1 (.3)	32(8.6)	294(79)	40(10.8)	$3.98 \pm .571$
Possible reasons for medical/dental practitioners licensing examination for registration						
Overall professional development	-	-	49(13.2)	298(80.1)	25(6.7)	3.94 .442
Improvement of professional competency of medical/dental practitioners	-	-	74(19.9)	268(72)	30 (8.1)	3.88 .516
Practitioners may be enriched with updated professional knowledge	-	-	80(21.6)	281(75.7)	10(2.7)	3.81 .456

Table 3 shows in the statement Benefits of introduction of licensing examination for registration of medical and dental practitioners 5(1.3%) strongly disagree, 1(.3) disagree, 32(8.6)neither agree nor disagree, 2.94(79%) agree, 40(10.8%) strongly agree about Individual professional development with mean score and standard deviation $3.98 \pm .571$. Regarding overall professional development, 49(13.2%) neither agree nor disagree, 298(80.1%) agree, 25(6.7%) strongly agree with mean score and standard deviation $3.94 \pm .442$. Regarding practitioners may be enriched with updated professional knowledge included in the statement 49(21.6%) neither agree with mean score and standard deviation $3.81 \pm .456$.

Discussion

Out of total 372 respondents 91 (24.6%) were under graduate, 201(54.03) were MBBS, 66 (17.74%) were BDS, 04 (1.07%) were post graduate, 03(.8%) were Fellowship holder and others were 7(1.88%). Out of 372 respondents 20 (5.4%) were strongly disagree, 33(8.9%) disagree, 57 (15.3%) neither agree nor disagree, 164 (44.1%) agree, 98 (26.3%) strongly agree with the statement 'licensing

examination for the registration of the medical and dental practitioners is justified' and mean score and standard deviation were 3.77 and ± 1.098 respectively. Regarding the statement possible reasons for medical/dental practitioners licensing examination for registration uniform standard of medical/dental education 30 (8.1%) neither agree nor disagree, 305 (82%) agree, 37(9.9%) strongly agree with the statement and mean score and standard deviation were 4.02 and \pm .425 respectively. Standard of individual medical/ dental education will be upgraded included in the statement 1 (0.3%) disagree, 83 (22.3%) neither agree nor disagree, 277 (74.5%) agree, 11 (3.0%) strongly agree with the statement and mean score and standard deviation were 3.80 and \pm .474 respectively. Regarding legal advantage in practice included in the statement 12 (3.2%) disagree, 115 (30.9%) neither agree nor disagree, 233 (62.6%) agree, 12 (3.2%) strongly agree with the mean score and standard deviation were 3.66 and \pm .596 respectively. Embodiment of updated professional knowledge included in the statement 15 (4.0%) disagree, 79 (21.2%) neither agree nor disagree, 275 (73.9) agree, 3 (0.8%) strongly agree with the mean score and standard deviation were 3.72 ±.549. Regarding Public safeguard included in the statement 28 (7.5%) strongly disagree, 120

(32.3%) neither agree nor disagree198 (53.2%) agree, 11(3.0%) strongly agree with the statement and mean score and standard deviation were 3.44 ±.425. Benefits of introduction of licensing examination for registration of medical and dental practitioners 5(1.3%) strongly disagree, 1(.3) disagree, 32(8.6) neither agree nor disagree, 294(79%) agree, 40(10.8%) strongly agree about Individual professional development with mean score and standard deviation 3.98 ±.571. Regarding overall professional development, 49(13.2%) neither agree nor disagree, 298(80.1%) agree, 25(6.7%) strongly agree with mean score and standard deviation $3.94 \pm .442$. Regarding Practitioners may be enriched with updated professional knowledge included in the statement 49(21.6%) neither agree nor disagree, 281(75.7%) agree, 10(2.7%) strongly agree with mean score and standard deviation $3.81 \pm .456$. (Talukder, et al. (2010)⁵ showed that since 1998 Quality assurance scheme has been practiced to maintain the quality education in medical & dental colleges along with other activities of BM&DC. But there is no formal quality assurance system for the medical & dental practitioners. Only the BM&DC is the body which is responsible to look after the professional practitioners. (Talukder, et al. (2009)⁸ in this study opinions of 91 (24.6%) Medical graduates & 66 (17.74%) dental graduates (Intern doctors) regarding licensing examination were taken.

Conclusion

Introduction of licensing examination for registration of medical and dental practitioners will increase Individual professional development and competency. Improvement of professional competency of medical/dental practitioners and overall enriched practitioner professionalism and ethics with updated professional knowledge.

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Knowledge on Vector Borne Diseases among the Rural People of Modhukhali

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Abstract

Vector borne diseases are an emerging challenge for Bangladesh because of low socio-economic condition, poor housing, poor educational status, water pollution, soil pollution and climate change in rural area. Until now a very little attention has been paid on this issue in Bangladesh .The objective of this study was to assess the knowledge status of the people at Modhukhali. For this purpose a cross sectional study was conducted to collect data from a purposively selected sample of 390 respondents. It was revealed from the study that most of the respondents, 98.97% were Muslims. Literacy rate of rural people of Modhukhali was good. The result indicates that about 19.23% people were illiterate but most of the respondents were aware about the major vector borne diseases.

The study revealed that about 88.72% people knew about danger of using surface water for all purposes. About 47.44% people attend at any health education program. About 88.20% people know about diseases produced by mosquito and housefly. About 74.62% people know about malaria produced by mosquito .About 81.54% people know about diarrhoea produced by housefly. About 73.10% people know about dengue fever. About 18.46% people know about filariasis, about 15.12% know about kala-azar and about 35.38% people know about mode of transmission of typhoid.

Health care service provider and the concerned authority paid some attention to the vector borne diseases and to the influencing factors but yet there are some lack in rural areas. The rural people should be made aware before they get the diseases. Govt should allocate budget and organize skillful training facility to these entire health service providers. On this purpose there is also need for strong supervision and monitoring of the vector borne diseases care services and their prevention throughout the country. Beside this Govt should also consider about environmental sanitation and safe water supply to improve the situation.

Key words: Vector borne diseases, Malaria, Kala-azar, safe water supply, sanitary latrine.

Introduction:

Vector borne diseases are infections transmitted by infected arthropod species. Mosquitoes, Fleas, Ticks, Lice and Flies are the arthropods that usually acts as vectors for various pathogens (disease causing micro organisms), including bacteria, viruses helminthes (parasitic worms), and protozoa. Transmission of these pathogens to human by the

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Assistant Professor, Department of Community Medicine Diabetic Association Medical College, Faridpur. E-mail: ds_afroz@yahoo.com arthropod vector can causes a variety of diseases in human, including malaria, yellow fever, chaggas disease, dengue fever, filariasis, kala-azar, encephalitis. These and other arthropod-borne disease can result in a wide range of effects, from mild flu like symptoms to death. Some survivors of arthropod-borne disease can suffer chronic crippling after effects.

While arthropod-borne diseases are a major concern world wide, developing countries are most affected. These diseases tend to occur primarily in tropical countries the endemic zones of the pathogens and the arthropods that harbor them. However, these diseases can also spread when people travel between infected and non infected areas or when infected arthropods are inadvertently transported. Natural disasters, wars, poverty and over population can facilitate out breaks of diseases. Since they may create conditions that are ideal for transmission or may cause a breakdown in the health care and public health systems. Every year there are more than 1 billion cases and over 1 million deaths from vector-borne diseases. Vector borne diseases account for over 17% of all infectious diseases. Distribution of these diseases are determined by a complex dynamic of environmental and social factors. Globalization of travel and trade, unplanned urbanization and environmental challenges such as climate change are having a significant impact on diseases transmission in recent years. Changes in agricultural practice due to variation in temperature and rain fall can affect the transmission of vector borne diseases.^[1]

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Female anopheles	Malaria
Female culex	Bancroftian filariasis Japanese encephalitis, West Nile fever.
Female aedes	Yellow fever ,Dengue fever/DHF
House fly	Cholera, Diarrhoea, Dysentery, astroenteritis, Typhoid & para-typhoid fever, amoebiasis, Helminthic infestation, poliomyelitis.
Sand fly	Kala-azar, Oriental sore, sand fly fever
Tsetse fly	sleeping sickness.
Reduvid bug	Chagas disease.
Mite	Scabies
Ticks	Tick-typhyus,
Rat flea	Q fever, Relapsing fever.
Louse	bubonic plague, endemic typhus. Endemic typhus, trench fever. ^[2]

Diseases transmitted by arthropods:

World Scenario:

About 3.3 billion people- half of the world's population are at risk of malaria. Every year, this leads to about 250 million malaria cases and nearly one million deaths. The WHO estimates that in 2010 there were 219 million cases of malaria resulting 660000 deaths. The majority of cases (65%) occur in children under 15 years old. About 125 million pregnant women are at risk of infection each year. According to the WHO and UNICEF, deaths attributable to malaria in 2015 were reduced 60% from a 2000 estimate of 985,000, largely due to the wide spread use insecticide treated nets and artemission-based combination therapies³.

The WHO millennium development goal 6 aims to halt the spread of malaria by 2015 and its "Roll back malaria²" Campaign is designed to halve mortality by 2010 by utilizing the "best evidence" vector and disease control method, such as artemither combination therapy (ACT)

Dengue is found in tropical and subtropical regions around the world, predominantly in urban and semi-urban areas. Dengue is common in more than 110 countries. It infects 50 to 528 million people worldwide a year, leading to half a million hospitalizations and approximately 20000 deaths. This incidence of dengue has grown dramatically around the world in recent decades. Some 2.5 billion people-twofifths of the world's population are now at risk from dengue.^[3]

Leishmaniasis threatens about 350 million people in 88 countries around the world with an estimated annual incidence of 2 million new cases. Leishmaniasis is endemic in many countries in tropical and subtropical region including Africa, central and south Americas, Asia and the Mediterranean region. More than 90% of all cases of cutaneous leishmaniasis occur in Afghanistan, Algeria,

Brazil, Colombia the Islamic republic of Iran, Peru, Saudi Arabia. In the new world over 90% of cutaneous leishmaniasis cases occur in Brazil and Peru³.

Lymphatic filariasis is endemic in 83 countries around the world. Nigeria & Bangladesh account for nearly 70% of Lyphatic Filariasis. Other regions include central Africa the nile delta, Pakistan, Srilanka, Myanmar, Thailand, Malaysia, Vietnam. The at risk population for contraction of lymphatic filariasis includes 1.2 billion people. Currently, more than 120 million people affected by lymphatic filariasis³.

Japanese encephalitis (JE) is a mosquito-borne encephalitis caused by a group B arbovirus (Flavivirus) and transmitted by culicine mosquitoes. It is also a zoonotic disease. i.e- infecting mainly animal and incidentally man.

An estimated 50,000 cases of Japanese Encephalitis occur globally each year with 10,000 deaths and nearly 15000 disabled. The vast majority of cases (about 85 percent) occur among children less than 15 years of age.

There are also vector borne diseases- Q fever, Endemic typhus, Relapsing fever, chaggas disease, sleeping sickness³.

South Asia Scenario:

Malaria is an enormous health and developmental problem in the SEA region as 687 million people are at high risk for malaria, with an estimated 90-160 million infections and more than 120,000 deaths occurring each year. The SEA region is home to the two predominant types of malaria caused by plasmodium vivax and P. falciparum. The malaria situation in the region remains highly dynamic and evolving and likely to be further aggravated by climate change. Of all the arthropod-borne viral diseases dengue fever is the most common. Dengue fever is the most important emerging disease of the tropical and sub-tropical regions affecting urban and semi urban areas. Such as India, Myanmar, Thailand, Maldives, Srilanka, Indonesia⁴.

In 2008, the south east Asia region reported 190000 cases with 16000 deaths⁴. During 2015 total 15509 cases were reported with 89 deaths. The case fatality rate which was 3.3% in 1996 has come down 0.56 in 2015 because of better management of cases.

Visceral leishmaniasis is endemic in three countries of WHO's SEA region- Bangladesh, India and Nepal Approximately 200 million people in the region are 'at risk' from the disease of the estimated 500000 people in the world infected each year, nearly 100000 are estimated to occur in the SEA region. The disease is endemic in 52 districts in India, 12 district in Nepal and 45 districts in Bangladesh.^[4]

Bangladesh Scenario:

Malaria has been a major health problem in Bangladesh. Approximately 33.6% of the total population at risk of malaria of which 10.9 million are of high moderate risk where 39.7 million people are at low risk of malaria more than 95% of all malaria cases are reported from 13 out of the total 64 districts in the country. Due to the hilly and forested, terrain climate, rainfall, humidity and temperature mosquito vectors. e.g; A.dirus, A. Philipinensis and A. minimus causes intense perennial transmission. These districts (Bandarban, Rangamati, Khagrachari, Coxbazar, Chittagong, Sylhet, Sunamgonj, Moulavibazar, Sherpur, Netrokona and Kurigram) are the east and north-east border facing international boundaries with the eastern states of India and a small part of Myanmar.

There are four serotypes of dengue virus (Den- 1, 2, 3, 4). The virus belongs to the family Flaviviridae and genus Flavivirus. The maximum transmission period is July to September each year⁵.

In 1964 first documented out break of classical dengue fever occurred in Dhaka (Called Dhaka Fever) In 2010 there were 1048 reported cases and deaths were increased in each year. 1900 dengue cases with 15 deaths have been reported so far this 2015 year in Bangladesh, mostly in Dhaka city, with experts attributing the unusual rise in the dengue cases to changing rainfall patterns 765 dengue cases were reported in the capital in August this year while 793 in this September. 109 patients affected with dengue get admitted to different hospitals while 1785 got released after taking treatment from hospitals so far this 2015 year.

Kala-Azar has been prevailing in Bangladesh for centuries as an endemic disease with epidemic outbursts in around 20 years. However, re-emergency of the disease was noticed since 1994-95. From 1999 to 2009 a total of 67, 758 cases and 225 deaths were reported from 24 districts of Bangladesh. The most affected districts are Maymensing, Pabna, Tangail, Jamalpur, Sirajgonj. Gazipur, Natore, Naugaon, Manikgonj, Rajshahi and Nawabgonj⁵.

About 5000 new cases of Kala-azar are reported in Bangladesh every year in recent days. There is high PKDL rate in Bangladesh. Thrisal and Fulbaria within the district of Maymensigh have 60% of all cases of Kala-azar in Bangladesh.

In Bangladesh, lymphatic filariasis is present all over the country with highest endemic in northern parts of country. Out of 147 million people, about 20 million people in the area has been suffering from the disease, most of which are children. It is endemic in 34 districts out of 64 districts. There is high endemic in Nilphamari, Thakurgaon, Dinajpur, Rangpur, Panchagar and Kurigram. It is estimated that about 70 million people are at risk of infection while 10 million peoples are with various forms of clinical deformity and another 10 million are microfilaremics⁵.

WHO declared that malaria couldn't be eradicated from Bangladesh and subsequently a new strategy for malaria control was launched. The new strategy is being implanted gradually It emphasizes disease control aspects and endorse the four technical elements *(early diagnosis, prompt treatment, recognition of treatment failures and management of severe and complicated cases in hospitals)* and preparedness for control of malaria out breaks/epidemics and introduction of is insecticide impregnated bed nets.^[5]

Methods

It was a descriptive type of cross sectional study with the objective to assess the knowledge on vector borne diseases among the rural people of Modhukhali. The study was carried out in different villages in Modhukhali Upazilla, Faridpur. People of Modhukhali Union of Modhukhali Upazilla were purposively chosen to constitute the study population. For the present study the sample size was 390. A non-random purposive sampling technique was adopted to select the respondents from the study population to collect data. A person of a village community was chosen as guide for data collection. Respondents were chosen purposively and convenience of the data collector was given priority during survey.

Data were collected from the respondents by face to face formal interview.

A pre-formed semi-structured questionnaire was used as the instrument of data collection for the proposed study.

At first the interview questionnaire were checked and rechecked to reduce the errors if any. Secondly necessary corrections were made. Thirdly the responses were coded adequately. Fourthly a master sheet was prepared based on variables used in the study.

Finally necessary calculations were made from the master sheet and presented data by tabulations and charts.

Results

The study was intended to find out the knowledge on vector borne diseases of the rural people of Modhukhali.The result showed that about 27.18% people belonged to 21-30 years of age group. About 24.10% respondents were in the age group of 31-40 years, about 21.05% respondents were in the age group 41-50 years, about 16.92% people were in age group 61-70 years, about 2.56% people were in age group 71-80 years and about 1.28% people were in age group 81-90 years. The study showed that most of the respondents about 98.97% were muslim.

Literacy rate of rural people of Modhukhali is good. The result indicates that about 19.23% people has no education in rural area.

Parent's became aware of the need for education but poverty is the main obstacle. The result showed that majority 55.64% families had monthly income taka 0-10000 and only few families had good income (average monthly income per household at current price was estimated at taka 11,479).

 Table 1: Frequency distribution of respondents by use of latrine. (n=390)

Source	Number	%
Sanitary Latrine	356	91.28
In Sanitary Latrine	34	8.72
Total	390	100

Table shows that, majorities 91.28% people use sanitary latrine & 8.72% people do not use sanitary latrine.

 Table 2: Knowledge about association of diarrhoea with housefly.(n=390)

Association of diarrhoea with housefly	Number	%
Known	318	81.84
Unknown	72	18.46
Total	390	100

Table shows that, majorities 81.84% have knowledge about association of diarrhoea with housefly & 18.46% have no knowledge about association of diarrhoea with housefly.

Table 3:	Knowledg	e about tyr	phoid trans	smission.	(n=390)
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Typhoid Transmission	Number	%
Known	138	35.38
Unknown	252	64.61
Total	390	100

Table shows that, majorities 64.61% have no knowledge on typhoid transmission & 35.38% have knowledge on typhoid transmission.

 Table 4: Knowledge about association of malaria with mosquito. (n=390)

Association of malaria with mosquito	Number	%
Known	291	74.61
Unknown	9	25.39
Total	390	100

Table shows that, majorities 74.61% have knowledge about association of malaria with mosquito & 25.39% have no knowledge.



Figure 1: Knowledge about disease produced by mosquito & housefly. (n=390)

Figure 1 shows that, 88.20% study population know that disease produced by mosquito & housefly and 11.80% have no knowledge about it.



Figure 2: Knowledge about association of kala-azar with sandfly.(n=390)

Figure 2 shows that, majorities 84.90% have no knowledge & 15.10% have knowledge about about association of kalaazar with sandfly.



Chart 3: Knowledge about the preventive way to reduce vector borne diseases

Chart shows that, majorities 81.54% have knowledge about the preventive way to reduce vector borne diseases & 18.46% have no knowledge about it.

Discussion

The result indicates that proportionately nuclear family 66.2% was slightly higher than the joint family 47.95% People prefer to live in nuclear families. It may be to influence modern culture and change of social norms and values.

Literacy rate of rural people of Modhukhali is good. The result indicates that about 19.23% people has no education in rural area (at national level 21.84% have education of primary level)^[6]. So,the findings regarding educational status of the study area is nearly similar to other rural areas of Bangladesh.

Parent's became aware of the need for education but poverty is the main obstacle. The result showed that majority 55.64% families had monthly income taka 0-10000 and only few families had good income (average monthly income per household at current price was estimated at taka 11,479). So, the findings suggest that majority of the people in Modhukhali live under mid socioeconomic condition. (The per capita income of people of Bangladesh is 1190\$).^[7]

The people have pure tubewell water supply about 98.20% (at national level 85.37% use tubewell water) ^[8] and majority of people use sanitary latrine 91.28% (at national level the percentage is not similar to this) according to national survey, about 24.51% use katcha toilet. ^[6] This percentage shows a good sense of hygiene of the people of Modhukhali .

The study revealed that about 88.72% people know about danger of using surface water for all purpose. About 47.44% people attended at any health education program. About 88.20% people know about diseases produced by housefly and mosquito. About 74.62% people know about malaria produced by mosquito. About 81.54% people know about diarrhoea produced by housefly. About 35.38% know about typhoid. About 73.10% people know about filariasis. About 15.12% know about kala-azar.

The finding is not so encouraging and indicates that only 47.44% people are aware of the vector borne diseases and attend in health education program.

The study also reveals that about 94.1% people know that food safety can prevent housefly borne diseases. About 90.8% people know about using sanitary latrine to prevent

vector borne diseases and about 81.54% people know about prevention of vector borne diseases. This indicates that majority have a knowledge about steps prior to prevention of diseases. Though 19.23% people are not educated, which was discussed above, they have knowledge about diseases of people as well as preventive measures.

Conclusion

Normally it is seen that the rural people have some limitations in getting the health related knowledge. But according to this study, the majority of people of Upazilla Modhukhali have some knowledge about the vector borne diseases. The rest of people, who know a little about vector borne diseases, it is important to have the appropriate knowledge for the sake of their improvement.

The study revealed that about 88.72% people know about the danger of using surface water for all purpose. About 88.20% people know about diseases produce by housefly and mosquito. About 74.62% people know about malaria produced by mosquito, about 81.54% people know about diarrhea produced by housefly. About 35.38% people know about typhoid, about 73.10% people know about dengue fever, about 18.46 people know about filariasis and about 15.12% people know about kala-azar.

We all know that "healthy people, healthy nation." To bring this we hope that govt. will give emphasis on the spread of information on this specific health concern to every corner of the community focusing the rural people to improve their knowledge about vector borne diseases in near future. Increased knowledge will be helpful to prevent the vector borne diseases and thus to reduce the social burden as much as possible.

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Coronary Heart Disease with Diabetes: A Review Article

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Abstract

There is a strong correlation between Coronary heart disease (CHD) and Diabetes mellitus (DM). There are complex relationships between insulin and glucose homeostasis and the development of atherothrombotic vascular disease, and involves clustering of metabolic and procoagulant cardiovascular risk factors which, in turn, are underpinned by genetic predisposition and genetic and environmental interactions. Diabetes is associated, not just with increased cardiovascular disease, but also with a worse outcome. One reason for this appears to be enhanced myocardial dysfunction leading to accelerated heart failure (diabetic cardiomyopathy) which predisposes patients to congestive heart failure. In fact, according to the American Heart Association, it may be appropriate to say, 'diabetes is a cardiovascular disease'. So, it is very important to assess the cardiovascular risk of diabetic patients and to provide appropriate levels of advice and medication to control blood glucose, blood pressure, lipids and other risk factors. Although tight glycemic control is essential, care should be taken to avoid treatments known to exacerbate cardiovascular risk factors. In addition to therapeutic intervention, lifestyle changes are certain to be the most important regulators of insulin resistance, glucose control, and overall cardiovascular risk.

Key words: Coronary Heart Disease, Diabetes, atherothrombotic vascular disease.

Introduction:

The prevalence of Diabetes mellitus (DM) is rapidly increasing in both developing and developed countries, and it is a worldwide epidemic. Coronary heart disease (CHD) is also highly prevalent and is the major cause of morbidity and mortality in diabetic patients. CHD accounts for up to 80% of mortality in patients with type 2 diabetes and the age-adjusted relative risk of cardiovascular death is three times greater in these patients than in the general population. Mortality from cardiovascular disease is 7.5 times greater in patients with type 2 diabetes without a previous myocardial infarction than in those without diabetes and three times greater in patients who have suffered a myocardial infarction and have type 2 diabetes than in non-diabetic individuals^{1, 2}. Furthermore, diabetes increases the risk for cardiovascular death more in women

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Dr. S M Abdul Wahab Associate Professor, Department of Cardiology Khulna Medical College. E-mail: drsmawahab@gmail.com than in men³ and thus cancels out the usual sex differences in the prevalence of cardiovascular disease⁴. The article highlights cardiovascular risks, risks assessment as well as prevention of heart diseases among diabetic patients.

Cardiovascular risk increases before the onset of diabetes:

In a 20-year study of the incidence of type 2 diabetes, heart disease and stroke among 117629 female nurses⁵, 1508 women were diagnosed with type 2 diabetes at baseline. Over the next 20 years, 5894 developed type 2 diabetes during follow-up. 1556 new cases of myocardial infarction, 1405 strokes, 815 cases of fatal coronary heart disease and 300 fatal strokes were documented. Among those who developed type 2 diabetes, the age-adjusted relative risks of myocardial infarction were 3.75 for the period before diagnosis and 4.57 for the period after diagnosis. The risk of stroke was also significantly increased before diagnosis of diabetes (relative risk = 2.30). Further adjustment for history of hypertension or hypercholesterolemia did not appreciably alter the results. In a retrospective study with prospective follow-up of 197 consecutive non-diabetic patients with acute myocardial infarction followed for 1.5–2.5 years⁶, the mean plasma glucose concentration at the time of the patient's admission to hospital was 8.15 ± 3.0 mmol/l. During follow-up, 60 patients (30%) died, 20 (10%) were re-admitted to hospital because of heart failure, 12 (6%) were re-admitted to hospital because of non-fatal reinfarction, and 79 (40%) had at least one of these events. Plasma glucose concentration at the time of the patient's admission to hospital was significantly greater in patients who suffered any of these events than in those who did not.

Role of insulin resistance syndrome as cardiovascular risk factor:

Insulin resistance is associated with metabolic and procoagulant cardiovascular risk factors, which may

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account for the accelerated atherosclerosis and increased arterial thrombotic disease observed in these patients. The origins of insulin resistance and vascular risk clustering are poorly understood, but data from families, twins, and extended pedigrees suggest significant genetic and environmental contributions, with evidence of pleitropic influences that contribute to risk clustering. Important environmental determinants of insulin resistance may occur before birth and, in conjunction with adverse dietary and exercise habits that result in obesity, lead to increased insulin resistance and cardiovascular risk⁷.

The insulin resistance syndrome:



Figure 1: Atherothrombotic components of the insulin resistance syndrome.

PAI-1, Plasminogen Activator Inhibitor-1, t-PA, tissuetype Plasminogen Activator.⁷

Insulin resistance or β-cell dysfunction:

The majority of individuals with type 2 diabetes also have impaired β -cell function and deteriorating β -cell insulin secretion, which contribute to the progressive decline in glycaemic control that often occurs⁸. Therefore, β -cell dysfunction (rather than specific insulin resistance) has a potential role in the development of the atherothrombotic, pre-diabetic state.

Plasminogen activator inhibitor-1/tissue-type plasminogen activator:

Clinical studies have identified strong relationships between features of the insulin resistance syndrome and concentrations of PAI-1 and tPA^{9,10}. In the recently reported Framingham Offspring Study, Meigs et. al.¹¹ examined the relationship between insulin concentrations and haemostatic factors in glucose-tolerant and intolerant individuals. Concentrations of PAI-1 and t-PA were greater in individuals with glucose intolerance, and increased significantly across insulin quintiles both in glucose tolerant and intolerant groups. Increased PAI-1 concentrations have also been found in the non-diabetic first-degree relatives of probands with type 2 diabetes¹² and in patients with established CVD^{13,14}.

Factor VII:

Increased FVII:c activity is associated with features of the insulin resistance syndrome in patients with type 2 diabetes¹⁵ and has been reported in hyperinsulinaemic individuals with normal glucose tolerance¹⁶. The healthy, first degree relatives of diabetic probands show evidence of increased expression of insulin resistance and FVII:c activity was increased in the non-diabetic relatives of patients with type 2 diabetes¹⁷. This difference was attenuated after adjustment for other features of the insulin resistance syndrome, and in separate regression models FVII:c was independently related to insulin concentrations. There is evidence of increased expression of factor VII in the presence of hypertriglyceridaemia¹⁸ and genotype-specific interactions between triglyceride and factor VII gene polymorphisms¹⁹.

Fibrinogen:

Fibrinogen may be of particular importance in the context of microalbuminuria, which predicts excess cardiovascular mortality in healthy individuals²⁰ and is associated with insulin resistance in non-diabetic individuals²¹. Several studies have demonstrated a consistent increase in plasma fibrinogen in patients both those with type 1 diabetes and those with type 2 diabetes who have microalbuminuria²², and a recent study identified an independent association between fibrinogen and microalbuminuria in non-diabetic men²³. The biological mechanism responsible for this association is unknown, but may involve protein glycosylation or the release of proinflammatory cytokines, or both, with resultant endothelial dysfunction²⁴.

Factor XII:

Factor XII a concentrations were strongly associated with the extent of coronary stenosis and past history of myocardial infarction, and were also found to correlate with many of the features of the insulin resistance syndrome, including triglyceride, BMI, PAI-1, factor VII, and insulin.

Risk Assessment:

Risk assessment must take into account the major risk factors viz. cigarette smoking, increased blood pressure, abnormal serum lipids and lipoproteins, and hyperglycemia. It must also consider predisposing risk factors viz. excess body weight and abdominal obesity, physical inactivity and family history of cardiovascular disease. Identification of risk factors is a major first step for developing a plan for risk reduction in persons with diabetes⁷.

Detection of clinical and sub-clinical cardiovascular disease:

Because the typical cardiac symptoms are often masked in patients with diabetes, the diagnosis of myocardial infarction is commonly missed or delayed. Effective strategies for earlier detection of clinical cardiovascular disease viz. stress testing, Doppler Echo & radionuclide ventriculography and evaluation of autonomic dysfunction could reduce morbidity and mortality in patients with diabetes. In addition, detection of sub-clinical atherosclerosis through history taking, physical examination, laboratory investigations- ECG, carotid ultrasound, electron beam CT and early clinical manifestation of cardiovascular disease could lead to more effective primary prevention in some patients with diabetes. Finally, the finding of sub-clinical cardiovascular disease signals the need for institution of more aggressive preventive measures²⁵.

Prevention of heart disease in diabetic patients:

The risk of cardiovascular disease begins to increase long before the appearance of overt diabetes. Thus early detection of the constituents of Syndrome X is needed in order to take appropriate primary prevention measures in patients at risk for diabetes. Signs of insulin resistance include abdominal obesity (or borderline abdominal obesity), high-normal blood pressure (or mild hypertension), high-normal triglycerides (150–250 mg/dl), reduced HDL cholesterol (<40 mg/dl in men; <50 mg/dl in women), borderline-high-risk LDL cholesterol (130–159 mg/dl) and, in some patients, impaired fasting glucose (110–126 mg/dl). The detection of impaired fasting glucose usually signifies long-standing insulin resistance and is therefore an important risk factor for type 2 diabetes²⁵.

Implications for treatment of patients with type 1 diabetes:

The most important risk factor for coronary heart disease in patients with type 1 (insulin-dependent) diabetes is duration of disease. Nonetheless, smoking, hypertension, renal disease and dyslipidaemias remain important. Effective glycaemic control reduces microvascular complications of type 1 diabetes and may also reduce risk for macrovascular disease²⁶. Modification of other risk factors will almost certainly be beneficial. Measures include tobacco avoidance, blood pressure control, screening for microalbuminuria and reducing triglycerides to 200 mg/dl or even less. Although the optimal LDL cholesterol concentration in diabetes is ≤ 100 mg/dl, use of cholesterol decreasing drugs to achieve this in younger patients may not be appropriate. Aspirin is useful in patients who have long-standing type 1 diabetes and who have not achieved glycohaemoglobin targets.

Treatment choices in type 2 diabetes:

There are numerous effective pharmaceutical agents for the treatment of hyperglycemia, hypertension and dyslipidaemias, and clinicians have their own preferences for administration to patients with type 2 diabetes. However, because these patients are already at increased risk of cardiovascular disease, consideration should be given to avoiding treatments with known or suspected cardiotoxicity. For example, glitazones have been linked with a 50% increase in heart failure compared with controls²⁷. Most sulphonylureas are associated with coronary artery spasms believed to be caused by interference with potassium channels²⁸, although this does not apply to gliclazide, a sulphonylurea with no cardiovascular ATP-sensitive potassium channel interaction²⁹.

Conclusions:

The incidence of diabetes (particularly type 2 diabetes) is increasing. Patients with diabetes are at greatly increased risk of cardiovascular morbidity and mortality. It is important to assess the cardiovascular risk of diabetic patients and to provide appropriate levels of advice and medication. Although tight glycemic control is essential, care should be taken to avoid treatments known to exacerbate cardiovascular risk factors.

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Systemic Lupus Erythematosus with Repeated Abortions

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Summary

A case is described of a pregnant patient with systemic lupus erythematosus (SLE). Three previous pregnancies had ended in abortion. Attempts to reverse the thrombocytopenia with steroids, plasmapheresis failed, and platelet count returning to normal immediately after the death of the fetus at 20 weeks gestation. It is known that patients suffering from SLE may show a deterioration of their disease during pregnancy and those spontaneous abortions are frequent. This report describes a case in which for several years the only significant symptom of SLE was mild thrombocytopenia; however, during this time 4th pregnancy also ended in spontaneous abortion.

Introduction:

Systemic lupus erythematosus is a chronic inflammatory disease with multi system involvement in which the tissues are damaged by auto antibodies and immune complexes and primarily affects young female at childbearing age¹. Pregnancy is an important matter in every woman's life. However, different maternal diseases can complicate pregnancy. One of them is SLE, which can turn the life miserable during pregnancy if it is not treated properly. There is no standard statistical data in SLE for Bangladesh. Incidence and prevalence of SLE is still very low in India. A prevalence study in India (carried out in a rural population near Delhi) found a point prevalence of 3 per 100,000². Sex specific SLE prevalence in the UK: Females: 49.6/100,000 (ie 1 in 2000 adult women have SLE) and Males: 3.6/100,000. Ninety percent of cases of SLE affects women, the incidence of SLE during the child bearing age being 1 in 500. The fetal effects are mainly prematurity, intrauterine growth restriction, neonatal lupus, and in extreme cases stillbirth. Congenital heart blocks result as a consequence of diffuse myocarditis and fibrosis¹.

Case Report

A 30 year old hypertensive woman who was a housewife and gave a history of 3 previous pregnancies all of which ended in spontaneous abortion between 18 and 24 weeks. The second pregnancy was complicated by episodes of purpura and thrombocytopenia with platelet counts of around $20 \times 109/1$. These responded to oral prednisone. The platelet counts did not fall significantly during the first and third pregnancies. When first seen in Diabetic Association

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Medical College Hospital in 2017, SLE had already been diagnosed on the basis of a positive anti-nuclear factor and a DNA binding of 70%. She had been prescribed 10 mg prednisone on alternate days with 100 mg azathioprine daily. Then azathioprine was stopped without any ill effects, and her only symptoms were occasional attacks of arthralgia. Platelet count varied between 70 and 140 x 109/l with occasional episodes of mild purpura. Then patient was admitted to hospital in 15, October 2017, during the 14th week of fourth pregnancy, because of a steadily deteriorating thrombocytopenia, which had failed to respond to raising the prednisone dose to 80 mg daily. On admission she was found to be in excellent physical health except hypertension, there was no bruising, purpura or bleeding from any source in spite of a platelet countof 20 x 10° /l. It appeared from notes that the platelet count 3 weeks earlier had been in the region of 200 x 10⁹/l, On examination, anaemia absent, BP 140/90 mm of Hg, pulse 80/min, temp 99°F, Oedema absent, reduced flexion deformity of 5th finger of left hand, sensation normal. Other system reveals no abnormality.

Investigations

Investigations showed a hemoglobin (Hb) of 10.5gm/dl, normal urea, electrolytes and liver function tests, ESR 20 mm in 1^{st} hr, WBC-10300/dl, Platelet count-20 x $10^{9/1}$, Urine R/E-Albumin(+++), Anti-dsDNA-13.8U/ml, Anti-Cardiolipn IgM-7.1U/ml, IgG-6.23U/ml, Anti-SSA-0.52U/ml, DAT 1/32 and an active bonemarrow with abundant megakaryocytes. Complement fixing platelet antibodies were also found although, no cryoprecipitateor anti-complementary activity could be detected at any time. The chances of a successful pregnancy in the presence of severe thrombocytopenia and high steroid dosage were considered to be very small. One further methods was therefore proposed to reverse the thrombocytopenia; plasmapheresis to remove the platelet autoantibodies. Plasmapheresis was tried, as it has been successfully used in pregnancy for the removal of anti- Rhesus antibodies with no side effects on the fetus3. The procedure was carried out 3 times at 4-day intervals, each exchange consisting of 41. Platelet counts, complement factors, and platelet antibodies were monitored before and

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after each exchange but apart from a slight improvement in the platelet count after the first episode, there was changed. For the next 5 days there was no change in any haematological or biochemical parameter, except for a slight rise in platelets due to transfusion. The fetal heart sounds remained audible. Thereafter, the fetal heart sounds could no longer be heard and simultaneously a rise in the platelet count was observed. This continued and reached 250 x 109/l after a week. The complement and anti-platelet antibody levels also returned to normal during this time, and within 10 days. The pregnancy was considered to be non-viable, and a therapeutic abortion was performed. The fetus was small and macerated. The platelet count remained at around 250 x 109/l for the remainder of her stay in hospital, but fell to 160 x 109/l on discharge on 1st November 2017. Since then, it has fluctuated between 90 and 200 x 109/l. The subject remains in good health, taking only 7.5 mg of prednisone daily.

Discussion

Apart from minor improvements all three methods used to reverse the thrombocytopenia, ie; high dose steroids, plasma pheresis were without effect. Since the platelet autoantibodies that had been detected during pregnancy on several occasions were shown to fix complement, it was concluded that their destruction was occurring primarily within the circulation. A hypothesis supported by the findings of a normal sized spleen at splenectomy, and reduced levels of complement in the serum. It was also assumed that the mild thrombocytopenia that existed in the non-pregnant state was due to the same antibodies at a much lower titre. In 25% of samples from their patients with SLE⁴ reported that, platelets were capable of fixing complement even in the absence of serum, suggesting that the platelets were already coated with antibody. This did not occur in normal controls. The failure of plasmapheresis to remove these antibodies implies a high rate of synthesis. This procedure is often disappointing in the treatment of SLE, possible for this very reason, but it has been used with success in acute life threatening situations when there is good evidence of circulating immunecomplexes^{5,6}. Assuming the platelet count inversely reflected autoantibody activity, the effect of the pregnancy on the rate of autoantibody production could be closely monitored. The platelet count was seen to fall steadily over a period of about five weeks between the 9th and 14th week of the pregnancy, and to rise rapidly at a time coincident with the apparentdemise of the fetus. Presumably, therefore, the autoantibody production increased steadily from its nonpregnant level to its maximum over this period and stopped suddenly when the pregnancy ended. The cause of the repeated abortions, during the trimester generally considered to be the safest is unclear.

Lympho cytotoxic antibodies which have been shown to be present in 80% of patients with SLE, are also present in the majority of patients suffering repeated miscarriages. However usually it was absent in patients with SLE who have successful pregnancies⁷. This case in history, had only slightly raised levels of lympho cytotoxic antibodies. In cerebral lupus, lymphocytotoxic antibodies have been shown to cross react with brain tissue^{7,8}, but it is not yet clear whether a similar cross reactivity between such antibodies and placental tissue exists in patients who suffer from repeated abortions.

Conclusion

SLE causes an increase rate of spontaneous abortion (miscarriage). Overall live-birth rate in SLE patient has been estimated 72%. Pregnancy outcome appears to be worse in SLE patients whose disease flares up during pregnancy.

Miscarriages in the first trimester appear either to have no known cause or to be associated with signs of active SLE. Later lupus appear to occur primarily due to the antiphospholipid syndrom, in spite of treatment with heparin and aspirin. All women with lupus are recommended to be screened for antiphospholipid antibodies, both the lupus anticoagulant and anticardiolipin antibodies

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An Extremely Rare Case of Ovarian Cyst Infiltrated the Urinary Bladder Manifesting as Urinary Bladder Neoplasm

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Abstract

This is a case report of Ovarian dermoid cyst perforating into the urinary bladder presenting with irritative lower urinary tract symptoms characterized by burning micturtion with total haematuria for the last two months. Ovarian dermoid cyst is perforating into urinary bladder pose a diagnostic dilemma for urologist, gynecologist, radiologist and for histopathologist.

Introduction

Ovarian dermoid cysts are common lesions accounting for up to 40% of all ovarian neoplasms. Most of the cases are asymptomatic. Symptoms develop once complications set in. Invasion into adjacent viscera such as the rectum, the small bowel, the peritoneum, and the urinary bladder is extremely rare.¹ The first case of urinary bladder teratoma was reported by Marsden *et al.* in 1981 who studied the dataset of 137 children (age 0–14 years) from the Manchester University Children's Tumour Registry (MCTR).²

The first case of urinary bladder teratoma from Asia was described by Misra *et al.* in 1997 in a young Indian girl with a partially mobile mass on per rectal examination. The mass had tufts of hair on cystoscopic examination; a provisional diagnosis of bladder teratoma was corroborated by histopathological examination and the mass was resected surgically.³

Agrawal *et al.* described another of urinary bladder teratoma from Asia case in a 29-year-old female with a yellowish-to-grayish white bladder mass on cystoscopy with multiple hair on its surface. Transurethral resection of the mass was done, and a diagnosis of mature teratoma of urinary bladder was confirmed.⁴Okeke *et al.* also reported a dermoid cyst of urinary bladder in 2007 in a 34-year-old female with multiple tiny echogenic structures causing acoustic shadows in the urinary bladder.⁵ Tandon et al. reported a case of mature ovarian dermoid cyst invading

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Professor Dr. Md. Zohirul Islam Miah Professor & Head, Department of Urology Diabetic Association Medical College Faridpur, Bangladesh. Email: dr.zohirul@yahoo.com the urinary bladder in 2010 where patient was presented with pus like discharge per urethra with occasional episodes of hematuria for 6 months.^{6}

To our knowledge, the last case of dermoid cyst of urinary bladder was reported by Jain et al. in 2017A 30-year-old female presented with the complaints of left flank pain and dysuria. Cystoscopy and transurethral resection biopsy revealed a hard bladder mass having hair and calcifications on the surface and yellowish fat in the center involving the bladder dome on the right side.⁷

Because only a few cases have been reported in the literature in the past, we report a case of ovarian dermoid cyst perforating into the urinary bladder presenting with irritative lower urinary tract symptoms characterized by burning micturtion with total hematuria for the last 2 months.

Case Report

Mrs Razia, 50 yrs of age, female, housewife, Muslim, nondiabetic, non-hypertensive, non-asthmatic hailing from Bowalmari-Faridpur got admitted into this hospital with the complaint of total haematuria (passage of blood with urine the whole time of micturition) with occasional passage of clotted blood with urine for 2 months and burning sensation during micturition for 2 months which was relieved by taking analgesics but was not associated with fever, chills, rigors, nausea and vomiting or weight loss. She had no allergic history and her bowel habit was normal.

On general examination she appeared to be ill looking, emaciated, moderately anaemic, her body build was below average, pulse-75 b/min, BP- 110/70 mmHg, Temp- 98°F, RR-14 Breath/Min. Systemic examination only revealed mild lower abdominal tenderness. No organomegaly was found and all the other systems findings were normal. So, we suspected this case as UB neoplasm and investigated accordingly.

Laboratory Investigations

- 1. CBC
 - a. HB%: 10.9 gm/dl
 - b. ESR: 82 mm in 1st hr
- 2. Random Blood Sugar: 4.75 mmol/l

- 3. Serum Creatinine: 0.85 mg/dl (20/07/16)
- 4. Blood Group: `B` Positive
- 5. Urine R/M/E
- a. Pus cell-plenty
- b. RBC-plenty
- 6. ECG : Old MI (inferior)
- 7. Chest X-ray : Mild cardiomegaly
- 8. USG of whole abdomen:
 - 12/07/16: suggestive of fibroid uterus with tumor in UB
 - 15/07/16: Mild fatty change in liver, prolapsed uterus, constipated bowel, cystitis.
 - 20/07/16: severe UTI.
 - 01/09/16: Single UB mass with multiple calcification.

Operation Note

Cystoscopic findings: Urethra and bladder neck was found normal. Ureteral orifices were found normal in position and size. There was a hole at the fundus of UB through which a tuft of hair emerged looked like grasses interlacing with each other. Hairs were pulled with biopsy forceps but could not remove completely.

So, we went for open operation through suprapubic retroperitoneal approach. After exploration, UB was found adherent to the left Ovary. Then ovary was separated from the bladder and found a DERMOID CYST originated from the ovary and content of the cyst burst into urinary bladder. Then left sided oophorectomy (including cyst) was done and bladder wound was closed in layered. Histopathological findings were consistent with dermoid cyst of ovary.



Fig 1. Suprapubic retroperitoneal approach and cyst is visible.

Fig 2. Excised bladder along with Lt. ovary with dermoid cyst.

Discussion

Dermoid cysts can be found at various sites, most common being the ovaries. However, the occurrence of dermoid cysts in the urinary bladder is an extremely rare entity.Dermoid cyst (Teratomas)can present differently but the common factor is the presence of a solitary, or occasionally multiple, hamartomatous tumor. The tumor is covered by a thick dermislike wall that contains multiple sebaceous glands and almost all skin adnexa. Hairs and large amounts of fatty masses cover poorly to fully differentiated structures derived from the ectoderm. Depending on the location of the lesion, dermoid cysts may contain substances such as nails and dental, cartilagelike, and bonelike structures.⁸ In a study conducted by Chanu SM et al. reported mature cystic teratoma was most common (20.8%) histopathological diagnosis among 101 cases of ovarian tumor.9 Uncomplicated ovarian dermoid cysts are usually asymptomatic, and symptoms mostly appear after secondary complications develop. When ovarian cysts are large, they may cause abdominal discomfort. If pressing on the bladder it may also cause frequency of urination. The signs and symptoms of ovarian cysts may include; pelvicpain, dysmenorrhea, and dyspareunia. Other symptoms are nausea, vomiting, or breast tenderness, fullness and heaviness in the abdomen and frequency and difficulty emptying of the bladder.¹⁰ Reported complications include torsion (16%), rupture (1-4%), malignant transformation (1-2%), infection (1%), invasion into adjacent viscera and autoimmune hemolytic anemia (p<1%).¹¹In most of the series of dermoids perforating into the bladder, the diagnosis was established via cystoscopy and laparotomy¹².

Conclusion

Ovarian cysts are commonly encountered in gynecological practice but involvement of UB is extremely rare condition. The definitive treatment is excision of the dermoid cyst along with partial cystectomy. Histopathological examination is essential to exclude malignant transformation. A high index of suspicion along with of the help of imaging modalities are needed to arrive at the correct preoperative diagnosis.

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Ostectomy for Diabetic Neuro-Ischaemic Foot Ulcer Involving under Prominent Distal Part of the First Metatarsal

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Abstract

Diabetic neuro-ischaemic foot ulcer, a devastating complication of uncontrolled diabetes mellitus. Patient named Mr. Hasan Mridha, 65 years old hypertensive, diabetic got admitted in Diabetic Association Medical College & Hospital at orthopedic unit on 31.01.18 with the complaints of ulceration under prominent first metatarsal head and distal phalanx for 2 months. This patient had features of peripheral neuropathy. On special examination, ankle-brachial pressure index was 0.64. Biothesiometer and monofilament test were positive. As the patient was in elderly aged, so ostectomy and excision of the distal phalanx with primary repair were done under ankle block. No such case has reported previously in our country. So it deemed necessary to report the case. Post-operative outcome was satisfactory.

Key words: Ostectomy, Diabetic neuro-ischaemic foot ulcer.

Introduction:

The world Health Organization defines diabetic foot as the lower limb of a diabetic patient that has the potential risk of pathological consequence, including infection, ulceration, and/or destruction of deep tissues associated with neurological abnormalities, various degrees of peripheral vascular disease, and/or metabolic complications of diabetes. About 194 million people worldwide or 5.1% in the age group of 20 to 79 were estimated to have diabetes in 2003¹.

The triage of neuropathy, peripheral arterial disease and mechanical stress is responsible for the development of the diabetic foot ulcer. The surgeon is often faced with difficult wound healing challenges for the management of neuroischaemic planter diabetic foot ulcer. Worldwide, a lower limb is lost every 30 seconds as a consequence of diabetes². It usually develops at 5-10 years duration of DM.

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Dr. Abdullah Al Gaddafi Assistant Professor, Department of Orthopedics Diabetic Association Medical College, Faridpur. Cell: +880 1747819408, E-mail: drranajsrbd1983@gmail.com The main predisposing factors were peripheral neuropathy and peripheral vascular disease⁵. Diabetic patients suffering from neuropathy can develop minor cuts, scrapes, blisters or pressure sores that they may not be aware of due to the insensitivity. If these minor injuries are left untreated, complications may result and lead to ulceration and possibly even amputation³.

Neuropathy can also cause deformities such as Bunions, Hammer Toes and Charcot's Foot⁴. These result from undue bony prominence with high planter pressure points, leading to callosities and ulceration.

Case Report

Hasan Mridha, 65 years old diabetic patient had complaint of ulceration under prominent first metatarsal head and distal phalanx for 2 months. This was a known case of DM for 5 years and HTN for 6 Years. He took anti-diabetic and anti-hypertensive drugs irregularly. On Examination, two full thickness clear neuro-ischaemic ulcers surrounded by callus were observed under the prominent first metatarsal head and distal phalanx measuring about 3×2 cm and 1×1 cm. Displacement of the metatarsal fat pads to the base of the proximal phalanges due to muscle atrophy were also noted. Features of neuropathy (such as Callus around ulcer, Claw toes, Hammer toes, Tingling sensation, Burning sensation) were present.

On special examination

- 1. Biothesiometer test positive (36),
- 2. Ankle/Brachial pressure index was 0.64





Biothesiometer

Hand-held doppler

Investigation findings

Radiological finding: X-ray right foot B/V Showing prominent first metatarsal head with slight displacement of Metatarsophalangeal joint with periosteal reaction.



Laboratory investigation

- a. Blood count : Hb%-13.58g/dl, WBC-6.44×10³ µl
- b. S. Creatinine: 1.05mg/dl
- c. FBS : 8.61mmol/L
- d. 2HABF : 9.73mmol/L
- e. HbA1c : 7.7%

Operative Procedure

Extensile longitudinal incision extending from tip of the great toe to tarso-metatarsal joint under ankle block, callus around ulcers were removed and the wounds were debrided properly. Then prominent part of the first metatarsal and distal phalanx were excised under proper bleeding control. Reconstruction of displaced fat pads was done and skin was closed primarily over a suction drain, which was left in place for 2 days. Short leg back slab was applied.



Post-Operative management

The patient was discharged after 7 post-operative day with proper medication and advice. At 20^{th} post-operative day, stitches were removed.

Follow Up

25th day after surgery patient came with satisfactory result. **Discussion**



The distal part of the first metatarsal is the common site for the development of the neuropathic ulcer. Ostectomy operation under prominent part of the first metatarsal is rare in my country. Diabetic neuroarthropathy is a frequent complication of diabetes mellitus that results in instability of the foot, structural deformity and soft tissue breakdown secondary to increased planter pressure. Early this patient could not realise the development of ulcer because of neuropathic foot. Day by day, the ulcer increased in size due to barefoot walking.

Conclusion

Ostectomy for the management of the neuro-ischaemic diabetic foot ulcer under 1st metatarsal is a valuable but uncommon procedure. Early diagnosis and management can prevent ray amputation of the great toe.

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