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Informations about Prime Medical College, Rangpur

Prime Medical College is one of the best and largest private medical college in Bangladesh. It was established in 2008. The ideas of establishing this Medical College is to provide standard Medical Education and Health Services to the people at an affordable cost.

The objectives of the institute are :

- To promote and provide education in Medical Science and to Provide training in different discipline of medicine recognized by the postgraduate institutes and universities.
- To conduct research work on the diseases prevalent in the country.
- To conduct research on medical education with the aim of uplifting the quality and standard of medical education in the country.
- To produce and provide skilled manpower in the medical, nursing and paramedical fields.
- To provide quality medical care and heath services to the people at reasonable cost.

The first and foremost objective of establishment of this medical college is to offer MBBS degree under Rajshahi University of Bangladesh and to provide good quality medical graduates, who can fulfill the need of health care prevailing in the country.

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Editorial

Bacterial resistance: a global threat.

Prof. Dr. Israrul Bari

Antimicrobial resistance is the ability of a microorganism to survive in the presence of concentrations of a chemical which are normally lethal to organism of that species.

Antibacterial resistance is a subset of antimicrobial resistance. Microbe resistance to multiple antimicrobials is called multi drug resistant. Bacteria which are extensively or totally resistant are sometimes called "superbugs".

So "superbug" is an informal term for a bacterium that has became resistant to antibiotics. Multidrug resistance organisms or superbugs are a serious global public health problem. Rise of superbug is largely due to overuse and misuse of antibiotics that may lead to post antibiotic era.

Patients infected with MDR bacterial strains face higher rate of hospitalization, increased morbidity and mortality. The causes of bacterial resistance are related with shortcomings of health personals, Patients attitude towards antibiotics, massive veterinary and agricultural use of antimicrobial. Indiscriminate use of antiseptic, disinfectant and preservatives in food and household products also may lead to resistance.

Many pharmaceutical manufacturers do not follow the GMP guideline and has been linked to dumping of inadequately treated effluents from the industry thus contaminating the environment.

The following types of bacteria have generally been considered as antibiotic-resistant threats to patients and have been referred as "superbugs".

- Carbapenem-resistant Enterobacteriaceae (CRE)
- Methicillin- resistant Staphylococcus aureus (MRSA)
- ESBL-producing Enterobacteriaceae (extended-spectrum β-lactamases)
- Vancomycin-resistant Enterobacteriaceae (VRE)
- Multidrug-resistant Acinetobactere.
- Multidrug-resistant Pseudomonas aerusinosa
- Antibiotic resistant E. coli (H30-Rx strain).
- Colistin resistant Pseudomonas aerusinosa

Multi drug resistant Tuberculosis is another health hazard threatening the world. Although Mycobacterium tuberculosis is not usually mentioned as "Superbug".

The use, overuse and misuse of antimicrobial drugs has created resistant strains of bacteria that could be a greater threat in poorer nations than in richer ones, due to the absence of monitoring and surveillance systems for the drug resistance and lack of regulation. Even if newer effective antibiotics become available, they would be expensive and unaffordable for the majority poor populations .

In both rich and poor countries, resistant bacteria are costly and deadly. However, in rich countries, access to diagnostic laboratories, robust surveillance, disposal items and well-organized infection control teams slow the spread of resistant bacteria, while in poor countries some or all of these do not exist.

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In the developing country there is no definite official consensus about "who can prescribe:" Even no categorization of the prescriber is observed regarding the group of drugs they are legitimate to prescribe in their daily practice.

Government of Bangladesh has published Essential drug list which is updated time to time. That describes the drugs to be used in different levels of government hospitals from PHC to tertiary level. In private practice level no such categorization is prevailing presently.

Although the concept of "rational use of drug" and "Essential Drugs" has been widely promulgated by health care authority of many country but still it is due among the health professional. Little contribution is noticed in the prevention of bacterial resistance through such programme.

Antibiotics are sold as OTC products in most of the poor countries where injudicious self medication of infection is done leading to resistance.

Now is the best time to take responsible initiative for prevention of end of anti-biotic era.

So to overcome the situation we can put some recommendations and can look forward with firm determination to achieve the goal.

1. Development of awareness among the people about bacterial resistance can be achieved by using mass media like electronic and print media and also through rally, symposium, seminar, social and cultural presentations.

2. Introduction of tropics in secondary and higher secondary course curriculum.

3. Higher weights of the tropics should be paid in medical, nursing and paramedic course and evaluation system to increase their knowledge, competence and skill to combat the situations.

4. Surveillance system in all the level of hospitals should be developed for active management of infection control.

Antibiotic stewardship program should also be developed in the national level of health management.

5. Stringent control for veterinary and agricultural use of antimicrobials is needed. Routine measurement of antibiotic concentration in dairy and poultry excreta should be the part of surveillance and controlling. Use of antibiotics as growth promoter in animal food should be Restricted.

6. Lac of Quality control system, avoidance of Good manufacturing practice and Counterfeit medication should be brought under strict legal procedure.

7. Vaccine: vaccine can reduce the need of antibiotic in the treatment of bacterial infection and thus can lower the overuse and misuse of the antibiotics. So globally more investment is necessary for the innovation of newer vaccines against the various infectious diseases.

8. New and better diagnostic assay: Rapid and confirmatory diagnosis of bacterial infection and their sensitivity to particular antibiotic can cut down the misuse of antibiotics and their resistance.

Here, for example gen expert (CB NAAT) test for T.B. can be an example.

Better diagnosis can also accelerate the recruitment of patients with MDR – infection in to clinical trials and narrow the use of antibiotics.

9. CRISPR: Bacteriophages can be used to help to make antibiotic-resistant bacteria more sensitive to the drugs.

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Original article

Serum zinc level and its relation with blood pressure and urinary protein level in Preeclampsia

Saima Haque Lisa[1], Qazi Shamima Akhter[2], Tahmina Akter[3], Mahedy Ahmed Munna[4], Sunjida Akter Suma[5], Sayeda Tasnim Kamal[6]

ABSTRACT

BACKGROUND: *Preeclampsia is a multi factorial disease of unknown etiology and is associated with oxidative stress. Some studies observed that deficiency of essential trace elements may contribute to the development of preeclampsia.* ***OBJECTIVE:*** *To assess the serum zinc (Zn) level and its relation with blood pressure and urinary protein level in preeclampsia.* ***METHODS:*** *This cross sectional study was conducted in the Department of Physiology, Dhaka Medical College, Dhaka from July 2016 to June 2017. Thirty women suffering from preeclampsia with age ranging from 18 to 40 years were considered as the study group. Another 30 healthy pregnant women were considered as control group for comparison. The age of control group were matched with the study group. The subjects were selected from Department of Obstetrics and Gynecology of Dhaka Medical College hospital, Dhaka. Serum Zinc (Zn) level was estimated in the Department of Soil, Water and Environment of University of Dhaka. Statistical analysis was performed using unpaired Students "t" test and Pearson's correlation coefficient (r) test.* ***RESULTS:*** *In this study serum zinc level was significantly ($p<0.001$) lower in preeclampsia patients as compared to controls. Serum zinc level showed negative correlations with systolic & diastolic blood pressure and urinary protein level.* ***CONCLUSIONS:*** *This study concluded that serum zinc level decreases in preeclampsia patients and is negatively related with blood pressure and urinary protein level. Therefore, estimation of serum zinc level and zinc supplementation in early pregnancy might be useful for prevention of future risk of developing preeclampsia.*

KEY WORDS: Preeclampsia, zinc, blood pressure, Urinary protein.

INTRODUCTION

Preeclampsia is a multisystem disorder typically characterized by the new onset hypertension and proteinuria after 20 weeks of gestation. It is one of the commonest causes of maternal and perinatal death in the world[1]. The prevalence of preeclampsia in Bangladeshi pregnant women is about 12%[2]. Maternal complication of preeclampsia are eclampsia, pulmonary oedema, renal failure, disseminated intravascular coagulopathy, HELLP syndrome, hypertensive emergency, hypertensive encephalopathy and cortical blindness. Fetal complications are growth retardation and prematurity[3,4]. The rate of maternal death from preeclampsia and eclampsia accounts for ten to fifteen percent[5].

Preeclampsia has a complex pathophysiology and it is associated with oxidative stress. Zinc is required for sequestration of free radicals

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and gives protection against lipid peroxidation. During pregnancy maternal serum zinc level may decreases due to increased fetal demands, haemodilution, and decrease in serum albumin levels, hormonal changes and shifting of zinc from plasma to red blood corpuscle[6]. The requirement of zinc increases during periods of rapid growth like pregnancy, infancy, childhood, adolescence. During pregnancy, zinc deficiency may causes a wide range of complications such as pregnancy induced hypertension, premature rupture of membrane, placental abruption, prolonged labour, haemorrhage, infections, intrauterine growth retardation, low birth weight, congenital anomalies, increased neonatal morbidity and poor neurobehavioral development[7]. Again, deficiency of zinc may decrease the effect of antioxidant potential of cells which may lead to increase in blood pressure[8]. To the best of our knowledge few rescarhes has been done in our country regarding the serum zinc level and its effect on blood pressures and urinary protein level in preeclamptic patients. Therefore, the present study has been designed to observe the effect of serum zinc level on systolic & diastolic blood pressure and urinary protein level in preeclamptic patients.

MATERIALS AND METHODS

This cross sectional study was conducted in the Department of Physiology, Dhaka Medical College, Dhaka from July 2016 to June 2017. Protocol of this study was approved by Ethical review committee of Dhaka Medical College, Dhaka. For this study, 30 subjects with preeclampsia were considered as the study group. The subjects were selected from Department of Obstetrics and Gynecology of Dhaka Medical College hospital, Dhaka. Diagnosis was done by blood pressure ≥ 140/90mm of Hg measured on 2 occasions 6 hours apart and urinary protein level at least 1+ on dipstick test. Thirty aged matched healthy pregnant women were considered as control group for comparison. After selection of the subjects, the nature, purpose and benefit of the study were explained to each subject in details and informed written consent was taken from the participants. Before taking blood, detailed personal history, family history and medical history were taken. Anthropometric measurement of the subjects was done and blood pressure was measured. All the information's were recorded in a prefixed questionnaire. Urinary protein level was estimated by dipstick test. With aseptic precaution, 5ml of venous blood were collected from antecubital vein by a disposable plastic syringe from each subject. Serum zinc level was estimated in Department of Soil, Water and Environment, University of Dhaka. Results were presented as mean ± SD. For statistical analysis Unpaired Students "t" test and Pearson's correlation coefficient (r) test were done. The p value of <0.05 was considered as level of significance. Analysis was performed by using a computer based statistical program SPSS Version 22.

RESULTS

General characteristics of the subjects of both groups are presented in Table I. There were no significant differences in any variables between study group and control group.

Table I: General characteristics of the subjects in both groups (N=60)

Parameters	Control (n=30)	Preeclamptic women (n=30)
Age (years)	23.2 ± 3.4	24.3 ± 5.2^{ns}
Height (cm)	156.5 ± 6.6	155.4 ± 8.9^{ns}
Weight (kg)	67.6 ± 6.53	69.4 ± 7.9^{ns}
BMI (kg/m^2)	27.77 ± 2.02	28.52 ± 2.96^{ns}

Results are expressed as mean ±SD; Unpaired t test was done.
n=number of subjects; N= total number of subjects.
ns= not significant; p =>0.05

The mean (±SD) systolic blood pressure was 119.00± 7.59 and 160.67±18.37 mm Hg in control group and study respectively. The mean (±SD) diastolic blood pressure was 76.33±4.90 and 104.67±10.42 mm Hg in control group and study respectively (Table II).

Table II: Table showing systolic and diastolic blood pressure in normal pregnancy and preeclampsia patient (N=60)

Blood pressure (mm of Hg)	Group A Normal pregnant women (n=30)	Group B Preeclamptic women (n=30)	*p* value
Systolic BP	119.00 ±7.59	160.67±18.37	<0.001***
Diastolic BP	76.33±4.90	104.67±10.42	<0.001***

Results are expressed as mean and standard deviation (mean ±SD). Unpaired t test was done to measure the level of significance. The test of significance was calculated and p value <0.05 was accepted as level of significance.

The mean (±SD) urinary protein level was 0.00±0.00 and 248.00 ± 90.83 mg/dl in control and study group respectively (Table III).

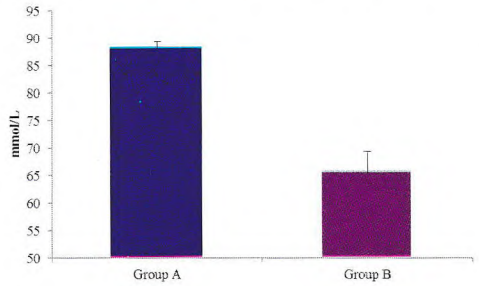
Table III: Table showing urinary protein level in normal pregnancy and preeclampsia patient (N=60)

Parameter	Group A Normal pregnant women (n=30)	Group B Preeclamptic women (n=30)	*p* value
Urinary protein level (mg/dl)	0.00 ± 0.00	248.00 ± 90.83	<0.001***

Results are expressed as mean and standard deviation (mean ±SD). Unpaired t test was done to measure the level of significance. The test of significance was calculated and p value <0.05 was accepted as level of significance.

Mean serum zinc level was significantly lower in preeclamptic patients (study group) compared to those of control (Figure 1).

Figure 1: Bar diagram showing the comparison of zinc level between control (Group A) & study group (Group B)



Correlation analysis showed significant negative correlation between serum zinc level and systolic blood pressure, diastolic blood pressure and urinary protein levels (Table IV).

Table IV: Correlation between Serum Zinc in relation with blood pressure and urinary protein in group B (n=30)

Clinical parameters	r value	p value
Systolic BP	-0.658	0.001***
Diastolic BP	-0.624	0.001***
Urinary protein	-0.512	0.004**

Pearson's correlation coefficient (r) test was performed.
p value <0.05 was accepted as level of significance.
n = number of subjects
*/**/*** = significant

DISCUSSION

In the present study, mean serum zinc level was significantly ($p < 0.001$) lower in preeclamptic patients than that of normal pregnant women. Similar type of observations was reported by some researchers[9,10].

However, Some researchers found no significant difference in serum zinc level between preeclamptic patients and normal pregnant women[11].In this study, Serum zinc level showed negative correlation with systolic and diastolic blood pressure and urinary protein level. The relationships were statistically significant. Similar types of observations were reported by different researchers of different countries[12,6].

Literature review suggested that lower serum zinc level may decrease the effect of antioxidant potential of cells leading to increase in blood pressure. Zinc deficiency also causes an increase in lipid peroxidation. Increased oxidative stress, ongoing excessive lipid peroxidation, endothelial dysfunction & vasospasm may contribute to the pathogenesis of preeclampsia[8,10].

CONCLUSION

From this study it can be concluded that, serum zinc level decreases significantly in

preeclampsia patients and it is negatively correlated with systolic and diastolic blood pressure and urinary protein level.

Conflict of interest: None

LIMITATIONS

1. The study was conducted in a selected hospital. So, the study population might not represent the whole community.
2. The sample was taken purposively. So, there is a chance of bias which can influence the results.
3. 24 hour urinary protein could not be measured because of lack of follow up facilities and time constraints.

RECOMMENDATIONS

1. Good nutrition and adequate dietary zinc supplementation is necessary in pregnant women as they might reduce the risk of preeclampsia.
2. Sample can be collected from different parts of the country.

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Original article

Effects of tobacco smoking on PEFR in asymptomatic smokers

Nusrath Jahan Chowdhury[1], Mohammed Zahid Hossain[2], S.A.H.M Mesbahul Islam[3], Masuma Begum[4], Muhammad Arif –un- Nabi[5], Saima Haque Lisa[6].

ABSTRACT

BACKGROUND: *Tobacco smoking directly affects the respiratory system ultimately causing a number of respiratory diseases. In case of asymptomatic smokers, impaired PEFR is one of the early indicator for incidence of any lung disease.* ***OBJECTIVES:*** *To observe the effects of tobacco smoking on pulmonary functions in apparently healthy asymptomatic tobacco smokers by measuring PEFR.* ***METHODS:*** *This cross sectional observational study was conducted in the Department of Physiology, Sylhet MAG Osmani Medical College in collaboration with Department of Medicine, Sylhet MAG Osmani Medical College Hospital from July 2016 to June 2017. A total of 200 subjects were selected by purposive sampling. Among them 100 were asymptomatic smokers and 100 were age, sex and BMI matched healthy never smokers as control. Their pulmonary functions were studied by measuring PEFR by digital spirometer. For statistical analysis unpaired students 't' test was performed.* ***RESULTS:*** *There was no significant difference of mean predicted values of PEFR between the groups. The mean measured value and percentage of predicted value of PEFR were significantly ($p<0.001$) lower in asymptomatic smokers than the control group.* ***CONCLUSION:*** *It may be concluded that PEFR decreases in smokers where subject may remain apparently asymptomatic.*

KEY WORDS: Asymptomatic smoker, Never smokers, Spirometric test, Peak expiratory flow rate (PEFR).

INTRODUCTION

Tobacco is a product prepared from the leaves of the tobacco plant. Dried tobacco leaves are mainly used for smoking in cigarettes, cigars, pipe, tobacco and flavored shisha tobacco. But cigarette smoking is the most well-known form of tobacco use[1].Tobacco kills approximately five million people annually across the world. Currently in Bangladesh, there are about 25 million smokers, among which the prevalence is 44.7% in males and 1.5% in females[2]. It is the single greatest cause of preventable death globally[3].

Tobacco smoke contains more than 4000 chemicals, among which 40 are carcinogenic[4] .The constituents of smoke are contained in either the particulate phase or gas phase. Particulate phase components include nicotine (ganglion stimulator), tar, poly nuclear hydrocarbons, cresol etc. Gas phase contains carbon monoxide, hydrogen cyanide, acetaldehyde, acrolein etc. But in case of cigarettes, nicotine is the main culprit behind inducing addiction[5]. Moreover, cigarette

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smoking has extensive effects on respiratory function and it is significantly involved in the etiology of a number of respiratory diseases, particularly chronic obstructive pulmonary disease (COPD) which includes chronic bronchitis and emphysema[6]. COPD is a leading cause of chronic morbidity and mortality and is the fifth most common cause of death[7]. In Bangladesh, prevalence of COPD is 13.5%[8]. Pulmonary function tests are used to aid diagnosis and assess functional impairment. This test includes measurement of lung volumes & capacities by spirometer[9]. In smokers, spirometry can be helpful to determine the effects of smoking on ventilatory functions. It is the best method to detect borderline to mild airway obstruction[10]. Spirometric measurement of PEFR (Peak Expiratory Flow Rate) is a useful parameter to monitor airway obstruction which assesses its severity and variation and evaluate the effects of treatment[11].This study was intended in perspective of huge physiological and clinical importance of smoking. The aim of this study was to observe the effects of tobacco smoking on asymptomatic smoker's lung by spirometric measurement of Peak Expiratory Flow Rate (PEFR).

METHODS

This Cross-sectional observational study was done in the Department of Physiology, Sylhet MAG Osmani Medical College in collaboration with Department of Medicine, Sylhet MAG Osmani Medical College Hospital, Sylhet from July 2016 to June 2017. Prior to the beginning of the study, approval of the research protocol was obtained from the Ethical Review Committee of Sylhet MAG Osmani Medical College, Sylhet. A total 100 apparently healthy, male, asymptomatic smoker who smokes at least five cigarettes a day for at least one year, aged between 18-60 years, BMI within normal limit (18.5-24.9 kg/m^2)[12] were taken as study group A. They were selected from study population which includes staff of Sylhet MAG Osmani Medical College and Hospital and attendants of admitted patients in this hospital. Again, for comparison 100 apparently healthy age, sex and BMI matched never smokers were also included and they were grouped as group B. Subjects having history of pulmonary diseases, recent heart attack, history of recent major surgery and person who work in textile mills were excluded from the study. After selection of participants, the objectives and procedure of the study was explained in details and informed written consent was taken from each subject. Standard questionnaire was filled up after taking history and thorough clinical examinations. After taking 5 minutes rest, for assessment of pulmonary function, PEFR of each subject was measured by using a computerized (RMS Helios 401) spirometer. For statistical analysis, unpaired students 't' test was performed by computer based software SPSS-23 version for windows.

RESULTS

Demographic data of all subjects are presented in Table I.

Table I: Distribution of subjects according to Mean (± SD) age and BMI in group A and group B.

Variables	Group A (n=100)	Group B (n=100)
Age (years)	37.37±11.55	37.08±10.56
BMI (Kg/m^2)	21.85±1.83	22.22±1.76

Data are expressed as mean ± SD.
Statistical analysis was done by unpaired student's 't' test.
n= total number of subjects in respective group.
Group A : Asymptomatic smoker; Group B : Never Smoker

There were no statistically significant differences in the mean predicted values of PEFR between group A and B. The mean measured values of PEFR were significantly ($P<0.001$) lower in group A than group B. Again, the mean percentage of predicted values of PEFR were significantly ($P<0.001$) lower in asymptomatic smoker than never smoker (Table II).

Original article

Effects of tobacco smoking on PEFR in asymptomatic smokers

Nusrath Jahan Chowdhury[1], Mohammed Zahid Hossain[2], S.A.H.M Mesbahul Islam[3], Masuma Begum[4], Muhammad Arif –un- Nabi[5], Saima Haque Lisa[6].

ABSTRACT

BACKGROUND: *Tobacco smoking directly affects the respiratory system ultimately causing a number of respiratory diseases. In case of asymptomatic smokers, impaired PEFR is one of the early indicator for incidence of any lung disease.* ***OBJECTIVES:*** *To observe the effects of tobacco smoking on pulmonary functions in apparently healthy asymptomatic tobacco smokers by measuring PEFR.* ***METHODS:*** *This cross sectional observational study was conducted in the Department of Physiology, Sylhet MAG Osmani Medical College in collaboration with Department of Medicine, Sylhet MAG Osmani Medical College Hospital from July 2016 to June 2017. A total of 200 subjects were selected by purposive sampling. Among them 100 were asymptomatic smokers and 100 were age, sex and BMI matched healthy never smokers as control. Their pulmonary functions were studied by measuring PEFR by digital spirometer. For statistical analysis unpaired students 't' test was performed.* ***RESULTS:*** *There was no significant difference of mean predicted values of PEFR between the groups. The mean measured value and percentage of predicted value of PEFR were significantly ($p<0.001$) lower in asymptomatic smokers than the control group.* ***CONCLUSION:*** *It may be concluded that PEFR decreases in smokers where subject may remain apparently asymptomatic.*

KEY WORDS: Asymptomatic smoker, Never smokers, Spirometric test, Peak expiratory flow rate (PEFR).

INTRODUCTION

Tobacco is a product prepared from the leaves of the tobacco plant. Dried tobacco leaves are mainly used for smoking in cigarettes, cigars, pipe, tobacco and flavored shisha tobacco. But cigarette smoking is the most well-known form of tobacco use[1].Tobacco kills approximately five million people annually across the world. Currently in Bangladesh, there are about 25 million smokers, among which the prevalence is 44.7% in males and 1.5% in females[2]. It is the single greatest cause of preventable death globally[3].

Tobacco smoke contains more than 4000 chemicals, among which 40 are carcinogenic[4] .The constituents of smoke are contained in either the particulate phase or gas phase. Particulate phase components include nicotine (ganglion stimulator), tar, poly nuclear hydrocarbons, cresol etc. Gas phase contains carbon monoxide, hydrogen cyanide, acetaldehyde, acrolein etc. But in case of cigarettes, nicotine is the main culprit behind inducing addiction[5]. Moreover, cigarette

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smoking has extensive effects on respiratory function and it is significantly involved in the etiology of a number of respiratory diseases, particularly chronic obstructive pulmonary disease (COPD) which includes chronic bronchitis and emphysema[6]. COPD is a leading cause of chronic morbidity and mortality and is the fifth most common cause of death[7]. In Bangladesh, prevalence of COPD is 13.5%[8]. Pulmonary function tests are used to aid diagnosis and assess functional impairment. This test includes measurement of lung volumes & capacities by spirometer[9]. In smokers, spirometry can be helpful to determine the effects of smoking on ventilatory functions. It is the best method to detect borderline to mild airway obstruction[10]. Spirometric measurement of PEFR (Peak Expiratory Flow Rate) is a useful parameter to monitor airway obstruction which assesses its severity and variation and evaluate the effects of treatment[11].This study was intended in perspective of huge physiological and clinical importance of smoking. The aim of this study was to observe the effects of tobacco smoking on asymptomatic smoker's lung by spirometric measurement of Peak Expiratory Flow Rate (PEFR).

METHODS

This Cross-sectional observational study was done in the Department of Physiology, Sylhet MAG Osmani Medical College in collaboration with Department of Medicine, Sylhet MAG Osmani Medical College Hospital, Sylhet from July 2016 to June 2017. Prior to the beginning of the study, approval of the research protocol was obtained from the Ethical Review Committee of Sylhet MAG Osmani Medical College, Sylhet. A total 100 apparently healthy, male, asymptomatic smoker who smokes at least five cigarettes a day for at least one year, aged between 18-60 years, BMI within normal limit (18.5-24.9 kg/m^2)[12] were taken as study group A. They were selected from study population which includes staff of Sylhet MAG Osmani Medical College and Hospital and attendants of admitted patients in this hospital. Again, for comparison 100 apparently healthy age, sex and BMI matched never smokers were also included and they were grouped as group B. Subjects having history of pulmonary diseases, recent heart attack, history of recent major surgery and person who work in textile mills were excluded from the study. After selection of participants, the objectives and procedure of the study was explained in details and informed written consent was taken from each subject. Standard questionnaire was filled up after taking history and thorough clinical examinations. After taking 5 minutes rest, for assessment of pulmonary function, PEFR of each subject was measured by using a computerized (RMS Helios 401) spirometer. For statistical analysis, unpaired students 't' test was performed by computer based software SPSS-23 version for windows.

RESULTS

Demographic data of all subjects are presented in Table I.

Table I: Distribution of subjects according to Mean (± SD) age and BMI in group A and group B.

Variables	Group A (n=100)	Group B (n=100)
Age (years)	37.37±11.55	37.08±10.56
BMI (Kg/m^2)	21.85±1.83	22.22±1.76

Data are expressed as mean ± SD.
Statistical analysis was done by unpaired student's 't' test.
n= total number of subjects in respective group.
Group A : Asymptomatic smoker; Group B : Never Smoker

There were no statistically significant differences in the mean predicted values of PEFR between group A and B. The mean measured values of PEFR were significantly ($P<0.001$) lower in group A than group B. Again, the mean percentage of predicted values of PEFR were significantly ($P<0.001$) lower in asymptomatic smoker than never smoker (Table II).

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Table II: Predicted value, measured value and percentage of predicted value of PEFR in group A and group B.

Parameter	Value	Group A (n=100)	Group B (n=100)	t value	P value
PEFR (Liters)	Predicted value	8.71±.77	8.71 ± .76	0.017	0.987
	Measured value	3.15 ± 1.51	5.94 ± 2.29***	10.160	0.000***
	Percentage of predicted value	36.29 ±17.37	68.32 ± 28.53***	9.589	0.000***

Data are expressed as mean ± SD
Statistical analysis was done by unpaired student's 't' test.
n= number of subjects in each group; ***= P < 0.001.
Group A : Asymptomatic smoker; Group B :Never Smoker

DISCUSSION

In this study mean measured value of PEFR were significantly lower in asymptomatic smokers than never smokers. These findings are in line with those of some other researchers[4,11,13,14,15,16,17]. One possible reason for the decrease in PEFR could be inflammation which is a common and constant pathological finding in cigarette smokers. The airway flow limitation occurs due to bronchial constriction caused by mediators of inflammation. Inflammation may cause airway fibrosis either directly or by indirectly by increasing smooth muscle tone. All these changes promote wall thickening leading to airway narrowing and flow limitation. In addition, inflammation causes destruction of the alveolar walls[16]. Besides, the number and size of the cells that produce mucus are increased in smokers. Excessive mucus accumulation results in clogging of the airways. This extra mucus can easily get infected and causes thickening of the lining of bronchioles. As a result they become narrow and reduce the air flow making breathing difficult which might be associated with decreased PEFR.

Smoking causes fatal diseases to develop in many parts of the body including cancers of the upper and lower respiratory tracts (nasopharynx, larynx, and lung), mouth, the esophagus and the kidney[18]. Tobacco contains more than 4000 chemicals and around 40 are carcinogenic [4]. If smoking continues, these agents can transform normal cells into cancer cells. These cells may eventually break through the basement membrane and begin dividing within the lung tissue thus forming a tumour which may spread throughout lung tissue. Impaired lung function parameters in our study suggested that the smokers should be aware of progressive consequences despite being asymptomatic upto a certain period of time.

CONCLUSION

Therefore, from this study, it may be concluded that in asymptomatic tobacco smoker's lung function parameter, PEFR decreases before the onset of any lung disease.

Conflict of interest: None

LIMITATIONS

The study was conducted in a selected area. So, study population might not represent the whole community. The sample was taken

purposively. So there may be chance of bias which could influence the result.

RECOMMENDATIONS

To be more conclusive the following recommendations are proposed:

- Should also be conducted in female smoker.
- Similar type of study on various form of tobacco user (beedi, cigarette and combined) could be done.

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Original article

Study of effect of maternal anaemia in birth weight and placental weight

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ABSTRACT

BACKGROUND: *Maternal anaemic disorders may influence the placenta, which may have a deleterious impact on placenta and may lead to poor foetal outcome. Thus this study may help to determine the effect of maternal anaemia in placental morphology and foetal weight.* ***OBJECTIVE:*** *Quantitative estimation of placental weight and that of foetus in anemic mother after delivery. Then comparing the both weight with those of normal healthy mothers after parturition.* ***METHODS:*** *This cross sectional, descriptive type of study were carried out on 100 placentas (anaemic and control) collected from the Department of Gynaecology and Obstetrics, Rangpur Medical College and Hospital, Rangpur just after delivery. Among them 62 placentas were collected from anaemic mother after delivery, 38 placentas were collected from helthy pregnant mothers. Among 62 anaemic placenta,20 were from mild anaemic mothers, 38 were from moderate anaemic mothers and 4 from severe anaemic mothers.* ***RESULTS:*** *The mean (± SD) of birth weight was 2.86 ±0.46 kg in control group and were 2.84 ±0.51 kg, 2.85 ±.51 kg, 2.70 ± 0.24 kg in mild, moderate and severe anaemic group respectively. The mean (± SD) of weight of placentae in control group was 425 ± 69.27 (gm) and were 405.29 ± 80.65 (gm), 400.95±79.05 (gm) and 392± 123.92 (gm) in mild, moderate and severe anaemic groups respectively. Mean (± SD) of feto-placental weight ratio in control group was 6.82 ± 1.20 and were 7.27 ± 1.71, 7.16 ± 1.20 and 6.12 ± 0.94 in mild, moderate and severe anaemic groups.* ***CONCLUSION:*** *From this study it may be concluded that anaemia does not affect the weight of placenta as well as the foetal weight.*

KEY WORDS: Anaemia, Placenta, Birth weight, Placental weight.

INTRODUCTION

In pregnancy, anaemia has a tremendous effect on placenta[1]. The placenta is foeto-maternal organ, which begins developing at implantation of blastocyst and is delivered with the foetus at birth. It binds two genetically distinct individuals, the mother and the foetus, and serves as an intermediary between maternal and foetal circulations but has many physiological functions, including the exchange of respiratory gases, metabolites, nutrients and waste products as well as the production of hormones and the metabolism of xenobiotics[2]. It is the site of exchange between maternal and foetal circulation. Placenta is the structure where foetal and maternal tissues come in direct contact without rejection[3].

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MATERIALS & METHODS

The cross-sectional, descriptive type of study was carried out in the Department of Anatomy,

Rangpur Medical College, Rangpur from July, 2015 to June, 2016. For this, 100 placentae (anaemic and control) were collected from the Department of Gynaecology and Obstetrics, Rangpur Medical College and Hospital, Rangpur just after delivery. The subjects were divided into two groups according to the WHO classification of anaemia (depending on mother's haemoglobin level). Control Group: Haemoglobin level ≥11 gm/dl and anaemic group <11 gm/dl. Anaemic group again divided into mild anaemia (Hb level 10 gm /dl- 10.9 gm/dl), moderate anaemia (Hb level- 7-9.9 gm/dl), and severe anaemia (Hb level < 7 gm/dl)[4]. Out of the 100 placentae 38 were from non-anaemic mothers regarded as control group and 62 were from mothers with anaemic pregnancy regarded as anaemic group.

Birth weight of the neonate was also measured with baby weight machine in Kg. Out of the 100 placentae 38 were from non-anaemic mothers regarded as control group and 62 were from mothers with anaemic pregnancy regarded as anaemic group. Among the 62 anaemic pregnancies, 20 were from mild anaemic mothers, 38 were from moderate and 4 were from severe anaemic mothers. Morphological features of placenta in control group and anaemic group were observed, measured and compared. These features include weight of placenta in gram. After delivery each placenta was tagged with specific identification number.

Procedure of gross morphological study

Just after collection, the specimens were brought to the laboratory of the Department of Anatomy, Rangpur Medical College, Rangpur for study. Each specimen was gently washed in tap water on a dissection tray; the film of blood and blood clots on the maternal surface were removed with hand gently, without disturbing any firm clot which were embedded in the substance of placenta.The umbilical cord was cut 2 cm away from disc margin. The amniotic membrane was trimmed at disc margin with a scissor. Then the placenta was mopped and dried with dry cotton pad and blotting papers very gently. Then gross morphological measurements were done in a fresh state in each group, which includes placental weight.

Placental weight:

The placenta was mopped with cotton wool pad and blotting paper. Measurement of weight of the placenta was done by means of digital balance graduated in grams (gm).

Birth weight:

Birth weight was taken by weighing machine in kilogram (Kg).

RESULTS

The mean (± SD) of birth weight was 2.86 ±0.46 kg in control group and were 2.84 ±0.51 kg, 2.85 ±.51 kg, 2.70 ± 0.24 kg in mild, moderate and severe anaemic group respectively. So, it could be stated that the birth weight was lower in anaemic group as compared to control group and was lowest in severe anaemic group but these differences didn't reach statistically significant level. Figure 1 shows distribution of birth weight in the four groups. The highest proportions of birth weight were distributed in between 2.6 and 3.0 kg in mild, moderate anaemic and control group.

Table 1 shows the placental weight in the two groups. The mean (± SD) of weight of placentae in control group was 425 ± 69.27 (gm) and were 405.29 ± 80.65 (gm), 400.95±79.05 (gm) and 392± 123.92 (gm) in mild, moderate and severe anaemic groups respectively. These data shows a decrease in weight of placenta in anaemic group when compared with weight of placenta in control group. But the difference was not statistically significant. Figure 2 displays the highest proportions of placental weight lies between

360 gm and 452 gm (50%) in control and the anaemic groups but the percentage varies. No correlation was found between haemoglobin level of the mother and placental weight.

As per table 1, on calculation, mean (± SD) of feto-placental weight ratio in control group was 6.82 ± 1.20 and were 7.27 ± 1.71, 7.16 ± 1.20 and 6.12 ± 0.94 in mild, moderate and severe anaemic groups. Though the difference in the mean feto-placental weight ratio was higher in mild and moderate anaemic groups than control groups but it was lower in the severe anaemic group than control. However these differences didn't reach significant level.

Table: 1. Morphological placental measurements in control and anaemic group

Groups	Birth Weight(kg)	Placental Weight(gm)	Feto-placental weight ratio
Control (n=38)	1.5-4 2.86 ± 0.46	245 – 634 425.34±69.27	4.25 – 9.74 6.82 ± 1.20
Mild (n-20)	1.5 – 4 2.84 ±0 .56	283-604 405.29±80.65	3.09-11.08 7.22±1.71
Moderate (n-38)	1.5-4 2.85±0.51	174-589 400.95±79.05	4.78-10.60 7.16±1.20
Severe (n-4)	2.5-3 2.7±0.24	210 – 471 392 ±123.92	5.30 – 7.14 6.12 ± 0.94
p value			
Cont vs mild	0.999 ns	0.666 ns	0.595 ns
Cont vs moderate	1.000 ns	0.672 ns	0.667 ns
Cont vs severe	0.924 ns	0.924 ns	0.738 ns

Results are shown as Range and Mean± SD
P values reached from ANOVA test
S: significant at 95% confidence level
NS: non-significant.

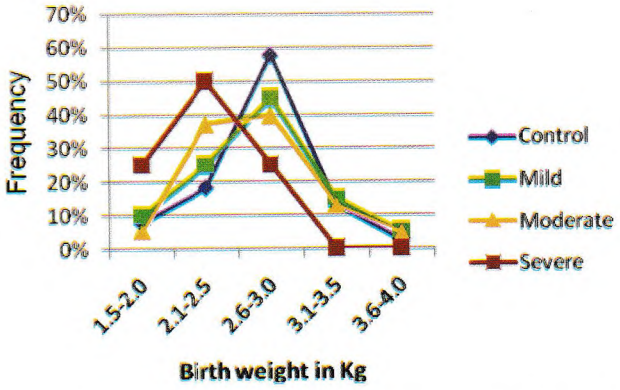


Fig: 1 Line diagram showing distribution of birth weight in control and anaemic groups

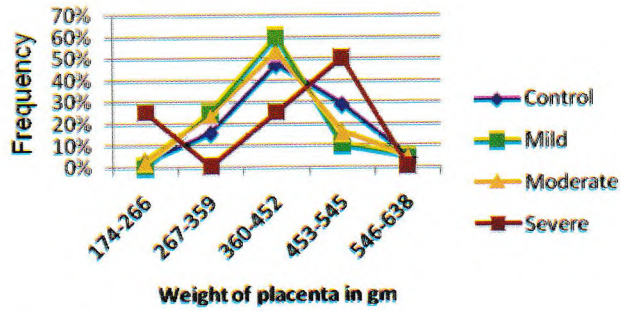


Fig: 2 Line diagram showing distribution of weight of placenta in control and anaemic

Discussion

Placental weight is the most common way to characterize placental growth and it is a summary of many dimensions of placental growth. In the present study, the data showed decrease in weight of placenta in anaemic group when compared with weight of placenta in control group. In the present study, a significant positive correlation was found between birth weight and placental weight in only with control and moderate anaemic group. One study found a significant relationship with birth weight and placental weight like the present study[5]. Other study found direct relationship between birth weight and placental weight in normal preterm and term infants[6],[7].

Literature data indicate that the hypoxia, depending on duration time, primarily results with hypertrophy[8], but with pregnancy advance, changes implicate the placental growth restriction and development of small, hypotrophic placenta[9]. In evaluating weight of placenta, one must remember that it is subject to two kinds of variations which are partly independent of one another, namely, one related to the size of the infant and the other related to gestational age. It is also true that at any given stage of gestation and placental weight, the range of birth weight is large[6].

The ratio between placental weight and birth weight could be a useful indicator for placental efficiency. A placenta that is large relative to birth weight may be a marker for reduced nutrient supply to the foetus. A high placenta to birth weight ratio, but not birth weight itself, was associated with high blood pressure in childhood[10]. Several other factors influence placental size, such as parity, maternal size, genetic factors, socio-demographic condition[11].

The high placental coefficient found in these mothers suggested that the weight of the newborn infant suffered more than the weight of placenta in maternal anaemia.

In present study birth weight was decreased with severity of anaemia but the difference did not reached significant level. One study confirmed that maternal anaemia was important in terms of foetal survival only when anaemia is severe and that the main effect on the foetus was an increase in still births and premature births[11],[12]. This was also true in the present study, because, out of the four babies of severe anaemic mothers, one was still birth and the birth weight was 1.5 kg and placental weight was 210 gms. Low birth weight was found in anaemic group by other studies[12],[13]. However Reshetnikova et al (1995), Burton et al (1996) and Lao and Wong (1997) found no difference in birth weight in maternal anaemia which was similar to observation of present study[9],[14],[15].

The feto-placental weight ratio was found

higher in anaemic group than control in the present study. Similar result was observed by other studies stated that placental size increased relative to infant size in pregnancies complicated by maternal anaemia, but whether this phenomenon reflected actual placental hypertrophy or failure of foetal growth to keep up with placental growth remains to be determined[16],[17]. A high ratio of placental weight to birth weight was also independently associated with a high maternal body mass index[18]. They found increased birth weight with lower maternal haemoglobin. They stated that placental weight approach term values at an earlier stage of gestation than do birth weight, it follows that the ratio of placental weight to birth weight increases with increasing degree of foetal immaturity.

CONCLUSION:

From this study it may be concluded that anaemia does not affect the placental weight and thereby foetal weight also do not significantly alter by anemia.

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Study on ovarian tumor among the patients attended at a tertiary medical college in Rangpur district.

Dr. Shahina Akhtar[1], Dr. Asma Ul Hosna[2], Dr. Tazreen Ahmed[3]. Dr. Imran Uddin[4].

ABSTRACT

BACKGROUND: *Population-based cancer study helps in screening the cancer, measuring (prevalence) the national cancer burden, evaluating cancer control programmes and also in reducing misconception about the disease. By the year 2035, prevalence will increase to 55% and deaths will increase by 67%. The risk of developing ovarian cancer rises as a country becomes more developed and more urbanized.* ***OBJECTIVE:*** *This study was done with an aim to estimate the prevalence of ovarian tumor among the patients attended at a tertiary medical college in Rangpur.* ***METHOD:*** *It was a cross sectional type of descriptive study which was done on 360 patients who got admitted in Gynecology and Obstetrics department at Rangpur medical College, Rangpur. Study period was from November 2002 to November 2003.* ***RESULT:*** *Out of total 360 patients admitted with different gynecological problems into Rangpur Medical College, 47(13.05%) were diagnosed as ovarian tumor. Among them 43(91.48%) cases were benign and 4(8.51%) were malignant cases. Conclusion In conclusion, the prevalence of ovarian tumor among the patients attending a tertiary medical college in Rangpur was 13.88%. Among them 14% were malignant cases.*

KEY WORDS: Ovarian tumor, Prevalence rate.

INTRODUCTION:

It was estimated that in 2012 there were 239,000 cases and 152,000 deaths worldwide from ovarian cancer[1]. Tumors of the ovary are common form of neoplasia in women[2]. It represents heterogeneous group of disease. Malignant ovarian tumors are the sixth most common female cancer and constitute 7.5% of all gynecological malignancies and 3.5% of all cancers in women[2]. Ovarian cancer is one of the leading causes of death among gynecologic malignancies[3]. In spite of significant surgical and chemotherapeutic advance in treatment, 5 year survival rates have not changed significantly in over 25 years and remains beyond 25%[3]. Tumors arise from principal ovarian components such as epithelial, germ cell and stromal tissue[4]. The greatest burdens of cancers are cervical cancer (less developed countries) and endometrial cancer (more developed countries), but the overall poor survival rates for ovarian cancer, which are considerably worse than those for cervical or endometrial cancers, provide a consistent imperative to seek improvements globally. From the clinical behavior of ovarian neoplasm, it is almost impossible to distinguish a benign tumor from its malignant counterpart. Therefore in most cases it is diagnosed when it becomes already malignant. In recent years, a considerable international public demand has developed for ovarian cancer screening, unfortunately the available screening test are not sufficiently accurate for general screening and so most of the ovarian cancer are not diagnosed until the tumor have been reached a late stage. It has been observed that 70% belong to clinical stage III and only 30% belong to stage I & stage II [5]. This unfavorable

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*** For Corrospondence**

distribution is because of ovarian tumors are seldom symptomatic in the early stage of disease. Therefore early detection is not possible only with high index of suspicion. Whenever patient experiences with lower abdominal pain or a patient found to have pelvic mass, must be evaluated timely and in cost effective manner that is tailored to a realistic list of possible diagnosis. In this study, much emphasis was given on the presenting symptom, different modes of presentation of ovarian tumors and the histological categorization of ovarian tumors. It is hoped that it may provide helpful hints at least to some extent for the early diagnosis of ovarian neoplasm in our country and thereby instigate early management and increases survival time. The purpose of the present study was to estimate the prevalence of ovarian tumor patients.

Methodology

This was a cross sectional observational study and was carried out in the dept of Obstetrics and Gynecology at Rangpur Medical College and Hospital, Rangpur, from November 2002 to November 2003. Patient admitted with provisional diagnosis as ovarian tumor were selected as study population. Sampling technique was purposive sampling method. Woman suffering from ovarian tumor who were diagnosed by history, clinical presentation, laboratory finding's and finally, confirmed by operative findings and histopathological report were included in this study. Cases of presumptive diagnosis of ovarian tumor by virtue of signs and symptoms who were initially included in the study were finally excluded by laparotomy and histopathological finding, like parovarian cyst, mesenteric cyst and retroperitoneal tumor. After obtaining informed written consent relevant information for each of the study cases were included in predesigned data collection sheet. Data were analyzed using computer based programme statistical package for social science (SPSS).

Result

Table I: Symptoms of ovarian neoplasm (n=50, multiple responses)

Symptoms	No of cases	Percentage
Lump in the lower abdomen	26	52
Feeling of abdominal distension	13	26
Pain in the lower abdomen	30	60
Loss of body weight	10	20
Abnormal vaginal bleeding	13	26
Dyspepsia,Loss of appetite, flatulence	11	22
Incidental diagnosis	5	10

Table 1 shows,Out of 50 cases, 30 (60%) complained of lower abdominal pain and 26 (52%) complained lump in the lower abdomen.

Table II: Physical signs (N=50, multiple responses)

Symptoms	No of patients	Percentage
Anemia	47	94
Mass in the abdomen	42	84
Ascites	6	12
Tenderness	5	10
Mobile mass	39	78

Table II shows, anemia was present in 47(94%) patients and 42(84%) patients had mobile mass in lower abdomen.

Table III: Frequency of ovarian tumor (n=360)

Result	Frequency	Percentage
Positive	43	13.05
Negative	4	86.94
Total	47	100

During the study period, out of 360 admitted patients in the department of Gynecology and Obstetrics 47 patients were diagnosed as ovarian tumor with a prevalence rate of 13.05%.

Types of tumor	Frequency	Percentage
Benign	43	91.48
Malignant	4	8.51
Total	47	100

Among 47 ovarian tumor cases 43 cases were bening (91.48%) and 4 cases were malignant (8.51).

Discussion

In the current study the prevalence rate of ovarian tumor was 13.05%.Variations have been described between different races in other studies[6]. A world wide study reported that ovarian cancer prevalence was higher in White (12.8/100,000) than Black (9.8/100,000) women[7] .Worldwide the prevalence is lowest in Japan (4.4%) and highest in the Scandinavian countries (15.3%) [3].

Conclusion:

The prevalence of ovarian cancer is 13.05% which is alarming to create awareness of this cancer among both general people and health care providers.

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A Case Report

Metabolic Syndrome

Dr. Md. Maruf Hussain

ABSTRACT

A 38 years old male patient presented himself with the complaints of chest discomfort and sleep disturbance. He was subsequently diagnosed to have metabolic syndrome. Metabolic syndrome is a very common, possibly affecting almost half of the people aged > 50 years in the US. The condition is associated with increased cardiovascular morbidity & mortality. As primary care providers, we should detect this condition early, intervene appropriately before complications occur and increase awareness among the people to prevent syndrome.

KEY WORDS: Metabolic syndrome, Obesity, Hypertension diabetes mellitus, cardiovascular disease .

INTRODUCTION

Metabolic syndrome, also called syndrome X, is characterized by excess abdominal fat causing at least two of the following: insulin resistance, dyslipidemia, and hypertension. According to a national health survey, more than 1 in 5 American has metabolic syndrome. The incidence of metabolic syndrome increases with age, affecting more than 40% of people in their age of 60 s & 70 s. The exact cause of metabolic syndrome is not known. The condition is a risk factor for developing heart disease, stroke & diabetes.

Excess abdominal fat leads to excess free fatty acids in the portal vein, increasing fat accumulation in the liver and muscle cells. Hepatic and muscle insulin resistance, hyper-insulinemia, dyslipidemias result to hypertension and diabetes mellitus finally develop coronary artery disease. Typically, serum uric acid levels are elevated, and a prothrombotic state develops (with increased level of fibrinogen and plasminogen activator inhibitor I). Insulin resistance is a combination of genetic & life style factors. Life style factors include diet, activity & perhaps interrupted sleep pattern.

As primary care provider we should actively look at for this patient so that early detection intervention and prevention can be undertaken.

CASE PRESENTATION:

Mr. Golam Rabbani a 38 years old male presented himself with chest discomfort for one week of duration. Chest pain was gripping in nature and was localized to retrosternal region. There was no associa tion of radiation, sweating, palpitation and anxiety along with pain. The patient could not explain any history of trauma or injury. He possess interrupted sleep pattern. He was having on and off history of generalized weakness, fatigability, increased frequency of urination. In the past he was never diagnosed as hypertensive or diabetic. His father was diabetic and hypertensive while mother was only hypertensive.

The patient was smoker and maintained very sedentary lifestyle.

Physical examination revealed him as obese man with a body weight of 122 kg, height 5'8"

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having a BMI of 38. There were no sign of pallor, icterus, cyanosis, lymphadenopathy and koilonychia

His pulse rate was 60 beats/min, regular, normal volume, no radio-radial delay, no radio-femoral delay. Blood pressure estimated 160/110 mmHg in both arm. The patient was suffering from DM, HTN, Dyslipidemia, Hypothyroidism, and sleep apnoea. Al the ailments were the components of metabolic syndrome.

Systemic examination of other system was normal.

LABORATORY INVESTIGATIONS:

He was advised to perform all the following investigation and the findings are summarized as bellow.

CBC: Hb- 13.7 gm/dl, TC- 9000/cumm, N- 70%, L- 25%, E- 02%, ESR- 6 mm/1st hour.

Urine R/M/E: Epithelial Cell- 8-10/HPF, Pus cell- 2-4/HPF.

FBS: 7.9 mmol/L, 2 Hrs AFB: 15.2 mmol/L,

HbA1C: 8.91%

Serum creatinine: 1.30 mg/dl.

ECG: Low voltage ECG

Echocardiography: Normal

Fasting Lipid Profile: Total Cholesterol- 240 mg/dl., Triglyceride - 85 mg/dl, HDLC-48 mg/dl., LDLC- 175 mg/dl.

Serum Bilirubin: 0.4 mg/dl,

SGPT: 49 U/L

Serum Uric Acid: 8.0 mg/dl

TSH: > 75.0 micro IU/ml, T4: 1.22 micro gm/dl

CXR: Normal

DIGNOSIS:

Type 2 DM, HTN, Dyslipidemia, Obesity, Hypothyroidism with sleep apnoea.

TREATMENT:

1. Diet: He was on low carbohydrate, low fat and high fiber diet.
2. Weight reduction
3. Exercise
4. Salt intake reduction
5. Behavioral modification
6. Medication: He was initially treated on Metformin, Atorvastatin, Losartan Potassium, Levothyroxine.

PROGNOSIS:

Over next two weeks the patient's biochemical tests were reviewed and the findings were as- Fasting Blood Sugar: 6.5 mmol/L, the same 2HrsABF was 11.0 mmol/L. Blood Pressure: 120/80 mmHg.
His medication was modified by increasing the dose of Metformin to 850 mg in morning & also in evening.

Patient was further reviewed after a month:

He reduced 6 kg of body weight; FBS: 6.0 mmol/L; pulse: 72 beats/min; BP: 135/80 mmHg. HBA1C: 7%, Total cholesterol 198 mg/dl, TG- 70 mg/dl, HDLC-49 mg/dl, LDLC- 164 mg/dl.

Hepatic enzymes remained same as before. Ophthalmologist's opinion was taken for evaluation of early diabetic retinopathy.
Patient was explained how to take the foot care and regarding the proper footwear.

DISCUSSION:

Metabolic syndrome is a cluster of risk factor associated with mortality and morbidity. Metabolic syndrome affects approximately 25% of adults is particularly increasing due to central obesity[1]. Various criteria have been given by IDF, WHO, Other diabetic societies all over the world but we describe the more commonly adopted definition by WHO and The much discussed recent criteria defined by IDF[2].

The WHO (1999) criteria require the,

1. Presence of any one of these, (i) diabetes mellitus, (ii) impaired glucose tolerance, (iii) impaired fasting glucose or insulin resistance, and two of the following criteria defined below:

Blood pressure: > 140/90 mmHg

Dyslipidemia:

triglycerides (TG): >1.695 mmol/L and high density lipoprotein cholesterol (HDL-C) <0.9 mmol/L (male), < 1.0 mmol/L (female).

Central obesity:

in male waist: hip ratio > 0.90; in female waist: hip ratio > 0.85, or body mass index > 30 kg/m^2.

Microalbuminuria:

urinary albumin excretion ratio >20 µg/min or albumin: creatinine ratio >
30 mg/g

The IDF definition of the metabolic syndrome (2006) is:

Central obesity (waist circumference with ethnicity-specific values) and any of the two following:
1. Raised triglycerides: >150 mg/dL, or specific treatment for this lipid abnormality
2. Reduced HDL cholesterol: <40 mg/dL in males, < 50 mg/dL in females, or specific treatment for this lipid abnormality
3. Raised blood pressure (BP): systolic BP > treatment of previously diagnosed hypertension
4. Raised FPG >100 mg/dL (5.6 mmol/L), or previously diagnosed type 2 diabetes

If FPG is >5.6 mmol/L or 100 mg/dL, an OGTT is advised, but is not necessary to define presence of the syndrome.

Essentially, metabolic syndrome revolves around the management of a cluster of chronic diseases such as diabetes mellitus, hypertension, dyslipidaemia, and obesity. There is no single treatment for patients with metabolic syndrome but rather early detection and management of these chronic diseases and modification of the risk factors. All these chronic conditions are 'bread and butter' problems encountered in general practice and yet it is difficult to achieve optimal control. The most important modifiable risk factors include smoking and patient should be advised to stop it[3].

Insulin resistance:

The common underlying cause for the

metabolic syndrome is insulin resistance. Insulin resistance and the resulting hyperinsulinemia have been implicated in the development of glucose intolerance and the progression of type 2 diabetes mellitus, hypertension, polycystic ovarian syndrome, hypercoagulability and vascular inflammation as well as eventual development of CVD[4]. Recently IDF has proposed central obesity as an important component of metabolic syndrome because it is highly correlated with other components of metabolic syndrome and is easily measured using waist circumference[5].

Weight loss:

One of the important aspects of management for metabolic syndrome is weight reduction. A realistic goal for weight reduction is to reduce body weight by 7-10% over a period of 6-12 months[3]. This is achieved by encouraging patient to focus on exercise and improve their personal level of activity. Great benefit occurs when sedentary persons incorporate moderate intensity exercises into their lifestyle[1]. Regular physical training and endurance exercise training can induce body fat loss and a mobilization of abdominal and visceral adipose tissue can increase insulin sensitivity and improve the atherogenic lipoprotein profile[6]. DASH (Dietary Advice to Stop Systolic Hypertension) diet should be emphasized and this includes fruits, vegetables, low fat dairy products, whole grains, fish, polyunsaturated and monounsaturated fats[7].

Hypertension:

The other important aspect of management is to optimize patient's blood pressure[8]. The ADA[8] and JNC 7[8] recommend the goal of blood pressure for a patient with diabetes mellitus to be less than 130/80 mmHg. Angiotensin converting enzyme (ACE) inhibitors, which can prevent microvascular, and macro vascular complications as well as the progression of albuminuria[8], are preferred therapeutic agent unless contraindicated otherwise.

Glycaemic control:

Patient with metabolic syndrome required good glycaemic control. The goal for HbA1C level is less than 7%. UKPDS 33 had demonstrated a 25% reduction in the risk of microvascular complications in type 2 diabetic patients who had achieved intensive glycaemic control[10]. The Da Qing IGT and Diabetes study showed that diet and exercise led to a significant decrease in the incidence of diabetes mellitus over a 6-year period among those with IGT[9]. The Diabetes Prevention Program also showed that lifestyle intervention was more effective than therapeutic intervention, and the incidence of diabetes mellitus is reduced by 58% in those receiving lifestyle intervention compared with 31% in those receiving Metformin in patients with IGT[10]. It is therefore important to advise patient to modify their lifestyle early to prevent diabetes mellitus from developing.

Dyslipidaemia:

Lipid lowering is central to the reduction of morbidity and mortality in patients with diabetes mellitus. The goals of therapy in diabetic patients are to achieve LDL-C <2.59 mmol/L, and HDL-C ≥1.03 mmo/L and Tg< 1.69 mmo/L[10]. Statins are preferred agent for dyslipidemia in diabetics as they improve the prognosis and reduce the risk of recurrent coronary events in these patients as shown in the Scandinavian Simvastatin Survival Study (4S)10, Heart Protection Study (HPS)[8] and Cholesterol and Recurrent Events trial (CARE)[10].

Role of aspirin:

Aspirin should be considered in those patients with at least a 10% risk of a coronary event over 10 years[11]. It reduces the raised plasminogen activator inhibitor and fibrinogen that is commonly found in patients with metabolic syndrome[5].

Management of microalbuminuria:

Microalbuminuria, a strong independent risk factor for cardiovascular events, results from endothelial dysfunction and oxidative stress in metabolic syndrome. Treatment with ACE inhibitors, delays mortality in patients with diabetes with microalbuminuria. This benefit occurs regardless of whether patients are hypertensive[12].

Management of sleep apnoea:

Mild case of sleep apnoea recommend only life style change, such as losing weight, regular exercised about alcohol & quitting smoking, and certain medication such as tranquilizers and sleeping pills. If these measures don't improve sign & symptoms or if apnoea is moderate to severe, a number of other treatment are available like CPAP & surgery.

CONCLUSION:

Metabolic syndrome is common and family physicians need to be aware that are handling a group of patient with high cardiovascular risks. This case report have highlighted the role of family physician in the management of patients with metabolic syndrome that portrays all principles of family medicine such as the importance of continuity of care, the coordination of patient care, prevention of

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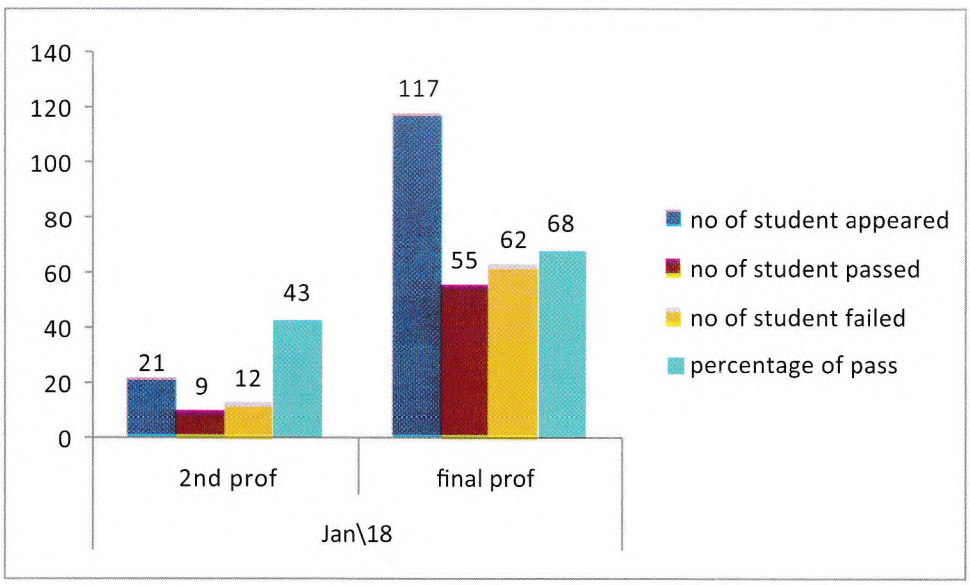
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2nd and final Professional MBBS Examinations were held in January, 2018. The number of students appeared in, total number of students passed, total failed and percentages of pass in the 2nd and final Professional MBBS examinations are shown in the following table and figure (Table I & Figure 1).

Table I: Result of 2nd and final Professional MBBS Examinations in January, 2018.

Exam yeart	exam name	no of student appeared	no of student passed	no of student failedl		percentage of pass
Jan\18	2nd prof		21	09	12	43%
	final prof		117	55	62	47%

Figure 1: Result of 2nd and final Professional MBBS Examinations in January, 2018

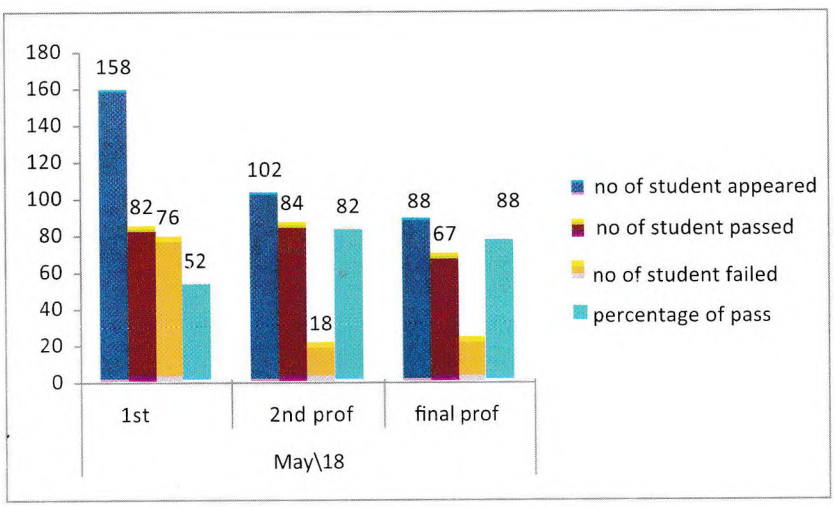


1st, 2nd and final Professional MBBS Examinations were held in May, 2018. The number of students appeared in; total number of students passed, total failed and percentages of pass in the 2nd and final Professional MBBS examinations are shown in the following table and figure (Table II & Figure 2).

Table II: Result of 1st, 2nd and final Professional MBBS Examinations in May, 2018.

Exam year	exam name	no of student appeared	no of student passed	no of student failed	percentage of pass
May\18	1st prof	158	82	76	52%
	2nd prof	102	84	18	82%
	final prof	88	67	21	76%

Figure 2: Result of 1st, 2nd and final Professional MBBS Examinations in May, 2018



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- Approval of the study involving human subjects by ethical review committee and description of the ethical aspects in such study.
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Result:

- Present result in logical sequence in text, table and Illustration with most important finding first.
- Describe without comment.
- Restrict number of table and figure needed to support assessment of paper.
- Do not duplicate data in table and figure.

Table :

- Simple self explanatory with brief title, not duplicate in text.
- Each table should be numbered in Romans and printed in separate page
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Illustration :

- All illustrations must be numbered consecutively in English numerals as they appear in the text.
- Submit print photograph of each Illustration along with its electronic file.
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Journal article with organization as author:

American diabetes Association. Diabetes Update. Nursing, 2003 Nov: Suppl;19-20.

Journal article with multiple organization as author:

American Dietetic association;Dietitians of Canada; Position of Dietetic association and Dietitians of Canada Nutrition and Women's health. JAm Diet Assoc 2004 Jun; 104(6): 948-1001.

Journal article with Governmental body as author:

National Institute on Drug Abuse (US); Caribbean Epidemiology Centre; Pan American Health Organization ; World Helth Organization. Building a Collaborative research agenda; drrug abuse and HIV/AIDS in the Caribbean 2002-2004. West Indian Med J. 2004 Nov; 53 suppl 4; 1-78.

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Scientific and Technical Reports:
Page E, Harney JM. Health hazard evaluation report. Cincinnati (OH) (Place of publication; National Institute for Occupational Safety and Health) (US) (Publisher); 2001 Feb. 24p (Total number of pages). Report No: HETA2000-0139-2824.

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Makckwski MP. Human factors: aeropace medicine and the origins of manned space flight in the United States [dissertation]. [Tempe (AZ)]: Arizina State University; 2002 May. Part 2, Space medicine ; p. 188-377.
Alam M. heart Tate Variability in Adolescent Athletes [M Phil thesis]. [Dhaka (Bangladesh)]. Bangabandhu Sheikh Mujib Medical University; 2008 July. Appendix (name of the part 4 (number of the part), Classification of physical Activity Intensity (Tit of the Part). p.7 (Location of the Part).

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