BMDC RECOGNIZED

ISSN: 2226-7964

PRIME MEDICAL JOURNAL

Vol. 9 No: 1 January- 2019

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An official organ of Prime Medical College

ISSN: 2226-7964

PRIME MEDICAL JOURNAL

Vol-9 No: 1 January - 2019

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We gratefully acknowledge the contribution of the reviewers of this issue of Prime Medical Journal
Vol. 9 NO. 1. January 2019

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Editorial

'Probiotics'- a hope for well-being.

Professor Dr. Parimal Chandra Sarker

Probiotics are alive microorganisms. They are intended to provide health benefits when consumed, generally by improving and or restoring the gut flora[1]. The original theory, is generally attributed to Nobel laureate Élie Metchnikoff, who postulated that Bulgarian peasants lived longer lives because of that their custom to consuming yoghurt regularly[2]. The dependence of the intestinal microbes on the food makes it possible to adopt measures to modify the microbiota in our bodies and to replace the harmful microbes by useful microbes[3]. The working group of the Food and Agriculture Organization (FAO)/WHO issued a Guidelines for the Evaluation of Probiotics in Food in May 2002[4].

Now a days Probiotics are the live formulation of lyophilized bacteria like Bifidobacterium breve, Bifidobacterium longum, Bifidobacterium infantis, Lactobacillus acidophilus, Lactobacillus rhamnosus, Lactobacillus plantarum, Lactobacillus paracasei, Lactobacillus bulgaricus, and Streptococcus thermophilus has shown effectiveness in the clinical trials[5,6].

These Probiotics are present in our special type of foods in a part of fermented dairy products, such as yogurt, kefir[7], and buttermilk[8]. They also present other fermented foods, and probiotic-fortified foods. Fermented products that contain lactic acid bacteria (LAB) include: vegetables such as pickled vegetables, kimchi, pao cai, sauerkraut, soy products such as tempeh, miso, and soy sauce[9];

Use of Probiotic as a treatment might reduce the incidence and severity of Antibiotic-associated diarrhea (AAD) by L . rhamnosus which improve stool consistency during antibiotic therapy, and enhance the immune response after vaccination[10]. In case of bacterial vaginosis the application or ingestion of Probiotics to cure the infection of bacterial vaginosis[11]. Some strains of lactic acid bacteria (LAB) can reduce the serum cholesterol levels, presumably by breaking down bile in the gut, thus inhibiting its reabsorption (where it enters the blood as cholesterol)[13]. Some strains of lactic acid bacteria may affect Helicobacter pylori infections (which may cause peptic ulcers) in adults when used in combination with standard medical treatments, but no standard in medical practice or regulatory approval exists for such treatment[14]. Probiotics are being studied for their potential influence in the inflammatory bowel disease. There is some evidence to support their use in conjunction with standard medications in treating ulcerative colitis and irritable bowel syndrome, but no evidence of their efficacy in treating Crohn's disease[15]. Ingestion of certain active strains may help lactose-intolerant individuals tolerate more lactose than they would otherwise have tolerated. Several clinical studies provide evidence for the potential of probiotics to lower the risk of necrotizing enterocolitis and mortality in premature infants[16].

Most of the Probiotics may affect the pathogens by means of competitive inhibition (i.e., by competing for growth) and some evidence suggests they may improve immune function by increasing the number of IgA-producing plasma cells and increasing or improving phagocytosis mechanism, as well as

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increasing the proportion of T lymphocytes and Natural killer cells[17]. Probiotics do not appear to change the risk of infection in older people[18].

For proper well being, a Scientific guidelines need for using probiotics during their administration. Firstly, probiotics must be alive when administered. Need to concerned their viability and stability during use and storage, and finally the ability to survive in stomach acids and then in the intestinal ecosystem[19]. Secondly, probiotics must have undergone controlled evaluation to document health benefits in the target host. Only products that contain live organisms shown in reproducible human studies to confer a health benefit can actually claim to be probiotic.. This aspect represents a major challenge for scientific and industrial investigations because several difficulties arise, such as variability in the site for probiotic use (oral, vaginal, intestinal) and mode of application[20]. Caution needs to be taken by everyone who chooses to take these supplements, especially true for children, pregnant women, elderly people, and people with compromised immune systems. For people with compromised immune systems due to disease or treatment for a disease (such as cancer chemotherapy), taking probiotics may actually increase one's chances of getting sick. Thirdly, the probiotic candidate must be a taxonomically defined microbe or combination of microbes (genus, species, and strain level). It is commonly admitted that most effects of probiotics are strain-specific and cannot be extended to other probiotics of the same genus or species. This need for a precise identification of the strain, i.e. genotypic and phenotypic characterization of the tested microorganism[21]. Fourthly, probiotics must be safe for their intended use[22].

So, Probiotics must be supplied in adequate amount that able to trigger the targeted effect on the host. It depends on strain specificity, process of administration, and matrix, as well as the desired effects. Most of the benefits demonstrated with the traditional probiotics have been observed and need to popularized.

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Original article

Prevalence and pattern of ocular diseases among school going children under fifteen years of age in northern area of Bangladesh

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ABSTRACT

INTRODUCTION: *Ocular health of children is essential for the development of a healthy nation. Various types of ocular diseases, if not treated, not only cause decrease in vision but also may lead to blindness. Effective methods of vision screening in school children are useful in detecting correctable causes of decreased vision.* ***OBJECTIVE:*** *The objective of this study was to estimate the prevalence and pattern of ocular diseases among school going children under fifteen years of age in northern area of Bangladesh.* ***METHODS:*** *A cross sectional observational study was conducted among 2040 school going children aged below 15 years from July 2015 to June 2018. The ocular examination of school children was done at the respective schools. All the data obtained was analyzed using the software StatistiXL version 1.8. Chi square test was used to observe the association of the ocular morbidities with respect to age, sex and nutritional status.* ***RESULT:*** *Prevalence of ocular morbidities were found 40.89%. Refractive errors, allergic, infective conjunctivitis and Vitamin A deficiency were the most common ocular disorders.* ***CONCLUSION:*** *It can be concluded that prevalence of ocular morbidity among school children was quite high in Northern area of Bangladesh. Periodic screening of school children is very essential to improve the quality of eye-sight.*

KEY WARDS: Refractive error, School children, ocularmorbidity, Vitamin A deficiency.

INTRODUCTION

School vision testing program regarding the pattern of ocular diseases in children is very important because, while some eye conditions causes ocular morbidity, others invariably lead to blindness. Conditions such as refractive errors and cataract are treatable others like measles and vitamin A deficiency are largely preventable[1]. Many ocular diseases have their origin in childhood and the morbidity may go unnoticed and adversely affect the child's performance in school and may also cause severe ocular disability in the later part of life. Effective methods of vision screening in school children are useful in detecting correctable causes of decreased vision, especially refractive errors and in minimizing long-term visual disability. Children in the school-going age group (6-15 years) represent 25% of the population in the developing countries[2]. They fall best in the preventable blindness age group and schools are the best forum for imparting health education to the children. Refractive errors along with cataract and childhood blindness are common eye problems and their prevention and cure can provide enormous

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benefit in our country and facilitate social developments[3]. Considering the fact that among the blind population 30% in our country lose their sight before the age of 20 years, the importance of early detection and treatment of ocular morbidity and visual impairment in young children is obvious[4]. Many epidemiological studies are published on this issue in different parts of world including different regions of Bangladesh. However, very little has been known about the prevalence of ocular morbidity among school children of our country. Therefore, this study was conducted on under fifteen age group school children to demonstrate the prevalence of ocular morbidity in northern regions of Bangladesh.

MATERIAL & METHODS

This study was conducted over 03 years (July 2015 to June 2018) among school going children in 10 schools of Gaibandah, Rangpur, Kurigram&Nilphamari district of Bangladesh. All the schools were in the rural area where school health programs were undertaken by Prime Medical College, Rangpur, Bangladesh. The children identified with visual impairment or any ocular disease were evaluated in detailed in Prime Medical College Hospital, Rangpur. We included children of 6-15 years of age group in primary & secondary schools going. Prior written permission from school authorities were obtained after explaining the purpose and nature of the study. Each school was visited by the working team on the first Monday of every month. All the students in the above-mentioned age groups attending the school on that day were screened. The team were comprising of an opthalmologist, an opthalmic technician & a nurse. Children were subjected to height, weight, general physical examination & ophthalmological examination. Ophthalmological examination included visual acuity,general external examination included ocular motility & squint, anterior segment evaluation (done with torch) &a undilated fundus evaluation (done with a direct opthalmoscope) in both eyes wherever possible. Visual acuity was tested with the help of an illuminated vision drum (snellen chart) placed at 6 meters away from the student. Uncorrected presenting visual acuity of individual eyeswas recorded incase of all children.

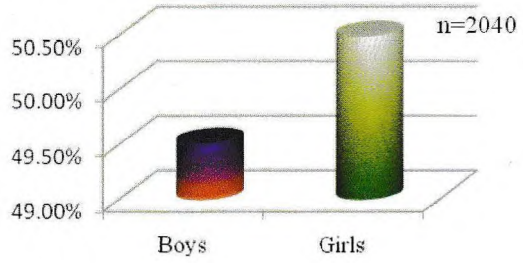
Children who had severe visual impairment like uncorrected visual acuity less than 6/6 in either eye or any ocular pathology were referred to Prime Medical College Hospital for detailed ophthalmic evaluation. At the Eye Department of Medical College Hospital, Rangpur referred children were rechecked for visual impairment. Refraction was assessed by auto-refractometer without cycloplegia except when refraction came out to be a hypermetropic or if the child showed variable readings indicating excessive accommodation. Appropriate glasses were prescribed for correction of vision during assessment. Children with documented squint, cataract or NLD obstruction were counseled for appropriate surgery.

Children with visual acuity of 6/9 to 6/18, 6/24 to 6/ 60 and less than 6/60 in the better eye were categorized as having mild visual impairment, moderate visual impairment & severely handicapped respectively. WHO defines blindness to be having vision less than CF 3 meters in better eyes[5]. In these schools, during screening sessions, the teachers were also oriented on the basics of ocular health & its importance in the children's psychological development & primary care in ocular emergencies.

RESULTS

A total of 2040 children were examined from 10 different schools. Children were 6 to 15 years of age.Fig. 1 shows the gender distribution of the students. Among the 2040 students, 1010 (49.51%) were boys and 1030 (50.49%) were girls.

Fig. 1: Gender distribution of the study subjects.



n=total number of subjects

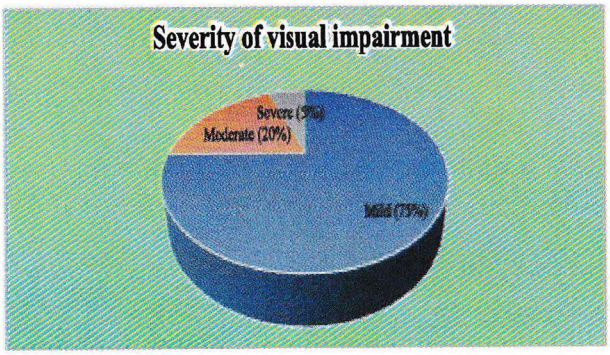
The commonest cause of ocular morbidity in the present study was refractive errors with a prevalence of 13.73% (280), showed higher prevalence in boys (7.35%) (150) than girls (6. 37%) (130). Allergic conjunctivitis was the second common ocular disorder seen in 12.75% (260) students. In our study 45 (2.21%) cases of vitamin A deficiency 1.23% (25) were boys and 0.98% (20) were girls. Vernal conjunctivitis was observed in 3.53% (72) students. Among them 1.96% (40) were boys & 1.57% (32) were girls. Other ocular diseases such as Blepharitis were 2.84% (58), bacterial conjunctivitis were 4.16% (85), viral conjunctivitis 1.32% (27), Iris coloboma were 0.34% (7). No statistically significant difference has been observed between boys and girls regarding all types of ocular disorders by applying chi square test (Table I).

Table 1: Distribution of the children according to type of ocular disorders (N = 2040).

Type of ocular disorders	Children affected	x2= 1.445		
	Boys (n=1010)	**Girls (n=1030)**	**Total (N=2040)**	
Refractive error	150(7.35%)	130(6.37%)	280(13.73%)	
Allergic conjunctivitis	140(6.86%)	120(5.88%)	260(12.75%)	
Vitamin A deficiency	25(1.23%)	20(0.98%)	45(2.21%)	
Vernal conjunctivitis	40(1.96%)	32(1.57%)	72(3.53%)	x2= 1.445
Blepharitis	30(1.47%)	28(1.37%)	58(2.84%)	
Bacterial conjunctivitis	50(2.45%)	35(1.71%)	85(4.16%)	
Viral conjunctivitis	15(0.73%)	12(0.59%)	27(1.32%)	
Iris coloboma	3(0.15%)	4(0.2%)	7(0.35%)	
No ocular disorder	1010-453= 557	1030-381= 649	1206	
Total	453(%)	381(%)	(40.89%)	

Among the 280 children with refractive error, on assessment of visual acquity, mild visual impairment was seen in 75% of children, while moderate and severe visual impairment were seen in 20% and 5% of children respectively (Fig.2)

Fig. 2: Distribution of children according to severity of visual impairment (n=280)



The children who were suffering from visual impairment, 130 children (46.43%) were unaware of their visual problem and 90 (32.14%) children were using spectacles. More boys (65) (23.21%) were using spectacles compared to the girls (25)(8.43%).

Among the rest 60 children who were aware of their visual problem, the reason for not using spectacles was explored. The reasons for not using expressed by children were financial constraint 30 (10.71%), unwillingness of parents 10 (3.57%), unwillingness of children 16 and perception of non-improvement with any treatment 4 (1.43%). Table 2 reflects the profile of visual impaired children.

Table 2: Distribution of visual impaired children.

Unaware of visual problem	Using spectacles			Not using spectacles					Total
(%)	Boys (%)	Girls (%)	Total (%)	Financial constraint (%)	Unwillingness of parents (%)	Unwillingness of children (%)	Perception of non-improvement	Total (%)	
130 (46.43)	65 (23.21)	25 (8.93)	90 (32.14)	30 (10.71)	10 (3.57)	16 (5.71)	4 (1.43)	60 (21.43)	280

DISCUSSION

Results of such type of population study may vary the different areas; however, this screening method is useful in assessing the overall disease pattern of the country. Children costitutes a major proportion of Bangladeshi population and are important as they are the future of our country. A study on the pattern of ocular diseases in children is very important because while some eye conditions are just causing of ocular morbidity, others invariably lead to blindness. The natural history of blindness is that people generally tend to ignore their symptoms until it is too advanced. Childhood eye disorders can contribute to the burden of blindness in a society. The majority of the causes of ocular morbidity, sub-normal and low vision as well as blindness are either preventable or treatable.

In this study, the prevalence of ocular morbidities was found to be 40.89%. A study reported lower prevalence of 30.5% among

school children in North India[6]. However, a school based study in slum area of Delhi reported that more than 40% of the children had one or more eye diseases[7]. In a study from Tanzania, Africa repotedlower prevalence of 15.6 % of ocular morbidity among children aged 7 to 19 years[8]. The difference may be due to different study areas. The commonest cause of ocular morbidity in the present study was refractive errors with a prevalence of 13.73%. Similar percent of prevalence of refractive errors has been observed among children of 12 to 17 years in Ahmadabad city[9].In another study from south India, higher prevalence rate of refractive errors among school children of age 3 to 18 years as compared to the present study was observed[10, 11].

Refractive error is one of the most common cause of visual impairment around the world & second leading cause of treatable blindness[1]. Out of 280 children with refractive errors in our study, 32.14% (90) children were using spectacles & the rest were not aware of the presence of the problem. Barriers to the use of corrective spectacles include: parents' awareness of the vision problem is minimum, attitudes regarding the need for spectacles, spectacle cost, cosmetic factors & concerns that using glasses with power may cause progression of refractive error.

Vision screening is an appropriate strategy to reduce vision impairment if the impairment is caused by refractive error, in such cases treatment is simple, effective & minimally expensive. In the present study, the prevalence of night blindness 2.21% suggests a public health problem of vitamin A deficiency as per the WHO criteria[12]. In the present study prevalence of bacterial conjunctivitis was higher than viral conjunctivitis. Similar results were reported by a study done on urban and rural school children of 5-14 years age in Delhi, India[13]. Trivedi et al (2006) observed in children (7-15 years) of urban and rural areas of Gujrat where prevalence of conjunctivitis has been reported in other part of India[14]. The difference in prevalence in our studies may be due to environment and seasonal variation of conjunctivitis, variation may also occur because of low virulence of organism and so short duration of the illness. In present study; prevalence of iris coloboma was 0.34%. There was also an association between the occurrence of ocular disorders and the lower socio-economic condition, which had higher prevalence of ocular disorders ($p < 0.001$).

Significant association observed between parent's education and development of ocular morbidity. Similar to present study, Dandona et al (2002) found a significant association between parents' education and prevalence of refractive error[15].

Eye care needs special emphasis even in minimally visual impairment. These sorts of eye disorders may potentiate to create blindness in a time. These disorders would not only affect the education of the child, but may lead to permanent disability & create personal, familial, social as well as national burden.

CONCLUSION

It is concluded that high prevalence of ocular morbidity among school children was observed in some Northern areas of Bangladesh. Refractive errors, Allergic conjunctivitis and Vitamin A deficiency were the most common ocular disorders.

LIMITATION

The study is done is small scale, large scale study should be done. Measurement of Vit-A is not done so deficiency of Vit-A can not be ruled out.

RECOMMENDATION

For prevention, early recognition and prompt treatment of ocular diseases by regular screening of students would definitely reduce ocular morbidity.

Health education of the parents, teachers & religious leader, health workers and also mass media may provide positive role in prevention of ocular morbidity and provide positive impact on ocular health.

Periodic screening of school children is very essential to improve the quality of eye-sight and ensure uninterrupted development of intellectually and to keep the children sound in both mentally and physically as well as academically.

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Original article

Clinical Presentation and leparotomy findings of Ovarian Tumors: A study on 50 cases in a tertiary care hospital.

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

ABSTRACT

BACKGROUND: *Ovarian masses are common forms of neoplasms in women. Ovarian tumours that present in the reproductive age group are mostly benign while about 30% in the postmenopausal age group are malignant. Ovarian malignancy is still difficult to treat, because no truly effective therapy has yet been developed although presentation is often vague and non-specific, the symptoms are definitely present. It is important to recognize the symptoms so far, there is no test yet available, which is truly specific and suitable for screening and early detection of epithelial ovarian carcinoma. So, it is concluded that for better prognosis and patient survival, early detection and treatment is mandatory.* ***OBJECTIVE:*** *Objective of the study is to find out the clinical presentation and leparotomy findings of ovarian neoplasm.* ***METHOD:*** *This cross-sectional study was carried out in the department of Obstetrics and Gynaecology, Rangpur Medical College during the period from November 2002 to November 2003. For this purpose 50 cases were collected from the department of Obstetrics and Gynaecology, Rangpur Medical College. The study was based on clinical presentation of ovarian neoplasm and its physical examination, preoperative findings and leparptomy findings.* ***RESULT:*** *Out of 50 cases maximum number of patients belonged to age group 41- 50 years (36%). Among 50 patients 40 (80%) were married and 08 (16%) are nulliparous. Among the patient 23 (46%) patients had symptoms for 0-6 months, 11 (22%) had 7-12 months, 6 (12%) had 19-24 months, 2 (4%) had 25-30 months, and 1(2%) had 31-36 months . Out of 50 cases, 30 (60%) complained of vague abdominal discomfort and 26(52%) complained of lump in the lower abdomen. On leparotomy the mass was cystic in 37 (74%), solid in 9 (18%).* ***CONCLUSION:*** *The correct histopathological diagnosis of ovarian tumor is of prime importance in view of their behavioral predictability, clinical correlation and the proper management of patient. However the Patients survival clinical assasement & early detection remains as the cornerstone.*

KEYWORDS: Ovaries, Ovarian Tumor, Clinical Presentation.

INTRODUCTION

An adnexal mass (mass of the ovary, fallopian tube, or surrounding connective tissues) is a common gynaecologic problem. In the United States, it is estimated that there is a 5 to 10 percent lifetime risk for women undergoing surgery for a suspected ovarian neoplasm[1]. In general benign ovarian tumours are more common and account for 80% of all ovarian neoplasms. Ovary being a common site of primary malignancy, metastasis may occur[2]. Among cancers of the female genital tract ovary is the third most common site of primary malignancy in Indian females[3].

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Ovarian tumours also present in a wide spectrum of histopathological patterns. Epithelial ovarian cancer is the ninth most common cancer among women[4]. It is often called the "silent killer" because lack of symptoms in most patients with early stage of disease. In approximately 70% of the patients, the tumor has spread outside of pelvis at the time of presentation[5]. Ovarian cancer is the 6th most common cancer in females in United States of America[6]. About 80% are benign and occur in younger age group comprising of 20-45 years and malignant tumours are more common in 40-65 years. Important etiological risk factors are increasing age, positive family history, increase age of reproduction, high socio-economic classes, nulliparity Diagnosis of ovarian tumor depends on signs and symptoms, abdominal and vaginal ultrasound, doppler study of tumor vasculature, biochemical study (tumor markers) which are proteins associated with malignant tumors like CA125, B-hCG, alphafetoprotien[7,8,9]. However, the definitive diagnosis and staging is done by surgery and histopathology. Most ovarian tumours cannot be confidently distinguished from one another on the basis of their clinical or gross characteristics alone. These features provide important diagnostic clue in some cases; however, in such cases, both clinician and the pathologist should share their possibly valuable information in establishing correct diagnosis. The purpose of this study was to identify the frequency, severity, and duration of symptoms typically associated with ovarian cancer in a population of women presenting to tertiary care hospital.

METHOD:

This cross-sectional study was carried out in the department of Obstetrics and Gynaecology, Rangpur Medical College,Rangpur during the period from November 2002 to November 2003. For this purpose 50 cases were collected from the department of Obstetrics and Gynaecology, Rangpur Medical College, Rangpur. Clinical details like age, obstetric history, menstrual irregularities and other constitutional symptom such as abdominal mass, abdominal swelling/ discomfort, abdominal pain, gastrointestinal symptoms, urinary symptoms, generalized malaise and fatigue were scrutinized. The data were collected on a pro forma which consists of the relevant information about age, parity, family history, clinical presentation, size of tumour, bilaterality and leparotomy findings.

RESULTS:

Table-1. Age distribution of patients with ovarian neoplasm (n=50)

Age group (Years)	No. of patients	Percentage
10-20	3	6.0
21-30	9	18.0
31-40	10	20.0
41-50	18	36
51-60	10	20.0

Table-2 shows that out of 50 cases, 10 (20%) were unmarried and 40 (80%) married. Among the married 8 (16%) were nulliparous and 32 (64%) parous.

Table-2. Distribution of parity & marital status of patients (n=50)

Age group (Years)	No. of patients	Percentage
Unmarried	10	20.0
Married : Nulliparous	8	16.0
Parous	32	64.0

Table-3 shows that out of 40 married women, 22 (55%) were not using any contraceptives, 12 (30%) were using oral pill, 5(12.5%) with injectable contraceptive and 1 (2.5%) with IUCD. So maximum patients were not using any contraceptives.

Table-3. Distribution of Use of contraceptives (n=40, after exclusion of unmarried patient)

Contraceptives use	No. of patients	Percentage
None	22	55.0
Oral pill	12	30.0
Injectable	5	12.5
IUCD	1	2.5

Table-4 shows the symptoms of the patients. Out of 50 cases, 30 (60%) complained of vague abdominal discomfort and occasional pain in the lower abdomen and 26(52%) complained of lump in the lower abdomen.

Table-4. Distribution of Symptoms of ovarian neoplasm (n=50)

Symptoms	No. of patients	Percentage
Lump in the lower abdomen	26	52.0
Feeling of abdominal distension	13	26.0
Vague abdominal discomfort and occasional pain in the lower abdomen	30	60.0
Sudden severe abdominal pain	10	20.0
Loss of appetite, features of dyspepsia, flatulence	13	26.0
Loss of body weight	11	22.0
Abnormal vaginal bleeding	5	10.0
Incidental diagnosis (no symptom)	3	6.0
Respiratory embarrassment with rapid abdominal Swelling	5	10.0

Table-5 Shows the duration of symptoms. 23 (46%) patients had symptoms for 0-6 months, 11 (22%) had 7-12 months, 7(14%) from 13-18 months, 6 (12%) from 19-24 months, 2 (4%) from 25-30 months, and 1(2%) from 31-36 months.

Table-5. Duration of symptoms (n=50)

Duration (months)	No. of patients	Percentage
0-6	23	46.0
7-12	11	22.0
13-18	7	14.0
19-24	6	12.0
25-30	2	4.0
31-36	1	2.0

Table-6 shows physical signs. Anaemia was present clinically in 47 (94%) patients. Mass was present in the abdomen of 42 patients (84%)

Table-6. Physical sign & symptom (n=50)

Sign & Symptoms	No. of patients	Percentage
Anaemia : Clinically absent 7-12	3	6.0
Mild to moderate	42	84.0
Severe	5	10.0
Mass in the abdomen	42	84.0
Ascites	6	12.0
Tenderness	12	24.0
Mobile mass	39	78.0
Fixed mass	11	22.0

Table: 7 shows distribution of the laterality of the ovarian neoplasm. Out of 50 cases most 41 (82%) cases were unilateral and 9 (18%) cases were bilateral.

Table 7: Distribution of laterility of the neoplasm n=50

Finding	No. of cases	Percentage
Unilateral		
Right sided		42.00
Left sided	2021	40.00
Bilateral neoplasm	9	18.00
Total	50	100%

Table-8 shows leparotomy findings of ovarian mass. The mass was cystic in 37 (74%), solid in 9 (18%), partly solid in 4(8%) cases. 6 (12%) cases were adhere to the surrounding structures.

Table 8: distribution of Laparotomy findings (n=50)

Finding	No. of cases	Percentage
Haemorrahagic peritoneal fluid	5	10.00
Adhesions to surrounding structures	6	12.00
Cystic neoplasm	37	74.00
Solid neoplasm	9	18.00
Partly solid	4	8.00
Clear peritoneal fluid	4	8.00
Peritoneal seedling	4	8.00

DISCUSSION:

In this study, age ranged from 10-60 years and highest incidence was found in the age group of 41-50 years (18%) with the mean age of 36 years. These findings were compared with previous two works done in this country, found the mean age as 33.33 and 37.46 years, respectively[10,11]. The finding of this study mostly correlates with these findings. In the present series, 32 (64%) cases were parous,

8(16%) cases nulliparous and 10 (20%) cases were unmarried. This party distribution almost correlates with other authors as 74.29 & 78.0 percent were nultiparous[10,11].

In this study, the most common symptom was vague abdominal discomfort & occasional pain in the lower abdomen. It was present in 60 percent cases. Pelvic lump in the lower abdomen 26 percent cases, loss of body weight in 22 percent cases. This study was compared with others and found vague abdominal discomfort and occasional pain in the lower abdomen was 68 percent, lump in the lower abdomen was 44 percent, loss of body weight appetite was in 34 percent cases[11]. It was seen that largest group of patients 23cases (46%) in the present study came with symptoms of shorter duration (0-6months). This study when compared with other studies, it was found that most frequent duration was 2-6months (31.43%) & 0-6 months (40%) respectively[10,11].

In the present study, 47 (94%) cases had anaemia of which 5 (10%) were severely anaemic. Others studied was showed anaemia 82.86 % & 88.0 % respectively[10,11]. Mass in the abdomen was detected in 42 (84%) cases. Mass was fixed in 11 (22%) cases and mobile in 39 (78%) cases. Mass was tender in 12 (24%) cases. Ascites was present in 6 (12%) cases. Palpable mass was detecting in 51.43% cases and 45 (90%) cases by other workers[10,11]. However, the finding in this study is much higher (84%). This may be due to behavior of the neoplasm of due to delay in attending the doctors. Ascites was present in 10.0 % cases in previous study[11], which is almost consistent with the present study. In the present study 41 (82%) cases had unilateral tumor and 9 (18%) cases were bi- lateral distribution. Among the unilateral 21(42%) cases had right sided and 20(40%) cases had left sided involvement. This study was compared with others and found 44% cases had right sided and 40% cases had left sided involvement[11]. Results are almost consistent and was found that percentage of right sided neoplasm is slightly more than left sided which does not prove that incidence is more in left side. It may be due to study of small number of cases.

CONCLUSION:

The ovarian tumors are one of the most common tumor in the women of reproductive age group. They manifest a complex wide spectrum of clinical and pathological features. Proper correlation of clinical symptoms, radiological findings, and other ancillary investigations such as CA-125 are the keys in establishing the preoperative diagnosis of ovarian carcinoma. We could not do due to some economical problem that was our limitation. So, we recommended a wider range of study with all the possible investigations for early diagnosis and treatment of such cases

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Original article

Effect of Tobacco Consumption on Serum Creatinine & Urea levels in Smokers.

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ABSTRACT

BACKGROUND: *The recent decades there have been a massive global increase in tobacco use. Tobacco use is a major preventable cause of premature mortality & morbidity. Immediate availability and the low price gives rise to high consumption of tobacco smoking and causes alteration of renal functions.* ***OBJECTIVES:*** *To observe the effects of tobacco consumption on renal functions in smokers. METHODS: This cross sectional analytical study was conducted from July 2016 to June 2017 in the Department of Physiology, Rangpur Medical College, Rangpur. A total number of 60 subjects were selected, among them 30 were apparently healthy non-tobacco chewer non-smoker subjects as control group (group A) and 30 were apparently healthy smoker non-tobacco chewer subjects (group B)). The subjects were selected from different area of Rangpur city. The effects of cigarette smoking on renal functions were studied by measuring the levels of serum creatinine and urea. For statistical analysis independent sample "t" test was performed by computer based software SPSS-17.0 version for windows.* ***RESULTS:*** *Serum creatinine & urea levels were significantly higher ($p<0.001$) in smoker non-tobacco chewer subjects as compared with the healthy control subjects.* ***CONCLUSION:*** *The increased serum creatinine & urea levels in smoker non-tobacco chewer subjects were evidence of development of renal function impairment due to tobacco smoking and this might offer a new approach to renal function impairment prevention in population with tobaccco smoking.*

KEYWORDS: Tobacco smoker, Creatinine, Urea.

INTRODUCTION

Tobacco is a product prepared from the plant by curing them[1]. Tobacco contains the alkaloid nicotine, which is an extremely addictive drug[1,2]. In addition to nicotine, tobacco contains thousands of other chemicals such as cresol, pyrene, DDT, carbon monoxide, ammonia, hydrogen cyanide, acetone, methanol, formaldehyde, arsenic, cadmium etc[3,4]. Dried tobacco leaves are mainly used for smoking in cigarettes, cigars, pipe tobacco, and flavored shisha tobacco. They can be also consumed as snuff, chewing tobacco and dipping tobacco[1].There are two kinds of commonly used tobacco products in Bangladesh i.e. smoking and smokeless tobacco products[4]. Women usually used smokeless tobacco but rarely smoke or both[4,5].

In Bangladesh 43.3% of adults (41.3 million) use tobacco in smoking and or smokeless

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form. More than five million people die globally each year due to tobacco related illness, the figure expected to increase to 8.3 million by 2030[6].

Now a days the adverse effects of smoking on renal function have gained more attention, because it is associated with excessive morbidity and mortality. In addition to its known cardiovascular consequences cigarette smoking is also considered to be the most common particular risk factor for the renal function disorders[7]. Some researchers observed cigarette smoking identified as an important risk factor cause renal dysfunction, not only in subjects with pre-existent primary renal disease, hypertension and diabetes mellitus but also in healthy subjects[8].

Tobacco smoke contains over 4,000 particles and gases, some of which nephrotoxic. Particles include heavy metals known to cause tubular injury such as cadmium and lead, which may reach serum concentrations above 40% in smokers[9]. Cigarette smokers are exposed to significant amounts of cadmium (Cd) and lead (Pb), which also accumulate in kidney tissue more than in any other organ[10]. Nicotine causes mesangial cell proliferation and this change is observed in kidneys of active smokers[11].

Consumption of tobacco is now increasing rapidly throughout the developing world and is one of the biggest threat to current and future world health. Bangladesh has been implementing surveys under GTSS since 2004 regularly at periodical intervals6. Global Adult Tobacco Survey (GATS) uses the global standard protocol for systematically monitoring adult tobacco use (smoking and smokeless) and tracking key tobacco control indicators. GATS also provides key for monitoring MPOWER policy package developed by WHO which includes: Monitor tobacco use and prevention policies, Protect people from tobacco smoke, Offer help to quit tobacco use, Warn about the dangers of tobacco, Enforce bans on tobacco advertising, promotion and sponsorship, Raise taxes on tobacco[6].

According to the official Agricultural Statistics (2010) three varieties of tobacco- Jati, Motihari and Virginia – are grown in different districts of Bangladesh. Rangpur still remains highest with 40,345 acres during 2008-2009[12].

In smokers alteration of the relevant biochemical parameters may be indicators of onset of renal failure. The kidney functions are affected adversely in smoker non tobacco chewer group, indicated by the elevation of serum creatinine, urea[13].

The purpose of this study was to asses the effect of tobacco on some renal parameters of smoker non tobacco chewer subjects of northern region because the rate of tobacco use is more among the people of this region. As far as our knowledge, this kind of study is not previously done in our country. This study would increase awareness about the adverse effects of unjudicial tobacco use on renal system.

METHODS

The Cross-sectional analytical study was conducted in the Department of Physiology, Rangpur Medical College, Rangpur from July 2016 to June 2017. The Rangpur Medical college ethical committee and thesis protocol review committee approved the study protocol. Total number of 60 apparently healthy subjects of both sexes with age 30-45 years were

divided into following groups: Group A - 30 apparently healthy non-tobacco chewers non smokers and Group B - 30 apparently healthy smokers non tobacco chewers. The subjects included in each group matched in their age and socio-economic condition. The duration of smoking is more than three years. All the subjects were free from history of liver, heart, lung and other chronic systemic diseases, obesity & diabetes mellitus, hypertension, pregnancy and lactating mother.

After selection of subjects, the objectives and the procedure of the study were explained in detail to them and their informed written consent were taken. A standard questionnaire was filled after taking history and through clinical examinations. At the first day all study procedures were maintained and advised the subjects to be in overnight (8-10 hrs) fasting state. Then attended next day at 8.00 A.M. at the Department of Physiology, Rangpur Medical College, Rangpur. Fasting venous blood sample was collected from the subjects. 5 ml of blood was collected from antecubital vein from each subject under all aseptic precaution by a disposable syringe. The test tube containing blood was kept in standing position till formation of clot. Serum was separated by centrifuging the blood at 3000 rpm for 5 minutes. The clear supernatant was taken and kept in ependorffs. All biochemical tests were carried out as early as possible and done by enzymatic colorimetric method at the Department of Biochemistry, Rangpur Medical College, Rangpur.

For statistical analysis independent sample "t" test was performed by computer based software SPSS-17.0 version for windows.

RESULTS

The data depicted in Table –I shows an alteration in some renal parameters in smokers non- tobacco chewers than those of healthy control subjects. In this cross sectional study, the mean serum creatinine and urea levels are significantly higher ($p<0.01$) in smoker non-tobacco chewer subjects than those of healthy control subjects.

Table-I: Mean ± SD serum Creatinine and Urea levels in two groups

Variables	Group A (non-tobacco chewers non smokers) Mean ± SD Range (L- H)	Group B (Smokers non- tobacco chewers) Mean ± SD Range (L- H)	p value
Serum Creatinine mg/dl	0.8967 ± 0.13515 (0.70 – 1.10)	1.4000 ± 0.15536 (1.10 – 1.70)	0.000***
Serum Urea mg/dl	27.7000± 7.27845 (18.00- 44.00)	42.6000 ± 9.33144 (19.00 – 55.00)	0.000***

A= Apparently healthy subjects of non-tobacco chewers non-smokers (Control). B= Apparently healthy subjects of smokers non tobacco chewers (Experimental). n= Number of subjects.***= $p<0.001$, **= $p<0.01$.
# Normal range of serum creatinine level is 0.6 – 1.3 mg/dl14.
# Normal range of serum urea level is 15 – 45 mg/dl15.

DISCUSSION

In this cross sectional study, serum creatinine and urea levels were significantly higher in smoker non tobacco chewer subjects than those of healthy control subjects which is comparable to others[7,16].

Literature review suggested several mechanisms for these changes of serum creatinine and urea levels in smoker non tobacco chewer subjects. Higher levels of serum creatinine and urea in smoker non tobacco chewer subjects might be due to tobacco contains some toxic components which are nephrotoxic causes alteration of the

kidney functions. Tobacco smoking induces renal damage through enhancing the synthesis of free radicals lead to alter the glomerular functions and increase the serum creatinine and urea levels. In addition, smoking causes generation of high amounts of carboxyhemoglobin and decrease oxygen delivery to tissue lead to hypoxia causes ischemia in renal glomeruli and basement membrane. For this causes impairment of renal functions and increase serum creatinine, urea levels. Nicotine increases mesangial cell proliferation through activation of nicotinic receptors. Tobacco smokes responsible for impairment of renal function which might be increase serum creatinine and urea levels[7].

Several risk factors including habit of smoking is responsible for the development of renal diseases, diabetes mellitus and hypertension which might be due to increase serum creatinine and urea levels[16].

From the results of the present study, higher serum creatinine and urea levels in smoker non tobacco chewer subjects might be due to tobacco smoking for a prolong period of time which induced sustained rise of blood nicotine & also carboxyhemoglobin levels. Increased concentration of nicotine, carboxyhemoglobin & free radicals might be cause impaired renal functions in tobacco smokers.

CONCLUSION

In this present study, it has been concluded that higher serum creatinine and urea levels in smoker non tobacco chewer subjects might be due to renal functions impairment in tobacco smoking for a prolong period of time which induced sustained rise of blood nicotine level. But exact mechanism of high levels of serum creatinine and urea in this group of people could not be demonstrated. Estimation of serum nicotine level, in same study population with large sample size which may help us to know the mechanism of increase serum creatinine and urea levels due to tobacco smoking. Reduction in tobacco smokes improves renal function impairment & reduce mortality and morbidity in smokers non tobacco chewers.

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Case Report

Ruptured sinus of valsalva aneurysm

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INTRODUCTION:

A Ruptured Sinus of Valsalva Aneurism (RSVA) is a rare Cardiac anomaly and is associated with a severe left to right shunt if communicated with the right sided heart chambers. Uncorrected rupture almost invariably causes deterioration in cardiac function, leading to heart failure. Early intervention and device closure or surgical correction is the treatment of choice.

KEYWORDS: · Case Report · Aortic Regurgitation · Rupture of sinus valsalva· Device closure· Surgery

THE CASE REPORT..

Md. X Rahman, male, 55 years, muslim, hailing from Gaibandha was admitted in Prime Medical College Hospital, Rangpur, with the complaints of:

1. Shortness of breath for 15 days
2. Chest pain for the same duration

He was normotensive & non diabetic. He felt breathlessness which is more marked during exertion and even during normal activities before hospitalization. His breathlessness is associated with fatigability & palpitation, occasional expectoration of sputum mucoid in nature, not blood mixed. Cough was not aggravated by exposure to cold, dust or fume. Occasionally he experienced nocturnal breathlessness. He got partial relief from all of this symptom after taking rest. On query patient gave history of low grade fever, which was recurrent during last 4 years but more marked in the previous 4 weeks. For those complains patient took some local medicine but he couldn't mention the name. He complained anorexia, nausea & weight loss, chest tightness & pain. Chest pain was not typical for ACS. He had no history of Rheumatic fever. He gave history of sudden unconsciousness 1 year back, but there is no residual neurological deficit. On examination, patient was mildly anaemic, nutritional status was below average, pulse: 104 beats/min (irregular, low volume), BP: 100/90 mmHg, leg edema present. On cardiovascular system examination: Visible apex beat present which is thrusting in nature & shifted to left. Left parasternal heave & palpable P2 present. On auscultation, there was a continuous murmur in aortic area (right upper Sternal border).

On respiratory system examination:

Patient had bilateral basal crepitation on

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admission (patient was improving with diuretic treatment) Other systemic examination revealed normal findings.

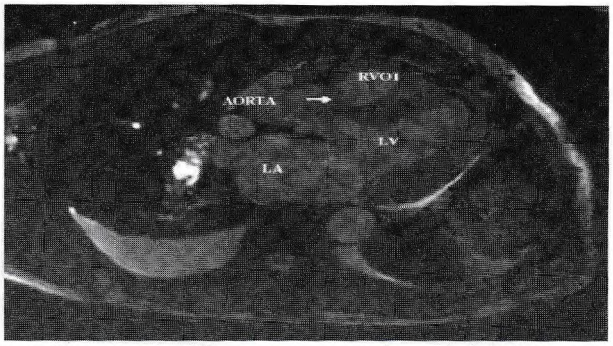
INVESTIGATION:

Hb%: 10.9gm/dl, ESR: 18mm/1st hour,
S.electrolyte: Na+-136mmol/L,K+-4.6mmol/L,
RBS: 6.4mmol/L,
S.creatinine:1.50mg/dl,
ECG: Left Ventricular Hypertrophy with fast atrial fibrillation,
CXR (P/A view): cardiomegaly with plethoric lung field.

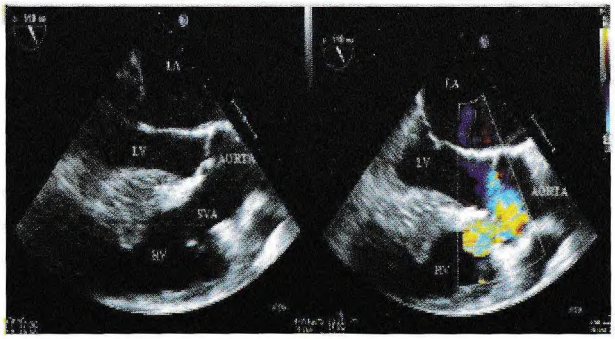
Findings on Echocardiogram:

- RSVA flow with continuous left to right shunt
- Mild to moderate AR with mild MR
- LA & LV are dilated with feature of volume over load
- Eccentric Left Ventricular Hypertrophy
- Pulmonary arterial hypertension (PHTN)
- Mild to moderate TR, PASP (Pulmonary arterial systolic pressure)-53mmHg
- Good LV & RV systolic function, LVEF-59%

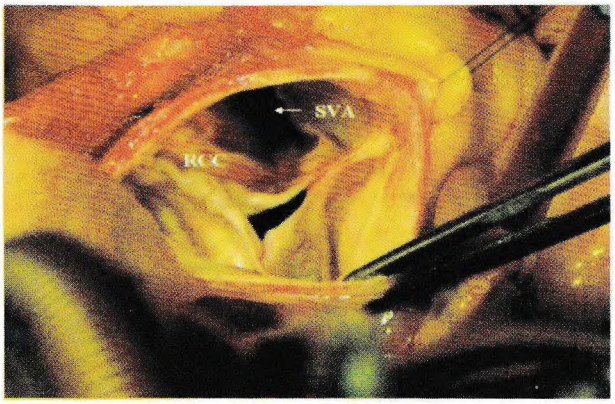
So, this is a case of RSVA, ruptured to RA with TR and Pulmonary HTN. The cause of RSVA is considered to be infective endocarditis. From presentation in this case of high grade fever of prolonged duration recurred several times during previous 4 years. However, blood Culture was negative.



cardiac magnetic resonance imaging shows a ruptured right coronary sinus of valsalva into the right ventricle. Arrow shows the ruptured sinus of valsalva. RVOT=right ventricular outflow tract, LV=lrft



Transoesophageal echocardiography showa a ruptured aneurysm of the right coronary sinus with an obligate left-to-right shunt into the right ventricle, using colour Doppler technique (left). LV= left ventricle, LA= left atrium, RV=right ventricle, SVA=sinus of Valsalva aneurysm.



Surgeon's view from the opened aorta into the aneurysm of the right coronary sinus of Valsalva. RCC=right coronary cusp, SVA=sinus of Valsalva aneurysm.

TOPIC DISCUSSION:

RUPTURE OF SINUS OF VALSALVA ANEURYSM

A sinus valsalva aneurism is a rare cardiac anomaly that may be congenital or acquired. A coexisting cardiac lesion might be present. If the aneurism ruptures, it causes acute symptoms of dyspnea. Echocardiography and Cardiac MRI are useful for diagnosis. The

treatment of choice is surgery & device closure. Rupture to the RV is common than left, commonly to RA and rarely to LV. Associated lesion may be there and that are VSD and AR[1].

DISCUSSION:

Sinus valsalva aneurysm (SVA) is a rare cardiac anomaly and caused by congenital defect of the aortic media or may follow bacterial endocarditis. It occurs in between 0.09 and 0.15% of cases of all congenital cardiac anomalies[2]. Coexisting cardiac lesions, Especially VSD or AR or both may be present in about 30 to 40% of patients[3,4]. The aneurysm originate predominantly from the right coronary sinus (70%) and are more prevalent in males from Asian decent.[2-5] The presence of an aneurysm may lead to a compression of an adjacent chamber, a coronary artery or the conduction system, leading to myocardial ischemia and / or conduction disturbance. Symptoms occur in 80% of patients most commonly between 30 and 45 years of age[2]. An aneurysm of the Sinus of valsalva rupture in 35%, leading to acute symptoms almost in one fourth of the patients[4], Symptoms associated with rupture are shortness of breath, chest pain and fatigue[5,6]. The grade of the shunt, presence of associated lesions & age of presentation determine the severity of symptoms[2]. Most aneurysms rupture in to the right sided heart chamber, and rarely in to the left sided heart chambers, pericardium and pulmonary artery or superior venacava[4,6].

Echocardiography: Trans-esophageal echocardiography is important for diagnosing ruptured and non-ruptured aneurysms[1,3,4]. It allows accurate evaluation of the involved sinus, the presence of a left to right shunt and / or associated cardiac lesions[6,7]. Magnetic resonance imaging might be useful in diagnosing the coexisting cardiac lesions more precisely[1,3,4]. Cardiac catheterization is currently only performed to evaluate coronary anatomy prior to surgery and in cases suspicious of complex congenital and other associated lesions[5,7]. Medical management usually involves stabilization, (e.g.-optimizing medications for heart failure) treatment of complications and perioperative assessment[8,9]. Trans catheter closure (TCC) of ruptured sinus of valsalva aneurysm (RSVA) has been successfully performed using Amplatzer devices[9,10]. Ruptured SVA has been treated with trans catheter closure to avoid sternotomy and Cardio- Pulmonary bypass in critically ill patients[10,11]. Although advanced percutaneous techniques has been performed in the correction of this anomaly, open heart surgery with / without aortic valve replacement remains the treatment of choice[1,2,11]. Conventionally, surgical repair of the ruptured SVA has been the mainstay of therapy. Urgent surgical repair is recommended in all patients with ruptured SVA, especially with intracardiac shunting[7,8]. An operative mortality rate about less than 2%, aggressive surgical correction of unruptured SVA is often recommended because of it's association with increased morbidity & mortality[9,10].

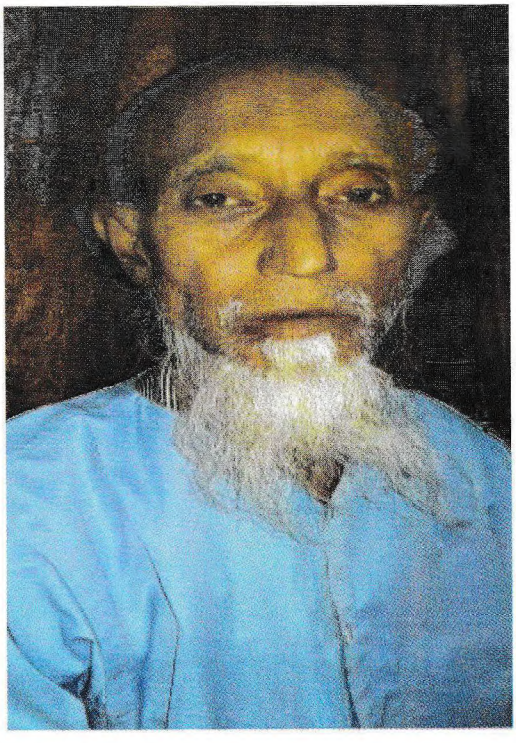
Surgical options are:

1. Aortic root reconstruction or replacement
2. Aortic valve repair or replacement
3. VSD repair (if present)
4. ASD repair (if present)
5. Primary suture closures (pledget) and patch closure (if ruptured)

The mean survival in patient with an untreated ruptured SVA is about 4 years. Now the 10 years survival rate after surgical repair of RSVA is 90%. However AR might occur after surgical repair[9,10,11,12].

IN CONCLUSION:

Sudden onset of acute dysponea in the presence of a continuous loud parasternal murmur might be due to ruptured sinus of valsalva[1,3,4]. Echocardiography and MRI are useful for diagnosis[1-12]. Percutaneous techniques with Amplatzer device has been possible but surgery remains as mainstay of treatment[5,6]. If there is associated lesion and that lesion must be repaired within the same procedure session. But if left untreated it carries worse prognosis[4,6,9,10].



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