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JOURNAL OF SATKHIRA MEDICAL COLLEGE (JSMC)

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EDITORIAL

Zika virus and Pregnancy

A S M Moosa

Zika virus is a mosquito-borne flavivirus that was first identified in Uganda in a monkey in 1947.36 It is transmitted by the Aedes (Stegomyia) species of mosquitoes, Aedes aegypti, which also transmit yellow fever, dengue, and chikungunya viruses. These mosquitoes live in and around households and lay eggs in domestic water-holding containers. Aedes (Stegomyia) species of mosquitoes are daytime biters.4 Individual cases of Zika virus disease in humans were first reported in Africa and southeast Asia. The first outbreak of Zika virus disease occurred on the Pacific island of Yap in 2007.

The incubation period for Zika virus is unknown, but preliminary data suggest an incubation period similar to that of other flaviviruses, likely a few days to 2 weeks. The most common manifestations are acute onset of fever, maculopapular rash, arthralgia, and conjunctivitis; myalgia, headache, retro-orbital pain, pruritus, and vomiting also have been reported. Symptoms are generally mild and last for several days to 1 week; severe illness is uncommon, and deaths associated with Zika virus infection are rare.5

Symptoms of Zika virus disease are similar to those of other diseases spread by Aedes aegypti species (ie, chikungunya and dengue) and similar to other infectious diseases including malaria, rubella, measles, parvovirus, adenovirus, enterovirus, leptospirosis, rickettsia, and group A streptococcal infections.

Most common mode of transmission of Zika virus to humans is from the bite of an infected mosquito, other modes of transmission have been documented, including maternal-fetal transmission. Also sexual transmission of Zika virus have been reported.6,7

Zika virus testing can be performed to detect the presence of viral RNA, antigen, or antibodies. Reverse transcription-polymerase chain reaction (RT-PCR) has been validated, and its performance has been evaluated in individuals with symptoms consistent with Zika virus disease.8 Viral clearance can occur within 7 days of symptom onset; thus, a negative RT-PCR result on a test performed 5-7 days after symptom onset may not exclude Zika virus infection.9,10 Serologic testing can detect immunoglobulin M (IgM) by enzyme-linked immunosorbent assay as early as 4 days after illness onset.8 A negative result on serum collected less than 7 days after illness onset does not exclude Zika virus disease. Amniotic fluid can be tested for the presence of viral RNA by RT-PCR; however, the sensitivity and specificity of amniotic fluid testing is unknown. As an arboviral disease, Zika virus disease is a nationally notifiable condition and laboratory-confirmed cases should be reported to the national, regional and international health authorities.

Zika Virus infection during pregnancy and effects on fetus:

Pregnant women can be infected with Zika virus in any trimester, and symptoms reported during pregnancy are similar to those in non-pregnant individuals. No evidence exists to suggest that pregnant women are more susceptible to Zika virus infection or are more severely affected once infected. Maternal-fetal transmission of Zika virus has been demonstrated throughout pregnancy.11,12 Microcephaly, brain atrophy, cerebellar agenesis, ventricular enlargement, destruction of cerebral structure and intracranial calcifications have been reported in neonates, pregnant mothers who have tested positive for Zika virus infection.11

Children born with severe microcephaly can have seizures, vision or hearing problems, and developmental disabilities including cognitive impairment or cerebral palsy. Manifestations can vary depending on the severity of the microcephaly and underlying insult to the brain. Other infections during pregnancy have been associated with microcephaly, including rubella virus, cytomegalovirus, lymphocytic choriomeningitis virus, and Toxoplasma gondii (toxoplasmosis).13 Microcephaly may be detected by ultrasonography as early as 18-20 weeks of gestation.

Recommendations for Prevention of Zika Virus Infection

All pregnant women consider postponing travel to areas of ongoing Zika virus transmission if possible. Pregnant women who travel to areas with Zika virus transmission should strictly follow steps to avoid mosquito bites, particularly during the daytime. Mosquito bite-prevention strategies include wearing long-sleeved shirts and long pants, using registered insect repellents, wearing permethrin-treated clothing, gear and staying & sleeping in screened-in or within mosquito net, air-conditioned rooms. When using mosquito repellents products, containing active ingredient should be considered to be safe for pregnant and nursing women. As because sexual transmission is possible, chance of potential risks of maternal Zika virus infection, pregnant women whose male partners reside in or have traveled to an area of ongoing Zika virus transmission should abstain from sexual activity or should use condoms correctly and consistently during sexual activity for the duration of the pregnancy.

The latest information on Zika virus and pregnancy will be available at: http://www.cdc.gov/zika/hc-providers/index.html

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Original Article

Evaluation of the Result of Treatment of Infected Nonunion of the Tibia by Ilizarov Technique

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ABSTRACT

Background:*Nonunion is always a problematic issue for both the doctors and patients. Tibia is the most common site of nonunion in the long bone fractures. Nonunions are estimated to occur after 2% to 5% of all tibial fractures. This tibial nouunions especially defect or gap nonunions can be successfully managed by distraction. Ilizarov ring external fixator gives an option for distraction, compression, rotation, correction of angulation and bone transport and is effective in the treatment of infected nonunion of tibia where other types of treatment have failed.* ***Methodology:****This is Quasi experimental study that was carried out at Department of Orthopaedics and Traumatology of Dhaka Medical College Hospital & NITOR. Eighteen patients with infected nonunion of tibia admitted in hospitals where selected according to inclusion and exclusion criteria. Among them 4 patients were not available for final follow up after removal of fixator. So final outcome analysis were done with 14 patients. Informed written consent was taken from patient. Regular follow up was done for each patient for at least 32 weeks after each operation to assess the final outcome as well as union time according to ASAMI score. Final outcome was analysed by SPSS-18 version data analysis program.* ***Results:*** *Mean age was 31.64, mean hospital stay was 4.70 1.298 weeks. Mean union time was 32.29 5.25 weeks. There ware 12 excellent (25.71%) and 2 good (14.29%) bone results and 11 excellent (78.57%), 1 good (7.14%), 1 fair (7.14%) and 1 poor (7.14%) functional results according to ASAMI score. 8 cases (57.14%) had pin site infection which eradicated before and after removal of fixator. Ilizarov technique is an effective method of treatment of tibial shaft fracture with infected nonunion.* ***Conclusion:*** *It is a method of choice in saving the limb with nonunion.*

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INTRODUCTION

Since early last century after start of production of automobile and high ways and many other modern ways of transport, numbers of casualties of RTA are increasing day by day Most of the victims are suffering from open comminuted fracture of tibia.Each year, approximately 2 million long bone fractures are treated in the United States. Of these, it is estimated that 5% result in nonunions, and even more result in delayed unions. More aggressive treatment of acute fractures has decreased the incidences of delayed union and nonunion in some types of fractures, especially tibial fractures (Cleveland, 2013).In a review of 842 patients with nonunion of long bone (Boyd, Lipinski and Wiley, 1961) fractures and found that nonunion was more common when fractures where open, infected and segmental with impaired blood supply.Nonunion of the tibia associated with infection have always been a challenge to orthopaedic surgeons.

In 1951, Ilizarov and his colleagues in the Siberial city Kurgan of Russia developed the method of distraction osteogenesis for treating acute traumatic fractures. Over the years, the method proved to be so widely applicable and effective that the Association for the Study and Application of the Method of Ilizarov (ASAMI) was established in Lacco, Italy, in 1982. Sometimes nonunion and infection is difficult to eradicate due to poor vascularization of the bone. Such patients are the candidated for treatment by the Ilizarov method.

Materials and methods:

This study was a prospective Quasi experimental study and was carried out in the department of Orthopaedics & Traumatology, DMCH, NITOR & Private hospitals, Dhaka from December 2012 to May 2014 (18 months). All patients were diagnosed as infected nonunion of the tibia clinically & radiologically. During 18 months, 14 patients were selected according to inclusion & exclusion criteria were established infected nonunion of the tibia, nonunion with either shortening or without shortening. If shortening, it is up to 7 cm & patients age >18 years to < 50 years. Exclusion criteria were patient's age >18 yrs and >50 yrs, patients with pathological fracture, H/O irradiation, nonunion with >7 cm shortening & patients with systemic illness like diabetes, COPD etc.

Data were analysed using SPSS. Final outcomes were analysed according ASAMI score.

Bone results using the Association for the study and Application of Methods of Ilizarov (ASAMI) scoring system: (Shahid M. et al., 2013)

Bone results	Description
Excellent	Union, no infection, deformity <7°, limb length discrepancy <2.5 cm
Good	Union + any two of the following: absence of infection, deformity <7° and limb length inequality <2.5cm
Fair	Union+any one of the following: absence of infection, deformity <7° and limb length inequality <2.5 cm
Poor	Nonunion / refracture/ union + infection + deformity >7° + Limb length inequality > 2.5 cm

Functional results using the Association for the study and Application of Methods of Ilizarov (ASAMI) scoing system.

RESULTS

At first 18 cases of infected nonunion of tibia were included in this study, but due to various reasons 4 of these patients were not available for final follow up after removal of fixator so analysis of result was done with the results of rest of 14 patients.

Table I: Distribution of patients by Complications (n=14)

Complications	No. of patients	Percentage (%)
Pin tract infection	8	47.14
Decreased range of movements	3	21.43
Breakage of wire	1	7.14
Significant pain	1	7.14
RSD	3	21.43
Foot equinus	1	7.14

Among 14 patients 8 of them (57.14%) had pin tract infection, 3 patients (21.43%) had decreased range of movements, 1 patient (7.14%) had breakage of wire, 1 patient (7.14%) had significant pain, 3 patient (21.43%) had RSD and 1 patient (7.14%) had foot equinus at final follow up. Out of 14 patients 12 patients (85.71%) had excellent result, 2 patients (14.29%) had good bone result. Among 14 patients 11 patients (78.57%) had excellent, 1 patient (7.14%) had good, 1 patient (7.14%) had poor functional result.

Table II: Distribution of patients by Overall functional results after treatment (n=14)

Overall functional result	No. of patients	Percentage (%)
Satisfactory (Excellent and Good)	12	85.71
Unsatisfactory (Fair and Poor)	02	14.29

Among 14 patients 12 patients (85.71%) had satisfactory result and 2 patients (14.29%) had unsatisfactory result.

DISCUSSION:

Most acceptable treatment goals for nonunion tibial shaft include maintaining normal length, alignment and rotation of the extremity, minimizing additional damage to the soft tissues and bone and preserving the remaining circulation and providing a mechanical environment that stimulates periosteal and endosteal responses favorable to bone healing. No single treatment regimen, open or closed, operative or non operative, is suitable for the treatment of all the tibial nonunion cases. Comparing the various methods of stabilization (Catagni, 1991) it was noted that cast treatment respect the vascularity of the fracture fragment but does not achieve greatest stability and early weight bearing can not be permitted. In gap nonunion there is no place of treatment by cast (Gustillo, 1993).Open fractures treated by plate and screws achieves stability but this is not possible in extensively infected comminuted fractures. It does not respect vascularity nor does it allows weight bearing (Catagni, 1991).Traditional external fixation respect the vascularity of fracture fragments and allows early joint mobilization but early weight bearing is not possible, problems related to the larger pins are frequently encountered and fixation may provide insufficient mechanical stability (Catagni, 1991). In Ilizarov frame weight bearing is possible in the 1st and 2nd post operative day. Early weight bearing enhance healing by axial loading (Catagni, 1991).In this study most of the victims were in 20-30 age group (57.14%) mean age of the patient was 31.64. In the study (Shahid, Hussain, Bridgeman and Bose, 2013) showed that average age of the patients was 43.3 years. In our study mean time of union was 25.29 weeks (minimum 24

weeks and maximum 40 weeks). In the study (Shahid, Hussain Bridgeman and Bose, 2013) showed that mean time to union was 46 weeks range was 24.70 weeks.This can be corrected by simultaneous compression and distraction. In severe cause, it can be corrected by osteotomy & distraction (Tucker, Kendra and Kinnebrew, 1992). In my study all of my 14 patients had leg length discrepancy of different size (between 2-7) cm). In other study (Cattaneo, catagni, Johnson, 1992) leg length discrepancy was same as my study 2-7 cm and mean is 4 cm. Pin tract infections are common in my fixator treatment. But as the diameter of the pins/ wires are much smaller in Ilizarov system. So the injury caused by them is also less. Loss of tension of wires or loosening of any connection of the frame results undue movement in wire skin interface in Ilizarov system. This results irritation of the skin and soft tissue injury and ultimately leads to pin tract infection.

In this study 57.14% of all the patients suffered from pin tract infection at some point of the study period. In he study (Khan, et al., 2012) found that 87.5% of patients (14 patients out of 16 patients) suffered from pin tract infection at some point of the study period Meticulous care of the skin-pin interface and proper follow up of the tension of wire may significantly reduce this complication. In this study, according to the ASAMI score, out of 14 patients, 12 of them had excellent bone results (85.71%), 2 of them had good bone result (14.29%) and none of them had fair and poor results. In the study (Shahid, Hussain, Bridgman and Bose, 2013) showed that out of 12 patients. 10 of them had excellent bone results (83%) and 2 of them had good one results (17%). In this study according to the ASAMI score, out of 14 patients. 11 of the had excellent functional results (78.57%), 1 of them had good (7.14%), 1 of them had fair (7.14%) and 1 of them had poor (7.14%) functional results. In the study (Shahid, Hussain, Bridgman and Bose, 2013) showed that out of 12 patients, 6 patients had excellent (50%), 4 patients had good (33%) results, 2 patients had poor (14%) results.

CONCLUSION

Ilizarov technique is an effective method of treatment of tibial shaft fracture with infected nonunion. It is a method of choice in saving the limb with nonunion.

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Original Article

Comparative Study of Continuous Versus Interrupted Suture in Prevention of Abdominal Dehiscence

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ABSTRACT

Background: *Wound dehiscence is a pre mature opening of a wound along the surgical suture. It is a surgical complication that results from poor wound healing that can increase significantly the risk of morbidity and mortality.* ***Objective:*** *To find better method in abdominal closure to prevent abdominal dehiscence.* ***Material and Methods:*** *One hundred patients, undergoing emergency laparotomy through a vertical midline incision were selected after inform consent, to either a continuous group or an interrupted group.* ***Results:*** *There was one abdominal dehiscence in interrupted suture group and six abdominal dehiscence's i n continuous group. The relative risk of abdominal dehiscence was 0.16 (continuous group as the reference category). (95% Confidence Interval, 2 =4.74,P<.05)* ***Conclusion:*** *Interrupted suture is a better option to prevent abdominal wound dehiscence*

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INTRODUCTION :

Abdominal wound dehiscence carries with a substantial morbidity and mortality. The rate of abdominal wound dehiscence is 10%; contemporary series estimates an incidence between 1% and 3%.1,2 Mortality associated with dehiscence has been estimated at 16%.3 The mean time of wound dehiscence is 8-10 days after surgery.3,4

In addition to mortality and morbidity associated with abdominal wound dehiscence, there is a considerable in the cost of care both in the form of increased hospital stay, nursing and manpower cost in managing wound dehiscence and its complication. Many patient s in our country refers to tertiary level hospital is often late and presents with peritonitis. This makes the problem of abdominal wound dehiscence more common in our hospital compared with that with in western countries.5

Many verities of suture materials and techniques has been tried and advocated at

different times, but no one suture material and technique has given a total satisfactory result as far as vertical abdominal incision is concerned. New suggestions have been made from layered closure to mass closure, advocating different suture materials such as nylon, vicryl, prolene, steel wire, chromic catgut, polydiaxone, etc. This only shows that no single suture material or method has satisfied all ideal requirements.

Abdominal wound dehiscence is a common complication of emergency laparotomy in our country. Wound dehiscence is related to the technique of closure of abdomen. Number of studies has been conducted to find better suture material and technique in prevention of abdominal wound dehiscence.6-8 The current option is mass closure of abdomen in both emergency and elective settings. No differences have been reported between the two in most studies.9-17 A new interrupted X -technique was introduced to circumvent the problem of cutting out effect of continuous suture that showed reduced incidence of wound dehiscence.18

In this study interrupted X -type suture were used for the mass closure of mid line laparotomy wounds in patients of emergency laparotomy and its effectiveness in prevention of burst abdomen in our hospital.

MATERIALS AND METHODS:

A total number of 100 patients admitted in the surgery ward for emergency laparotomy was enrolled in this study .The study period were from July 2009to June 2011. The study place was Surgical wards, Sir Salimullah Medical College, Mitford Hospital. The study was approved by the Institutional Ethical Committee of Sir Salimullah Medical College, Dhaka.

The aims and objectives of the study along with its procedure, methods, risks and benefit of the study were explained to the patient or their guardian in an easily understandable language and then informed written consent was taken from each patient, or his or her guardian. The sampling procedure was purposive. Among them, Fifty (50) patients were included in Group-I, who underwent vertical abdominal incision closed by contentious mass closure and other fifty patients in Group-II, their vertical abdominal wound closed by interrupted X suture. First patient were selected for group-I and alternate patient for group-II.

Continuous closure was performed using No 1 Prolene suture (Polypropylene; Ethicone), each place 1.5- 2 cm from the linea alba edge and successive bites 1 cm from each other. The closure was performed by the Assistant registerar and residents.

Interrupted closure was performed using No-1 Prolene suture. A large bite was taken outside -in, 2cm from the cut edge of linea -alba. The needle emerged on the other side from the inside out diagonally 2 cm from the edge and 4 cm above or below the first bite. This strand was crossed or looped around the free end of the suture and continued outside-in, diagonally 900 to the first diagonal. The two ends were tied just tight enough to approximate the edge of linea -alba, taking care not to include bowel or omentum between the edges. Each of the patients was followed for four weeks after surgery to determine the risk of burst abdomen. The data obtained in this prospective study through the questioners were scrutinized for any error or omission. All the relevant data were recorded in Microsoft Excel (2007). Statistical was performed by using SPSS version 16 for windows (SPSS Inc.

Chicago, IL) Categorical data were expressed as percentage and were compared between groups using "Chi-Square test". A p value less than 0.05 considered as the level significance. Co-relation between variables was assessed by multiple logistic regression tests.

RESULTS:

A total number of 100 patients were enrolled in the study. Among them 50 patients were in group-I. abdominal closure by continuous mass closure and other 50 in Group-II, abdominal wound closed by Interrupted X suture.

The majority of the patients (45%) were below 40years. The mean age of group-I and group-II were 41.58(±15.614) and 43.52(±13.123) respectively. There is male predominance (66% male and 44% female) in this study.

Perforation of the gastero-intestinal viscous was present 30% &36%, intestinal obstruction 26% & 30%, burst appendix 26% & 10% and malignancy was present 6% in group-I and group-II respectively.

The pre-operative predisposing factor, peritonitis 84% present in group-I and 36% present in group-II. Other predisposing factors were cough (28% & 16%), anaemia (18% & 24%) and co-morbid disease 22% & 18%) were present in continues and Interrupted X group.

There were 6 burst abdomens out of 50 patients in continuous group and 1 burst abdomen among 50 patients. The relative risk of burst abdomen in interrupted X suture was 0.16, 2= 4.74 and p=.04. Burst abdomen was significantly lowered in interrupted X suture group.

The multiple logistic regression tests show no significant role of predisposing between continuous and interrupted X-suture group.

Figure 1. Distribution of patients by primary disease (n=100)

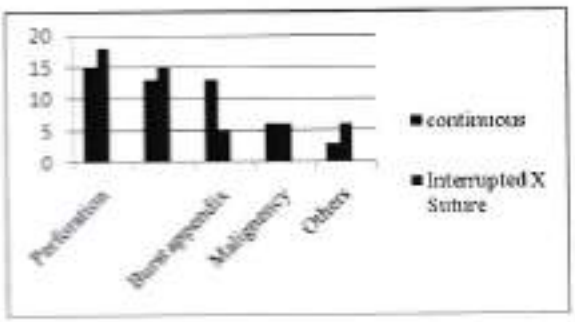

Figure 1. Shows causes of acute abdomen. Perforation was present 15(30%) and 18(36%), intestinal obstruction was present 13(26%) and 15(30%), burst appendix was present 13(26%) and 5(10%), malignancy was present 6(12%) in group I and II respectively.

Figure 2. Distribution of the Patients by operation (n=100)

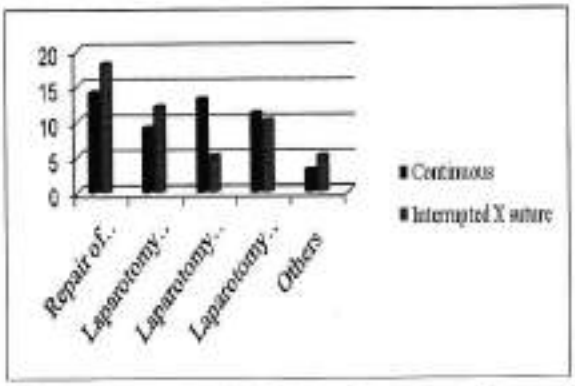

Table 1. Distribution of the Patients by post-operative predisposing factor(n=100)

Factors	Continuous Mass closure (n=50)	Interrupted X suture (n=50)	Test Statistics
Cough	11(22%)	9(18%)	x^2 0.803 p 0.402
Abdominal distension	23(46%)	10(20%)	x^2 4.923 p 0.024*
Ascitis	06(12%)	06(12%)	x^2 0.001 p 1.000
Vomiting	04(8%)	00(0%)	x^2 4.167 p 0.041*
Bowel leakage	03(6%)	06(12%)	x^2 1.099 p 0.295
Wound infection	18(36%)	15(30%)	x^2 0.407 p 0.523
Uremia	02(4%)	03(6%)	x^2 0.211 p 0.646
Others	04(8%)	06(12%)	x^2 0.491 p 0.483

DISCUSSION:

One hundred patients of acute abdomen, admitted in the Department of Surgery, Sir Salimullah Medical College, Mitford hospital (SSMC& MH) needs emergency laparotomy were enrolled in this study. There was no elective case of laparotomy. As there is increase use of Computerized Tomography (CT), Positron Emission Tomography and diagnostic laparoscopy the number of elective case of laparotomy reduced in the hospital.

The patients were divided into two groups, depending on the type of abdominal closure. Patients of two types of closure were selected for grouping by alternative choice, while admitted in the hospital. Laparotomy was done by upper mid-line, lower midline and mid-midline. There was no statistically significant difference was observed in two groups regarding the type of incisions ($p>0.05$).

In current study, risk factors i.e. pre-operative and post-operative risk factors were also studied. Abdominal distension and vomiting were significantly related with burst abdomen. Similar findings were observed by Srivasta et al (2004)18 and Cavit et al (1998)19. Intra-abdominal pressure increases due to abdominal distension and vomiting, causing necrosis of linea-alba and it fails to hold suture during a bout of coughing and sneezing, leading to burst abdomen.

In present study 7% (7/100) of the patients were suffered from burst abdomen. In similar kind of studies 2% and 9% burst abdomen were observed by Kingsnorth (2008) 20 and Srivasta et al (2004)18 respectively.

In our set up many of the patients of acute abdomen who needs emergency laparotomy, had malnutrition and other co-morbidities. The condition gets worse with disease like tuberculosis, typhoid and cancer. Which are detrimental to healing, were present among the patients. There was profound necrosis of the aponeurotic layers of abdomen.

Six patients of continuous group (6/50) and one patient of interrupted group (1/50) had burst abdomen. It indicates that the relative risk of burst abdomen was more in continuous mass closure than the interrupted X suture. The reason of such difference may be, reducing cut-out force of interrupted X suture in comparison to continuous mass closure. On the other hand, continuous mass closure produces a 'hack saw' effects at the tissue suture interface causing 'Gigli-saw'effects due to and fro movement of suture. Due to varying tension of different parts of abdominal wall on breathing and movements, gradually causes the suture to cut through linea-alba leading to augmentation of burst abdomen. Due to this reason Interrupted X suture technique provides better protection than continuous mass closure (Srivasta et al 2004)18. Therefore, all the findings of this study indicate that out-come in laparotomy patients closed by interrupted X suture techniques better than continuous mass closure.

Conclusion:

Prevention is the best way of managing burst abdomen. Burst abdomen can be reduced using interrupted X suture. Peritonitis is most common predisposing factor. Abdominal distension and vomiting are significant factors for burst. Malignancy, uraemia, jaundice and hypoxia did not make substantial contribution to the risk of burst abdomen.

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Original Article

A study of Climate related specified diseases in the plain area of Satkhira, Bangladesh

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ABSTRACT

Background: Satkhira is an area of mixed pattern ,that is it consists of plain area and costal areas. Climate change affects human health by altering the proliferation and distribution of pathogen, vectors and allergen. Objective: To estimate the magnitude of spectrum of climate related diseases in plain areas & also determine their relationship with environmental factors. Methods: This cross sectional study was conducted in southern part of Bangladesh from April 2012 to March 2013. Kolaroa Upazilla was taken for this study under Satkhira District, Bangladesh. Patients of all ages attending this Upazilla health Complex (UHC) with the specified diseases were enrolled. Nine target diseases were water borne (diarrhea, typhoid, viral hepatitis); vector borne (Malaria kalazar, dengue) and systemic diseases (asthma, hypertension, arsenicosis). Results: Target diseases were observed in 1296 cases in Kolaroa. Diseases were lowest (20%) in monsoon and highest in winter (42%). Large bulk of patients (31%-32%) in plain area was young adult (16-30 years). Diarrhoea was highest (49-53%) in frequency and Hypertension 19% and asthma (16%) in Kolaroa upazilla was more frequent. Conclusion: Keywords : Hypertension , kala-azar ,asthma, , plain land.

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Introduction :

WHO estimates that 25% of global disease burden including more than one third of children in related to environmental factors (1), In an attempt to quality the risk of premature morbidity and mortality in 2000, WHO had shown that , climate change have caused a loss of 1,60,000 lives annually (2). More than half of world population lives within 60 km of the sea and most vulnerable regions are Nile delta in Egypt Ganga-Brahmaputra delta in Bangladesh and small islands like Maldives (3,4) Climate change directly

cause effect through increase in frequency , intensity and duration of extreme weather events, Indirect effect occurs through changes in water, air, food, agriculture and economy (4). Climate change can influence the seasonal pattern of vector, water and food borne diseases-malaria, kala-azar, dengue and cholera (5). It also disrupts the relationship between predator and prey that prevents the proliferations of pests and pathogen (6). Outbreaks of diarrhoeal diseases are intimately associated with heavy rainfall and increased temperature.

According to Global Climate Risk index 2009 of German Watch. Bangladesh is the topmost vulnerable country in the world (9). High Population density (950 people /square kilometer) , low per capital income (US$ 1400/year), inadequate nutrition and sanitary condition, as well as low lying topography increases its vulnerability (10), Those in the lowest socioeconomic strata and children will suffer the most (11), More than 95% drinking water in Bangladesh comes from ground water and presence of toxic pesticide is potentially dangerous to human health (12), The primary solutions to the resurgence of climate related diseases include improved surveillance for climatic health hazards and education of public for taking appropriate preparation (13,14). So this study was initiated to quantity the magnitude of the target diseases in plain area which will eventually help as a baseline data to compare with the changing scenario in the coming years.

Patients and Methods:

A cross sectional descriptive study for a period of one year extending from April 2012 to march 2013 was done to estimate the magnitude of the target diseases both in children and adult. Total Population of Satkhira district are scattered in Upazila with 5 in the plain areas and 2 in the coastal area. Due to time and resource constrain, only one upazilla Kolarua was taken for this study . Upazilla Health Complex(UCH) is the only health care centre and catches most of the patients in the Upazilla. All the patients attending the out-patient department (OPD) of UHC were taken into account. Three doctors (Field investigator) from each UCH were recruited for data recording which would be send to the research centre at the end of each month. Data were collected by pre designed data sheet .Diagnosis was mostly clinical except some minor investigations like widal test, rapid antigen test and x-ray chest. Data for patients was limited to few target diseases on age, sex, residence, economy, environment and outcome. All data were analysed by SPSS 16 and MS Xcell .

Result:

Target diseases were observed in 1296 cases in Kolaroa. Diseases were lowest (20%) in monsoon and highest in winter (42%). Large bulk of patients (31%-32%) in plain area was young adult (16-30 years). Diarrhoea was highest (49-53%) in frequency and Hypertension 19% and asthma (16%) in Kolaroa upazilla was more frequent.

Table-1: Disease pattern of study population

Disease	Number	Percentage
Diarrhea	684	52.8
Typhoid	161	12.4
Hepatitis	23	1.8
Malaria	0	0.0
Kala-azar	31	2.4
Dengue	0	0.0
Asthma	213	16.4
Hypertension	172	13.3
Aresnicosis	12	0.9
Total	1296	100.0

Table-2: Association of Water borne disease with Drinking water consumption

Disease/Water source	Plain Area Number (%)
Diarrhoea	
Tube well	136 (19.9)
Well	446 (65.2)
Ponds	102 (14.9)
Typhoid	
Tube Well	55. (34.2)
Well	73 (45.3)
Ponds	33 (20.5)
Hepatitis	
Tube Well	7 (30.4)
Well	14 (60.8)
Ponds	2 (8.6)

Table-3 : Association of vector borne disease with Environmental condition

Disease/Environment	Plain Area Number (%)
Malaria	
Clean	0
Cattleshed/Poultry	0
Bushes /Ditches	0
Kala-azar	
Clean	5 (16.1)
Cattleshed/Poultry	17 (54.8)
Bushes /Ditches	9 (29.0)
Dengue	0
Clean	0
Cattleshed/Poultry	0
Bushes /Ditches	

Table-4 : Association of Systemic disease with economic status

Disease/Economy	Plain Area Number (%)
Asthma	
Rich	11 (5.1)
Middle	111 (52.1)
Poor	91 (42.7)
Hypertension	
Rich	24 (13.9)
Middle	90 (52.3)
Poor	58 (33.7)
Arsenicosis	
Rich	1 (8.8)
Middle	8 (66.6)
Poor	3 (25.0)

Discussion:

Population of South East Asia regions is disproportionately more vulnerable to the impacts of climate change (16). We observed that hospital attendance in Kolaroa (40%) and the difference was attributable to living standard and health awareness of the people. Out door visit of the patient in Kolaroa is (26%). Young adult was the most affected people (31-32%) in plain area . High population density, inadequate nutrition and sanitary condition has made Bangladesh very vulnerable to climate change and children would suffer the most (11).In category based diagnosis, there was sharp difference between two areas regarding vector borne diseases and systemic diseases, but the water borne diseases were borne almost similar, Half of the target diseases were water borne diseases particularly diarrhea (49-53%), Climate change is expected to increase the diarrheal diseases in low income countries by approximately 2-5% by 2020.4 Hypertension and asthma has reportedly increased in recent years which corroborates with present findings (17).

In a study Diarrhea and typhoid was significantly high ($p<0.001$) in coastal area. In comparison to plain area, where pond water is the major source of drinking water. Outbreaks in coastal region of Bangladesh has been linked to increased sea surface temperature and abundance of plankton which is believed to be the reservoir of Cholera bacilli 18,19 An increase of rota virus diarrhea in Dhaka was also observed by 40% for each 10C increase in temperature above 29?C (20).

Among the vector borne diseases, dengue and Kala-azar in Kolaroa was attributed to environmental condition. Ecological disturbances exert an influence on the

emergence and proliferation of malaria and zoonotic parasitic diseases including leishmaniasis, giardiasis, filariasis etc (21,22). Water stagnation for tidal wave and embankments for high sea level might have favoursd dengue and leishmanlasis in the coastal and plain area respectively, 10 Our observation on malaria was in agreement with another hospital based study in Bangladesh which showed sufficiently uncommon malaria prevalence outside hill tracts (23).

Hypertension and asthma was higher in coastal and plain area respectively and the difference in relation to economy was significant(21,22). A number of arsenicosis were also observed in Kolaroa, increase salinity in drinking water increase the risk for skin diseases and renal disease (24,25). Increase frequency of hypertension in coastal area also supports the view by other scientist (4). Large number of population in Bangladesh is suffering from arsenicosis and situation will aggravate due to climate change (26).

Conclusion:

This small scale study had explored the distribution of disease pattern in plain area of Satkhira -a land of mixed characteristics like plain and costal . Hypertension, Asthma , Kalazar were were more prevalent in plain area. This is due to the location ,water consumption and economy.

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Original Article

Death due to poisoning A - Medico legal study at Sadar Hospital, Satkhira

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ABSTRACT

Background: *Suicide by pesticide poising is a burning problem in Bangladesh. Rapid development in science and rapid growth in agricultural activities has led to the increase in the incidence of poisoning.* ***Methodology:*** *This is cross sectional study was conducted among victims of poisoning at Sadar Hospital, Satkhira, during the period of January 2014-December 2015, specific identification of poisons was made from chemical examiners report. All the data were later on analyzed. A total of 1034 medico legal post moptems were performed during this study period. Among these 100 (9.67%) cases were suspected poisoning.* ***Results:*** *Out of 100 victims 62 (62%) were male and 38 (38%) were female. Highest incidences of poisoning was observed in 21-30 years age group 42 (42%) followed by age group of 31-40 years 30 (30%). Most of the victim were agricultural workers/Farmers 38 (38%) followed by house wives 22 (22%) among the study subjects 58 (58%) were illiterate and 69(69%) were married. Out of these cases specific poisons were identified in 52 (52%) cases. Among the detected poisoning cases OPC poisoning was the commonest agent 36 (36%) . Considering manner of death 91(91%) victims committed suicide by poisoning and rest 9(9%) were due to accidental poisoning.* ***Conclusion:*** *To reduce poisoning cases proper emphasis should be given for safe use of pesticides and consciousness should be created among the population about poisonous compounds.*

Key words : Death, poisoning , Autopsy

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Introduction :

Every unnatural death whether suicidal, accidental or homicidal represents a tragic waste of precious human life and resourced (1) Death due to poisoning is no exception. Bangladesh is a developing country where rural population is country dependant on agriculture . Pesticide act as a common agent for suicidal purpose after trivial family problems and in developing countries kill around 3.00.000 people each years. Suicidal death in industrialized countries are also caused by pesticide ingestion (5-6) poisoning cases can also occur accidentally and rarely as homicidal purposes. Accidental poisoning occurs in Manufacturer, users, children of users, packers sprayers and due to contamination of food grains mixed with insecticides preserved for seeding purposes. Poisoning also occurs from fruit and vegetables.(7) Homicidal poisoning by insecticides is usually rare, because of the smell of aroma used as diluents in the poison and also due to alarming signs and symptoms which appear rather early. Unfortunately death by poisoning is seldom included as a priority for health research in our country.

Objectives : The objectives of this study was to find out the incidences and pattern of poisoning in an urbane area, different aspects of poisoning along with demographic pattern, social factors related and other related perimeter and modality to prevent loss of precious life due to poisoning.

Materials and methods:

This retrospective cross sectional study was conducted among victims of poisoning at the sadar Hospital Satkhira morgue during the period of January 2014 December 2015, various identification data of the study subjects were noted from the inquest report accompanying the dead bodies, information from the victims attendants and 3rd copy of post mortem reports preserved in the sadar hospital , satkhira specific medico legal report profiles specific identification of poison was made from chemical examinations report. From ethical points of view necessary consent of doctors who performed the autopsies and relation of victims have been taken. All the data were later an analyzed.

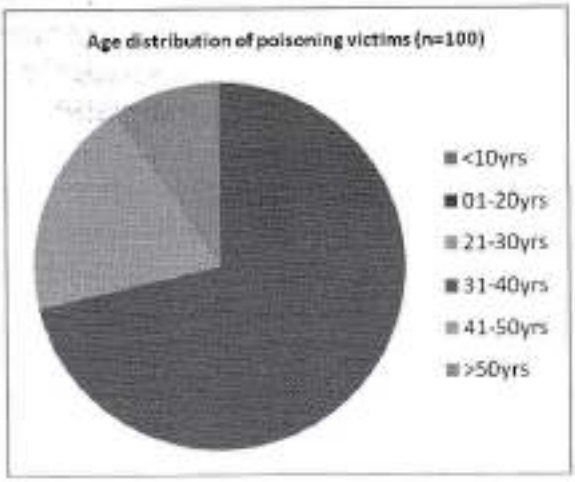
Results :

Out of 100 victims 62 (62%) were male and 38 (38) were female. Highest incidence of poisoning was observed in 20-30 years age group 42 (42%) followed by age group of 31-40 years 30-(30%) most of the victim were agricultural workers/farmers 38 (38%) followed by house wife 22 (22%). Among the study subjects 58 (58%) were illiterate and 69(69%) were married.. Among these 100 (9.67) were due to poisoning, out of these cases specific poisons were identified in 52 (52%) cases. Among these 100(9.67) were due to poisoning out of these cases specific poisons were identified in 52 (97%) cases. Among the detected poisoning cases OPC was the commonest agent 36%(36%) followed by alcohol/rectified spirit 8 (8%) and barbiturate 5 (5%) no poisons was detected (negative result) in -(--%) cases and no reports from chemical examiner were received in 20 (20%) cases during the study period. Considering manner of death 91---(91%) victims committed suicide by poisoning and that's 9---(9%) were due to accidental poisoning .

Table: (1)Types of detected poisonous compounds (n=78)

Name of the poisonous compounds	No of victims	Percentage
Orgam phosphorus compound OPC	36	36%
Methyl alcohol (sprit)	8	8%
Diazepam	5	5%
Zinc phosphide (Rat killer)	2	2%
Others, savlon Harpic, Nicotine		
Permethrine (Mosquito coil)		
Organo Cabamite		

Figure: 1 Age distribution of poisoning victims (n=100)



Discussion :

Death by poisoning is commonly suicidal or accidental in nature. Among chemical, organo-phosphorus compounds are the commonest one used for suicidal purpose. In south east Asia, chemicals such as paraquat, parathen, acetic Acid used for rubber preparation and opium, diazepam, barbiturates are also used for self destruction. A study in India has shown that dichlorvos (76%EC) is also used as injectable suicidal agent during post mortem examination of poisoning cases some typical points were noted time cyanosis in hip, finger , nose of the study subjects, blood stained froth in mouth and nostrils, the peculiar smell of OPC in stomach contents. All the internal organs were congested. Sub mucosal petechial haemorphage was found in stomach. Exercise oedaema and sub-pleural petechial haemorrhage were also present11 .

Out of autopsies performed during this study period of January 2014 December 2015. 100 (100%) were cases of poisoning. Among these specific poisons were identified in 52 -(52%) cases. OPC was the commonest agent 36 (36%) followed by alcohol/rectified spirit 8 (8%) and barbiturate 5 (5%) people of nearby densely populated area line on agricultural cultivation, hence OPC poisoning are common, illiterate people of slums in and around Satkhira district also take country mode cheap alcohol (spirit, methyl alcohol) for leisure and addiction which is responsible for poisoning.

Overdose of spirit, meth alcohol cause accidental death of these people. In urban area sedative like diazepam is the choice of drugs for suicide house holds easily available poisons live savlon, harpic , rat killer, mosquito coil are also responsible for poisoning.

A study performed in Bangladesh from January 1991 to December 1994 should that among 405 cases of poisoning . OPC poisoning was the commonest one (38.8%) followed by poisoning with sedatives (29.1%) out of these 405 cases. 310 were suicidal (76.54%) and 95 were homicidal (23.457) In our study poisoning by OPC was also the commonest one 36-(36%) which coincides with findings of this study. Considering manner of death one found 91---(91%) victims committed suicide by poisoning and 9---(9%) were accidental poisoning cases are did not find any homicidal case which differ from previous study performed almost two decades ago. May be it is because now a day people become more orientated to Insecticides and applying OPC to other

people for Homicide is difficult for its peculiars kerosene like smell.

Farmers of our country use pesticides without knowing there harmful side effects, Organo phosphate; Organo-carbonate and synthetic pyre thyroid are used as most popular pesticides in Bangladesh (13). Epidemiological works from Spain supports link between chronic OPC exposure and increased suicidal rate (14). Chronic exposure to OPC also gives rise to a condition called COPIND-chronic Organo phosphate induced neuro-psychiatric disorders. Genetic deferens as also play important role in chronic OPC poisoning case.

A study From India (1970-1979) showed that out of 312 cases of poisoning 30.12% were barbiturate 19.23% oregano chemicals and 17.95% metallic irritants and corrosive. During 1980-1989; and there 555 case of poisoning were reported from the same Organo and 31.36% fatalities were attributed to aluminum phosphate; 27.03% to oregano phosphates and carbonates; 8.83% to barbiturates and 9.36% to metallic irritants and corrosives.

A total of 1035 case of acute poisoning were studied during 1983 to 1996 at new Delhi and the trends showed increasing use of agro-chemical In our study were did not find barbiturate as common of agent for poisoning because there dregs are not available as over the counter dregs in our country.

In our study no poison was detected (negative results) in 28 (2%) case and no reports from chemical examiners were received in 28 (2%) case. Faulty or negative result can be found when poison (irritant poison) is eliminates by vomiting or diarrhea, excreted any lung though evaporation or oxidation; detoxified; rapidly metabolize drugs, vegetable alkaloids and also due to faulty technical of preservations long time preservation, sample from deco pore body and earn faults at chemical examiners laboratory (11). The only chemical examiner's laboratory in our country is already over burdened with toxicological sample from all around the country and some times can not send the result in due times which explains the non availability of some reports during study period.

In our study out of 100 victims (62%) were male and (38%) ere female. Among them 69% were married. The best incidence of poisoning was observed in 21-30 years age group (42%) followed by age group of 31-40 years (30%) males being predominantly the earning member of the family have more acces to poisonous materials them females.

Another study in Bangladesh performed from January 1993 to December 1997 Showed that male (61.30%) were predominant them female (38.70%) in poisoning case. The report coincides with our study. Acute poisoning was observed more is married group (68.64%) in poisoning case. That the married group (31.36%).

Male female ratio was 6:1 comments poisons agent was insecticides OPC (31).yet another study performed from October 2010 to March 2011 also showed the majority of poisoning victims (45%) were blow 25 years of age and 83% were male victim. Fiaz and Hasan (1998) also showed male female ratio as 2.2:1 in another study.

A recent study in Bangladesh performed during January 2009 in our same study institute showed that among all suicide

death (59%) poisoning was due to hanging. Followed by 31% poisoning and 10% due to other causes like burn, fall from height, gun shot injuries etc.
Among the victims (62%) were male and (38%) were female. It also coincides with our study in which male are also predominant (62%).

Conclusion:
Poisoning by agrochemical compounds is an important problem in our country. Proper emphasis should be gives for the use of pesticides. Consciousness should be created among the population about poisons compounds. Community education in rural area should be practiced. Decrease literacy rate is a common problem which can be overcome in due time with proper efforts. Detail study regarding death same to Organo-phosphate compounds poisoning is required to be carried out in this country. The exiting law in relation to pesticide should be in corporate to erase the loop hook for their production, distribution, sale, storage and application public awareness about seriousness of the poisoning expected to reduce the incidences.

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Original Article

A prospective study from Satkhira among workers working in different places in India to compare the severity of Plasmodium vivax and P. falciparum

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ABSTRACT

Background : *Malaria is not common in non hilly area in our country. Traditionally, Plasmodium falciparum has been attributed to cause severe malaria, whereas P. vivax is considered to cause "benign" tertian malaria..Recently, there has been an increasing body of evidence challenging this conviction.* ***Methods:*** *Adult patients presenting with microscopically confirmed malaria from October 2012 to September 2013 were included in the study. Their clinical and laboratory parameters were recorded and analyzed. Paired t-test and chi-square with 95% CI and post-hoc analyses using the Scheffé post-hoc criterion were used to assess the statistical significance at the level of <0.05.* ***Results:*** *In total, 50 cases of malaria were identified during the study period, comprising 35 cases of P. vivax and , 15 cases of P. falciparum infections. The spectrum and degree of hematological, hepatic, renal, metabolic, central nervous system complications of vivax malaria was not different from that of falciparum group. Thrombocytopenia and hyperbilirubinemia were the most common laboratory abnormalities identified in both t the groups.* ***Conclusion:*** *Pvivax malaria or Plasmodium falciparum could not be considered benign; and appropriate preventive strategies along with antimalarial therapies should be adopted for control and elimination of this disease.*

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Introduction :

Malaria is not a common infectious diease in a plain land like Satkhira in Bangladesh. but we found some cases among the workers who are working in India and came back to Bangladesh with febrile illness and we studied the severity of disease.It has been long held that P. falciparum is responsible for severe malaria and P. vivax infection is deemed to run a benign course. Over the last decade there have been growing evidence that P. vivax mono infection itself can cause multiorgan dysfunction and increased mortality than otherwise held earlier1-6. Gradual emergence of chloroquine resistant malaria in Southeast Asia has made it one of the largest parasitic diseases of public health concern. .Hence, a hospital-based prospective observational study was conducted to describe the clinical profile, laboratory abnormalities, organ-wise complications and outcome of vivax malaria.

MATERIAL & METHODS

A prospective study was conducted atSadar Hospital Satkhira. The hospital receives patients from its own Upazillas and neibouring upazillas in Jessore and khulna. Adult patients (age > 16 yr) who were working in India and presenting with an acute febrile illness to the emergency department or general medicine outpatient department from 1 October 2012 through 30 September 2013 were included in the study. An informed consent was obtained from all patients willing to participate in the study. In case of an unconsciousand disoriented patient, the consent was obtained from the nearest relative. All included patients were investigated to establish an etiological diagnosis. The demographic details, clinical features, relevant hematological and biochemical investigations were recorded in a pre-designed data abstraction sheet. The sequential organ failure assessment (SOFA) score was calculated for all patients at the time of presentation based on the involvement of the six system variables (respiratory, cardiovascular, hepatic, coagulation, renal and neurological systems)8. Parasitological diagnosis of malaria was established by microscopic examination of the Giemsa stained peripheral blood thick and thin smears. Other infectious etiologies for acute febrile illness, like dengue, enteric fever , scrub typhus and leptospirosis were ruled out. Statistical analysis was performed using SPSS software version 16.0. Descriptive data are given as mean (SD) or as median (range). Chi-square test or Fisher's exact test was used to compare dichotomous variables and t-test or Mann-Whitney test was used for continuous variables as appropriate. The differences between the groups were analyzed by univariate analysis and their 95% confidence intervals were calculated. For all tests, including post-hoc analyses using the Scheffé post-hoc criterion for significance, p-value of 0.05 or less was considered statistically significant.

Results:

During the one year study period, 50 patients were diagnosed to have malaria based on the microscopic examination of the peripheral blood film. P. vivax and P. falciparum infection cases with both the species were 35 (70%) and 15 (30%) respectively. A total of 37 (74%) cases were detected during the rainy months of July-November and the remaining cases occurred sporadically throughout the year. Patients were working in the state of Maharastra 48 %, West Bengal 22%,Tamil Nadu12%, Andhra Pradesh 8%, and 10 %

patients from other states.

Table 1. Comparative clinical features and complications of malaria across the three groups of plasmodium species.

Clinical feature and organ involvement	P. vivax	P. falciparum
Age (mean years+SD)	32.4+12.7	35.9+13.2
Gender Male	30 (85.7)	13 (86.6)
Female	5 (14.2)	2 (13.3)
Duration of fever (mean days +SD)	6.6+3	6.1+2.8
Severe thrombocytopenia (Platelets<20,000/mm^3)	4.(11.4)	3 (20)
Severe anemia (Hemogliobin<5 g/dl)	0	1 (6.6)
Jaundice (Total bilirubin> 3 mg/dl)	7 (20)	5 (33.3)
Renal failure (Creatinine > mg/dl)	0	1 (6.6)
CNS involvement$^+$	3 (8.57)	5 (33.3)
ARDS^{++}	2 (5.7)	1 (6.6)
Circulatory collapse (SBP< 0mmHg)	1 (2.8)	1 (6.6)
Death	1 (2.8)	1 (6.6)

In the vivax group, 10(66.66%)patients were managed on an outpatient basis while 5 (33.33%) patients needed to be admitted, Only 5 (33.33%) patients in the falciparum group were managed as outpatients and 10 (67.67) patients required admission. The mean duration of hospital stay was 3.96 days (range 1-10 days) in the vivax group and 5.56 days (range 1-20 days) in the falciparum group, with one death in each of these groups. Both the patients who died presented with shock and multiorgan dysfunction (acute adult respiratory distress syndrome, acidosis, severe thrombocytopenia, hepatic and renal dysfunction). These patients had SOFA scores of 18 and 19; and both required invasive ventilation and inotropic supports.

DISCUSSION

In this prospective clinico-epidemiological hospital based study of 50 cases of malaria over one year period, P. vivax remains the most common infecting malarial species (70%) followed by P. falciparum (30%) . The mean age of the patients in the study was 33 yr [Interquartile range (IQR) 15-76 yr] and the distribution of the age across the two groups was similar to other studies reported from India9-12. There is a significant male preponderance (85% overall) across all the groups. Although, WHO describes the people with comorbid conditions are "at risk" to develop severe vivax malaria, but our findings indicates that severe vivax malaria remains the commonest causative species and infects younger males without comorbidities. Thrombocytopenia, the most common hematological abnormality, was observed in all the three groups and is similar to some of the earlier studies13-16 . In the present study, it was established that the proportion of patients with severe thrombocytopenia or overt bleeding manifestation in vivaxgroup is comparable to the severity observed in the falciparum infection group. Although the mean hemoglobin level was significantly lower in the falciparum group as compared to vivaxfinfection, yet the clinically relevant severe anemia (Hb< 5 g/dl) was not statistically significant. The white blood cell counts were not statistically different between the two groups of malaria (Table 2). These results clearly indicate that vivax malaria can cause similar degree of hematological complications as compared to falciparum malaria without any significant increase in clinical bleeding17. The proportion of patients with clinical jaundice and the bilirubin level was not significantly different between the vivax and falciparum group. Compared to the studies from Karnataka, Maharashtra (India) and Pakistan thereexists considerable variations in the degree and proportion of patients with

hyperbilirubinemia5, 11, 13, 18-19. Variation in the total serum protein and transaminases achieved statistical significance between two groups but the clinical relevance of these findings in terms of either grading of severity or indicator of mortality could not be ascertained. Since the level of parasitaemia in case of vivax is not routinely done in our laboratory, so the correlation of degree of hyperbilirubinemia with the parasitic index was not possible. These findings reiterate that vivax malaria can cause significant hepatic dysfunction. The incidence of acute renal failure in the vivax group was similar to that in the falciparum group . On review of the literature, it was observed that, within Indian studies, there is considerable variation in the incidence of renal failure in vivax malaria as reported in the studies from Mumbai (32%), Manipal (5%) and Aligarh (2%)10, 18-19. Serum urea level, as a marker of acute decline in glomerular filtration rate, was found to be significantly higher in the falciparum group than vivax group. The occurrence of CNS, cardiopulmonary complications and mortality in patients infected with different malarial parasites in the vivax group was statistically similar in proportions to that of falciparum . From this comparative study, we highlight that previously deemed "benign" vivax malaria may not be essentially true and can be no longer considered uncomplicated. The early diagnosis and prompt initiation of antimalarial therapy and resuscitative measures can decrease the morbidity and mortality due to P. vivax1918

CONCLUSION

In conclusion, P. vivax is emerging as an important cause of malarial morbidity and mortality and all the complications of falciparum malaria may be seen in vivax malaria as well .It is common cause of febrile illness among workers who are working in different places in India .To date, most studies on pathogenesis, preventive strategies and treatment of malaria have focused on falciparum malaria due to its presumed exclusivity in causing severe malaria. However, with increasing evidence to the contrary, there is a pressing need to study the issues related to severe vivax malaria in order to advance the efforts for elimination of this disease.

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Original Article

Prospective Comparative Study of Operative and Non-Operative Management of Peptic Ulcer Perforation

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ABSTRACT

Background : *The present prospective clinical trial was carried out to compare the outcome between non-operative and operative management of perforated peptic ulcer.* ***Methodology :*** *A total of 100 such cases were included in the study, out of them 49 received non-operative treatment and 51 operative treatment. The mean age 36.3 ± 12.1 years with male and female ratio being 24:1 in non-operative group and 6:1 in operative group. 25.5% of the patients in the non-operative group got admitted in less than 6 hours and 52.9% between 6 - 12 hours of onset of pain, while in operative group nearly 64% admitted in the hospital 12 hours after onset of pain. The difference between the groups with respect to time lapsed between onset of pain and admission was statistically significant ($p < 0.001$).* ***Result :*** *About 60% the former group did not take anything orally after perforation. In the operative group majority (81.6%) received some amount of food and drinks and oral medications. The pulse, systolic and diastolic blood pressures and respiratory rate were significantly stable in the non-operative group than those in the operative group ($p<0.001$, $p<0.001$ $p = 0.002$ and $p < 0.001$ respectively). Nearly half (49%) of the non-operative group exhibited mild dehydration, 41.3% moderate dehydration and 7.8% severe dehydration. In contrast, 42.9% of the operative group had moderate dehydration and 57.1% severe dehydration. The difference between the groups in terms of urine output in 1st 6 hours of observation was statistically significant ($p < 0.001$). Hospital stay was significantly less in non-operative group than that in operative group (6.7 vs. 10.3 days, $p < 0.001$). Recovery does not depend on age of the patients ($p = 0.950$) and the sex also did not influence outcome (86.8% vs. 77.8%, $p = 0.809$). Uneventful recovery was significantly less in patients who delayed in getting admitted to the hospital compared to those who presented earlier ($p < 0.001$).* ***Conclusion :*** *Intake of anything orally after perforation was also observed as a barrier to uneventful recovery.*

Key words: Peptic ulcer ,Perforation,nonsurgical treatment

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Introduction :

Peptic ulcer disease (PUD) is a very common abdominal condition especially in middle aged male. People are usually affected by this disease during the active period of life. Because of changing pattern of life styles and dietary habits (where highly spiced, hot and irritant food is a norm) the incidence is increasing in this subcontinent. More over smoking and use of certain drugs such as NSAIDs, steroids also play role as aggravating factor.2

Peptic ulcer perforation is one of the gravest acute abdominal condition among its complications like peritonitis, septicaemia, gross water and electrolyte imbalance which increases the mortality and morbidity of the patient unless treated energetically.3 Early diagnosis of duodenal perforation is important, as delayed diagnosis usually results in intraperitoneal sepsis. With a delayed diagnosis of more than 24 hours, medical illness and shock have been shown to be important predictive factors of mortality4

Despite dramatic improvements in peptic ulcer management in the last two decades (new potent anti-secretory drugs as well as Helicobacter pylori eradication), the frequency of emergency surgery for perforated gastro-duodenal ulcer remains stable or little changed.5 A number of opinions have been put forward in the management of duodenal perforation. The first and only mandatory obligation of the surgeon is to eliminate peritoneal soilage through the perforation. This can be achieved either by surgical closure or by self-sealing of the perforation. Most authorities recommend surgical closure of the perforation. The most accepted method of surgical closure of the perforation is the so-called Graham patch. In 1937, Graham6 described the placement of through-and-through sutures at the site of perforation that were tied over a free graft of omentum.

It has been well established that non-operative management often named as conservative management with nasogastric suction, circulatory support, antisecretory drugs and antibiotics can be an effective treatment of perforated ulcer7; Non-surgical treatment of the patient with self-sealing can be undertaken with the assurance that the seal will be secure and that the incidence of septic intra-abdominal complications will be very low. This option is particularly attractive in a case considered to be at high surgical risk because of age and/or associated disease. A surgical procedure performed to close an already-sealed perforation is unnecessary. Repeated clinical examinations to assure early progressive resolution of evidence of peritonitis are mandatory. If the physician is unable to conduct such examinations, non-surgical treatment is contraindicated8.

Although each case must be individualized and not withstanding the foregoing, if a Gastrografin upper gastrointestinal series shows continuing free perforation despite the best conservative management, surgery may well become indicated.9

OBJECTIVES

General Objective:

To determine the selection criteria suitable for non-operative treatment of perforated duodenal ulcer.

Specific objectives:

1. To observe the morbidity and mortality in duodenal ulcer perforation cases treated non-operatively and undergoing surgical treatment.
2. To find out the factors that determines and influences the non-operative management of peptic ulcer perforation.

MATERIALS AND METHODS

Place of study: Department of Surgery, Sylhet MAG Osmani Medical College Hospital.

Period of study: The study was carried out over a period of 2 years and 6 months from August 2006 to December 2008.

Study design: The study was a prospective comparative clinical trial.

Study population: More than 500 patients admitted in the aforesaid hospital were diagnosed as a case of peptic ulcer perforation during above mentioned period; of them 100 patients were selected purposively and exhaustively for the study.

Enrollment criteria:

Inclusion criteria:

* Age more than 18 years irrespective of sexes.

*Early or late presentation but comparatively soft abdomen with minimum tenderness and distension.

*Haemodynamically stable patients who responds to initial six hours treatment

Exclusion criteria:

*Similar illness following fever.

* Suspected peptic ulcer perforation with extreme shock, rigid abdomen and significant tenderness who did not respond to initial management needing quick intervention.

* Concurrent any other illness specially diabetic patient.

* Any confusion in diagnosis of pneumoperitoneum.

* Perforations due to trauma.

* Those who were not interested to include himself or herself in this study.

Data Collection: Data were collected using a predesigned structured questionnaire by observation, interview and by physical and laboratory examinations of the patients.

Clinical approach:

Immediately after admission a proper diagnostic work up was done and baseline assessments about the conditions of the patients were made. Then similar primary treatment were provided to all patients which include nothing per oral, nasogastric suction, intravenous fluid, injectable antibiotics (Ceftriaxone and Metronidazole), H2-recptor blocker and central acting analgesics. Those fulfilling the selection criteria were followed up for about 6 hours before final decision were made about their treatment modalities. The patients were then grouped for non-operative and operative treatment, 50 patients were selected according to initial responds for non-operative group and 50 for operative group. However, 1 patient in operative group refused operation and than we switched him from operative to non-operative group. Also those patient under non-operative treatment showed poor progression or deteriorate were deliberately switched to operative group (on ethical ground, of course).Thus finally 51 patients received non-operative and 49 received operative treatment. After initial resuscitation and follow up for about six hours patients with relatively good general condition, improving pulse, blood pressure, hydration status, adequate urine output, tolerable pain, limited extent of peritonitis and no or minimum fluid level with free gas on x-ray abdomen were selected for non-operative management and others were for operative management and they were treated by open surgical repair and peritoneal toileting. The non-operative group were treated by same protocol until satisfactory progress and they were allowed oral intake started with sips of water when the abdomen become soft and satisfactory bowel sound present.

Gradually they were allowed to semi solid and solid food. Any of these patients who developed fever and persistent muscle guard/rigidity were scanned sonographycally for any residual collection in the peritoneal cavity. Similar protocol of treatment was offered to all those patient of operative group after surgical intervention. Following intervention the outcome of the two groups were evaluated and compared.

Statistical analysis:

Data were processed and analyzed using soft-ware SPSS for windows, version 11.5. Data presented on categorical scale were compared between groups with the help of Chi-square (2) or Fisher's Exact Probability Test. Quantitative data were compared between groups using Student's t-Test. The level of significance was set at 0.05 and $p < 0.05$ was considered significant with 95% confidence limit.

RESULT

The present study included a total of 100 cases of perforated peptic ulcers patients. Of them 51 received non-operative treatment and 49 operative treatment. There is no significant difference was observed between the groups in terms of age ($p = 0.698$). Majority of the patients in both groups (98%) informed that pain commenced in empty stomach ($p = 0.742$). In non-operative group over one-quarter (25.5%) of the patients admitted in less than 6 hours and 52.9% between 6 - 12 hours of onset of pain, while in operative group nearly 64% admitted in the hospital 12 hours after onset of pain and statistically significant ($p < 0.001$).

Table I. Comparison clinical characteristics between groups

Clinical presentation	Group		p-value
	Non-operative (n = 51)	Operative (n = 49)	
Vomiting#	12(23.5)	7(14.3)	0.239
H/O taking NSAIDs*	2(3.9)	5(10.2)	0.202
Muscle guard/rigidity *	2(3.9)	5(10.2)	0.202
H/O peptic ulcer disease#	50(98.0)	41(83.7)	0.013

Data were analysed using Chi-square (2); data were analysed using Fisher's Exact Test Figures in the parentheses denote corresponding percentage.

Table II. Comparison clinical characteristics between groups (n = 100)

Clinical characteristics	Group		p-value
	Non-operative (n = 51)	Operative (n = 49)	
Distension			
Mild	29(56.9)	0(0.0)	
Moderate	21(41.2)	32(65.3)	< 0.001
Severe	1(2.0)	17(34.7)	
Fluid thrill	1(2.0)	6(12.2)	0.050
Liver dullness			
5th	16(31.4)	0(0.0)	
6th	32(62.7)	36(73.5)	< 0.001
7th	3(5.9)	13(26.5)	
Shifting dullness	20(39.2)	22(44.9)	0.565
Bowel sound	40(78.4)	28(57.1)	0.023

Data were analysed using Chi-square (2). Figures in the parentheses denote corresponding percentage.

In the non-operative group about 60% of the patients did not take anything orally after perforation of peptic ulcer, 37.2% took limited amount of food and drinks and 5.9% took everything liberally. In the operative group majority (81.6%) received limited amount of food and drinks. 16.7% received food and drinks without restriction and only 2% did take nothing. As muscle guard/rigidity was compared between groups, it was observed that in 80.6% of the cases of non-operative group

it was restricted to upper abdomen and subsided with time, while in operative group majority (77.6%) of the cases exhibited generalized rigidity at initial presentation. In 19.4% of cases of non-operative group exhibited generalized rigidity but that gradually subsided and restricted to upper abdomen within two hours of initial management. On the other hand 22.4% of the cases of operative group muscle guard/rigidity was restricted to upper abdomen but they were haemodynamically unstable so that they were allocated to operative group.Comparison of haemodynamic state shows that pulse, systolic and diastolic blood pressures and respiratory rate were significantly stable in the non-operative group than those in the operative group ($p < 0.001$, $p < 0.001$ $p = 0.002$ and $p < 0.001$ respectively). Nearly half (49%) of the non-operative group exhibited mild dehydration, 41.3% moderate dehydration and 7.8% severe dehydration. In contrast, 42.9% of operative group had moderate dehydration and 57.1% severe dehydration.

Table III . Comparison urine output 6 hours between groups (n = 100)

Urine output in 6 hours	Group		p-value
	Non-operative (n = 51)	Operative (n = 49)	
300 ml	1(2.0)	16(32.7)	
301 – 600 ml	41(80.4)	33(67.3)	< 0.001
> 600 ml	9(17.6)	0(0.0)	

Data were analysed using Chi-square (2).
Figures in the parentheses denote corresponding percentage.

Plane X-ray of abdomen in erect posture shows that over half (51%) of the non-operative group had small amount of free gas under diaphragm, while majority (73.5%) of the operative group exhibited moderate and 26.5% huge amount of gas under diaphragm ($p < 0.001$)

Table IV. Comparison of outcome between groups

Outcome	Group		p-value
	Non-operative (n = 51)	Operative (n = 49)	
Cured	45(88.2)	41(83.7)	0.511
Complications developed	6(11.8)	8(16.3)	

Data were analysed using Chi-square (2).
Figures in the parentheses denote corresponding percentage.

Table V. Comparison of type of complications between groups

Type of complications	Group		p-value
	Non-operative (n = 6)	Operative (n = 8)	
Residual abscess	6(100.0)	2(25.0)	0.009
Wound infection	0(0.0)	6(75.0)	

Data were analysed using Fisher's Exact Test.
Figures in the parentheses denote corresponding percentage.
Hospital stay was significantly less in non-operative group than that in operative group (6.7 vs. 10.3 days, $p < 0.001$)

DISCUSSION

Perforation is the second most important and dramatic complication that deserves immediate treatment.10Once the diagnosis of perforation has been made, it is generally agreed that emergency surgery should be performed.11Conservative treatment, originally proposed by

Wangensteen, is reserved for patients considered to be too ill to stand the stress of surgery.12

However, controversies surround the issue and surgeons sometimes confuse to take decision which treatment options would be correct in an individual patient. The main reason that confuses a surgeon is that in many cases when abdomen is opened for surgical repair and peritoneal toileting, the perforation has already been sealed. This phenomenon convinced us to undertake the present study to see whether there is any difference in outcome between conservative and operative management and, if so, what factors influence the outcome.

The present study did not find any difference in outcome of treatment between the two groups because non-operative treatment was continued if patient is adult>18 years, symptoms are mild and when patients were responds favorably. Majority of the subjects in either group experienced uneventful recovery and most of them were followed up to three month. Only 14 cases developed complications, and factors like delayed presentation (> 12 hours of time lapsed between onset of pain and admission) and liberal intake of foods and drinks after perforation were found to influence the outcome irrespective of mode of treatment. The age and sex of the patients were not observed to be the determinants of outcome.

However, a retrospective study conducted in the Department of Surgery of Khulna Medical College Hospital, Bangladesh on 491 patients of perforated peptic ulcer from July 1992 to November 2002 put different experience. In that study two options of treatment were carried out: simple closure and peritoneal lavage in 364 cases, and 127 patients managed by non-surgical methods. The outcome evaluation showed that mortality in the surgical group was significantly higher (6.8%) than that in the non-surgical group (0.02%) ($p< 0.001$). These results go in favour of non-operative management of perforated peptic ulcer and in case if the patient does not respond to conservative treatment and deteriorates, surgical treatment can be tried.13

Although it was documented as early as 1843 that gastroduodenal ulcers tend to seal spontaneously,14 it was not until 1935 that Wangensteen15 reported the success of non-operative management of patients of perforated peptic ulcer. A review of cases in 1963 demonstrated that up to 80% of patients could be managed nonoperatively.16 Despite numerous reports of success with non-operative management, surgical intervention became the treatment of choice for perforated peptic ulcer disease because prognosis is relatively certain.17

Since that time, there have been 2 prospective randomized controlled trials and 3 prospective validation studies on the utility of non-operative management of perforated peptic ulcer disease. A prospective randomized controlled trial by Cocks et al18 in 1989 demonstrated successful non-operative management (nasogastric tube decompression, intravenous fluids, antibiotics, and antacid medication) in 79 (68%) of 116 patients with perforated peptic ulcer disease. This was further substantiated by a prospective randomized controlled trial by Croft et al19 of 83 patients in which 72% in the non-operative group were successfully managed without surgery and had equivalent morbidity and mortality rates compared with the operative group. These studies have been validated in 3 further prospective uncontrolled trials by Marshall

et al,20Gul et al,21 and Songne et al.22

In our study all the patients of non-operative group were successfully managed. No one required surgical intervention. The reason of such a successful outcome may be that the patients of this group had more stable haemodynamic state than that of operative group. Hydration status was also comparatively good and urine output in first 6 hours of observation was adequate. Moreover, majority of the patients in the non-operative group were admitted in hospital within 12 hours and without generalized peritonitis, they took nothing or limited amount of food or drinks after onset of perforation.

Thus the success of non-operative management of perforated peptic ulcer lies in careful selection of patients. As pulse, blood pressure, hydration, urine output, extent of peritonitis and early presentation (<12 hours) are very much influenced by the severity of illness, they act as prognostic signs in decision making. Besides these, there are several other risk factors for failure of non-operative management like intake of food and fluid following incidence of perforation increase the extent of peritonitis. Here the role of primary health care personnel is important in the sense that they can give them proper advice not to take anything by mouth and refer immediately to nearby hospital where facilities for proper management exists. Thus we can avoid the operative assault of the patient, minimize the workload of the hospital, hospital stay and cost of the patient for treatment.

Overall the risk factors that are impeditive to uneventful recovery should be considered cautiously to decided treatment options for individual patients.

CONCLUSION

From the findings of the study and discussion it could be concluded that there is no significant difference in the outcome of treatment between non-operative and operative management of perforated peptic ulcers in selected cases.The findings of the study suggest that non-operative treatment should be started in almost all adult patients who are haemodynamically stable and present early in hospital with minimal signs and symptoms. If the condition deteriorates or not responds to non-operative management in few hours of observation, immediate surgical intervention should be considered.

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Original Article

Clinicopathological Analysis of Patients with Breast Cancer In Female: A Bangladeshi perspective

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ABSTRACT

Background: *Breast Cancer is the most common cancer in Bangladeshi women. Breast cancer closely compares with cervical cancer as the most common malignancy affecting women in this country and the incidence rates appear to be rising. Early detection of breast cancer is a key strategy for a good treatment outcome.* ***Methods:*** *A Descriptive cross-sectional study was conceded out in NICRH. By convenience sampling, 250 female patients were selected from July 2013 to July 2015. For each patient, sex, age,breast pathology, pathological staging of malignant lesions, side and location of the tumor and the type of surgery were reviewed.* ***Results:*** *The mean age of women with breast cancer was 46.8. Twenty-two percent of breast cancers were observed in women younger than 40 years. About 82percent of malignant lesions in women were in T2, T3 or T4 at diagnosis. Only about 6 percent of women with breast cancers had tumors in stage I or in-situ carcinomas. Nearly 72 percent of the cancers were detected only after lymphnode involvement. Only 5.4 percent of our female cases had the chance of conservative mastectomy. . Distant metastasis was found in 32 (12.8%) patients at diagnosis. The most common pathological feature of breast tumor was invasive ductal carcinoma (68.2%) and the rarest were sarcoma (0.4%) and papillary carcinoma (0.4%). Tripple negative molecular phenotype breast cancer was reported in 25 (10%) patients. Estrogen receptor (ER), progesterone receptor (PR) and human epidermal growth factor receptor 2 (HER2) were negative in 32.2%, 27.1%, and 44.2% of the patients' tumors, respectively.* ***Conclusion:*** *These results show advanced cases at presentation in Bangladesh which further mandate a national cancer detection program involving more effective public education and encouragement of women for breast self-examination and participation in screening campaigns.*

Key Words: Breast cancer - Bangladesh - Epidemiology - stage - screening.

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Introduction :

Cancer is the third cause of death after ischemic heart disease and accidents all over the world(1). Breast cancer is the most common cancer in women throughout the world(2-4). Breast cancer is also the leading cause of cancer-related death in the women population of Bangladesh particularly the poor and underprivileged(5).

The number of women affected by breast cancer has been reported to be 1.7 million in 2012, with 6.3 million affected women within the previous five years(6). Moreover, BC has been reported as the most common cancer among women in countries in the Eastern Mediterranean Region(7). More than one million cases of BC occur worldwide every year, of which about 580,000 cases occur in developed countries (>300/100 000 population per year) and the remainder in developing countries (usually <1500/100,000 population per year), despite their much higher overall population and younger age. In 2000, the year for which global data exists, some 400,000 women died from BC, representing 1.6% of all female deaths. The proportion of deaths due to BC was far higher in developed countries (2% of all female deaths) than in developing countries (0.5%) (8). BC is a disease with high cost and expensive treatments which imposes a significant burden on health system of the world-wide countries(9).

The study of nature, stage and age distribution of breast cancer in less-industrialized nations, especially those lacking well established cancer registration systems can help both policy-makers and physicians implement preventive and therapeutic modalities that best suit the clinical and epideiological picture of this malignancy in the community. The present cross-sectional study aimed to determine the characteristics of breast diseases- and especially breast cancer- according to pathologic records from NICRH, Dhaka.

Materials and Methods;

We conducted a observational cross-sectional study using the data base of 250 patients of breast cancer which was taken place in the Department of Surgical Oncology of National Institute of Cancer, Research and Hospital, Mohakhali, Dhaka. The study period was from July, 2014 to July, 2015.In this cross-sectional study, We reviewed 258 medical records over the 2-year period, of which we excluded 8 samples where data (age, sex, duration of symptoms, radiological, pathology, and operative reports and treatment received) were incomplete. Demographic details, clinical presentation and duration of symptoms at initial diagnosis, radiological data, cytological and histological findings, treatment and postoperative data of all patients were entered into our study protocol. Descriptive statistics were used for analysing the data using SPSS version 20 and results were presented in percentage and simple frequency.

Results : The records of 250 patients with breast cancer and their families were studied. The mean age of the patients at diagnosis was 46.8 years (range: 25-71 years). The highest frequency of malignancies was observed in the 40-49 agegroup (32.4%). Twenty three percent cases were ?40 years of age and 26% cases were >40 years of age at diagnosis. 57.2% postmenopausal,90% housewives, 34.4% illiterate, majority (64%) attended for medical service after 6 months of their initiation of symptoms, 72% of the patient's monthly family income is less than 15000 taka. A large bulk (65.5%) patients came from distant areas outside

the capital Dhaka. 35.2% patients had ?40 years of age at diagnosis. 50.4% of breast tumors were located on the left side, 46.1% of the right, and 3.5% on both sides. The most common pathological feature of BC was invasive ductal carcinoma (74.4%) and the rarest were sarcoma (0.4%) and papillary carcinoma (0.4%) (table 3). Majority (84.6%) presents with lump, 96.5% of tumors were unifocal and 3.5% were multifocal. About 82 percent of malignant lesions were in T2, T3 or T4 at diagnosis. Modified radical mastectomy, toilet mastectomy and breast conserving surgery were performed for 76.0%, 18.6%, and 5.4% of the patients, respectively. Averagely, 5.9 lymph nodes per case had been resected during surgery of which 2.7 were involved. Metastasis was seen in 35 (14%) patients at diagnosis. Bone, liver, lung and brain were the most frequent metastatic sites with an incidence of 57.5%, 35.0%, 32.5%, and 17.5%, respectively. Triple-negative molecular phenotype was detected in 25 (9.7%) of the 250 patients. ER, PR and HER2 were positive in 67.8%, 48.8%, and 31.8 % of the tumors, respective ly.

Table 1. Table I: Distribution of study population by age group (n-250)

Number	Percentage	Age groups(in years)
<20	0	0
20-29	12	4.8
30-39	60	24
40-49	81	32.4
50-59	62	24.8
> 60	35	14

Table 2. Table I: Distribution of study population by stage of the diseae (n-250)

Stage	Number	Percentage
Stage I	10	4
Stage II a	74	29.6
Stage II b	106	42.2
Stage III a	36	13.6
Stage III b	24	9.6

Table-3: Frequency of Pathologic features of breast tumors according to their diagnostic reports:

Pathology	Frequency	Percent
Carcinoma in situ	16	6.4
Infiltrative Ductal Carcinoma	186	74.4
Infiltrative Lobular Carcinoma	26	10.1
Mucinous	3	1.2
Medulary	2	0.8
Sarcoma	1	0.4
Papillary	1	0.4
Other	8	3.1
Mixed	7	2.8
Total	250	100

Table 4: Frequency of hormone receptors and biomarkers in breast tumors according to their immunohistochemical staining

Biomarker	Positive	
	Frequency	Percent
ER	170	67.8
PR	122	48.8
HER2	82	31.8

Discussion

Recent studies highlighted the increased incidence of breast cancer in developing countries(10). As there is no cancer registry programme in our country, there is limited data available for discussion. Although East Asian women still have the lowest rate (about 21 per 100,000, as compared with 101 per 100,000 in the United States and 85 per 100,000 Western Europe), countries with the most developed registries have documented

increases: rates in Japan, Singapore And Korea have douled or tripled in the past 40 years. The most widely cited reason for the global increase in breast cancer is the "Westernization" of the developing world (11). In our series, mean age was 46.8 years which is much lower compared to Western data with a 10-15 the average age of diagnosis of female breast cancer is approximately one decade lower than those reported in Western populations (12) given the increased trends in breast cancer incidence and the large number of young age cases in Bangladesh. A paper from Pakistan reports the mean age to be 47.7 (13), which is very similar to mean of our cases.The older a woman is when when she begins menstruating, the lower her risk of breast cancer (14). In this series 22.9% have history of menstruation below 12 years and 94.9% women menstruated below 14 years which might have a relation to cancer at early age. Many studies have observed that low parity and late age at first birth are significantly associated with high risk of breast cancer (15). In this study 50% patients gave birth to their first child below 18 years which contradicts other reports. Breastfeeding has reported to have protective effects on carcinoma breast (16). In our series 92% patients have the history of breastfeeding, so information about breastfeeding is not matching for incidence of breast cancer in Bangladesh. We found that 50.4%, 46.1% and 3.5% of the breast tumors to be on the left, right and both sides, respectively. This finding is consistent with previous epidemiological findings reported in the Iranian population (17-18). We found invasive ductal carcinoma was the most common pathology among our patients with an incidence of 68.2%. According to an epidemiological review among Iranian studies throughout the country, 77% of BC tumor types were reported to be invasive ductal carcinoma (19). Our data indicates that like studies from other developing countries, women with breast cancer in Bangladesh visit the physician rather late in the course of the disease (20)

Conclusions

Our study, using hospital-based data, shows that breast cancer patients presented at a younger age, with advanced disease. All these result show an urgent need for a national cancer detection program involving more effective public education and encouragement of women for breast self- examination and also education of primary care physicians for strengthening this strategy. Experience from other countries show that after introduction of breast cancer screening programmes, the stage at diagnosis has decreased significantly.

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Original Article

Effect of Fluticasone nasal spray and Oral Fexofenadin in Adenoid Hypertrophy - our experience

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ABSTRACT

Background: *Adenoid hypertrophy treatment for children is generally planned in accordance with the degree of airway obstruction and related morbidity. If surgical treatment is indicated, the individual risk/benefit analysis of patients should be assessed in terms of anesthetic and postoperative complications. Although there are few alternative treatment options, these may be considered as a nonsurgical approach in less serious cases.* ***Methodology:*** *69 patient were selected purposively in this study from January 2014 t0 July 2015 with grade II and grade III adenoid hypertrophy .The study group was treated by fluticasone propionate nasal spray twice daily and Fexofenadine for 8 weeks.. All the patients were called for follow-up every 4 weeks.* ***Results :*** *the effect of fluticasone propionate nasal spray and fexofenadin on adenoid hypertrophy shows satisfactory outcome 75.36% patient shows decrease nasal aural symptoms . and they need not any surgical intervention for adenoid hypertrophy .24.63% patient adviced for surgical intervention for not response to intranasal fluticasone and oral fexofenadin treatment .This method provides an effective alternative to surgical treatment in children with adenoid hypertrophy.* ***Conclusion:*** *Fluticasone nasal spray and fexofenadin trial for adenoid hypertrophy shows an effective treatment option other than adenoidectomy in grade II and Grade III . Large scale study is needed for further evaluation .*

Key words: Adenoid hypertrophy, Fluticasone

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Introduction :

Adenoid is a lymphoid tissue located in the roof and posterior wall of the nasopharynx. Adenoid hypertrophy is a common childhood disease. Santorini described the nasopharyngeal lymphoid

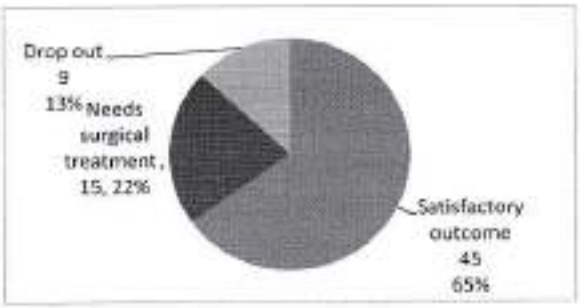
aggregate or Lushka'sTonsil-1724 Wilhelm Meyer coined the term adenoid-1870 .Adenoid forms the part of Weldeyer's ring of lymphoid tissue at the portal of upper respiratory tract. In early childhood this the first site of immunological contact for inhaled antigen Adenoid produces B cells Give rise to IgG and IgA plasma cells.The adenoid appears to have an important role in the development of an immunological memory in younger children Although adeno-tonsillectomy does not appear to cause significant immune deficiency the removal of the tissue at a young age may be immunologically undesirable. An Enlarged adenoid can occlude the choana,especially when sleeping in a supine position.Symptoms due to airway obstruction likemouth breathing, hyponasal speech and snoring in children are observed.[1]It may also cause otitis media with effusion and accompanying conductive hearing loss and inthe most serious cases, obstructive sleeping apnea and accompanying growth retardation and corpulmonale.[2][3]Adenoid hypertrophy treatment for children is determined according to the degree of airway obstruction and relatedmorbidity. If surgical treatment is indicated, the individual risk/benefit analysis of patients should beassessed in terms of anesthetic and postoperative complications. Although there are few alternative treatment options, these may be considered as a nonsurgical approach in less serious cases.[3]Accordingly, studies about intranasal steroid applications under various protocols have been presented in the literature .

Methodology:

o This was a cross sectional observational study conducted in Satkhira Medical College Hospital from January 2015 to June 2016. Consecutive Sixty nine patient two to thirteen years old 69 children with symptomatic adenoidal hypertrophy was taken after fulfilling the inclusion and exclusion criteria. The symptom scoring system was a modification of the scores used in some previous studies and included the following symptoms: snoring;mouth breathing awake; mouth breathing asleep; nasal congestion; hyponasal voice; chronic nasal discharge; daytime drowsiness, or hyperactivitiy;restless sleep; sleep apnea <15 sec; night cough; and poor oral intake/weight loss.They were treated with Fluticasone intra nasal spray and oral fexofenadine for 8 weeks . Treatment was given as our said rule of 2; 2 drugs (Fluticasone intranasal spray + oral Fexofenadin) 2 puff intranasal spray 2 times daily ,2 months Duration Patient ages at least 2 years . Follow up criteria was SOAP style as all patient were paediatric age group. Data were collected and analysed by MS excel.

Results :

The effect of fluticasone propionate nasal spray and fexofenadin on adenoid hypertrophy shows satisfactory outcome 75.36% patient shows decrease nasal aural symptoms . and they need not any surgical intervention for adenoid hypertrophy .24.63% patient adviced for surgical intervention for not response to intranasal fluticasone and oral fexofenadin treatment .This method provides an effective alternative to surgical treatment in children with adenoid hypertrophy.



DISCUSSION

Fluticasone is a synthetic tri-fluorinated metered dose spray. It is a corticosteroid with potent anti-inflammatory activity . Like other corticosteroids it is found to have wide range of actions on multiple cell Types Mast cell eosinophil neutrophils, macrophage lymphocytes.Children below 2 years intra nasal spray , the safety & effectiveness is not well established. Adenoidal hypertrophy is a common disorder of pediatric population frequently resulting in complications such as chronic sinusitis, otitis media and OSAS leading to morbidit. Although adenoidectomy is the most effective treatment modality for relief of obstructive symptoms and related disorders it may not be desirable in many patients because of potential complications and parental reluctance about surgery.Some authors recommend a conservative treatment strategy until the child is 12 to 13 years old for waiting natural regression except them who required urgent surgical intervention .One of the limitations of this study was that about 13% of the patients enrolled were lost to follow-up at 8 & 12th week. Either treatment failure, or more commonly for this population, a better health status may be the underlying reasons. Adenoid hypertrophy is probably the most frequent pathologic condition occurring in the pediatric age group. It leads to different clinical manifestations according to adenoid size. Bilateral nasal obstruction is a primary complaint that can be associated with different sleep disorders, ranging from snoring to OSAS[6].In such a situation, patients typically complain of both nighttime and daytime behavioral illnesses (i.e., intermittent sleep, sleepwalking, morning headaches, difficulty concentrating, Daytime sleepiness, enuresis, slow feeding,and poor growth), which may lead to cardiorespiratory syndromes such as cor pulmonale in extreme cases.[7] Rhinorrhea, mouth-breathing, hyponasal speech,and cough can also be observed in patients with adenoid hypertrophy. Atpresent,adenoid hypertrophy is one of the most frequent indications for surgery in childhood, and adenoidectomy commonly is considered definitive treatment for nasopharyngeal obstruction.[8]Nevertheless, this surgical technique has been the subject of some criticism. Paulussen et al[9] hypothesized that the removal of adenoid lymphatic tissue could have a negative impact on the systemic immunologic system. Moreover, immediate postoperative or late bleeding is observed in 1% of children who undergo adenoidectomy. Furthermore, it is well demonstrated that adenoids may recur after surgery in 10% to 20% of cases.[10]

CONCLUSION

Conclusion: This study provides an effective alternative to surgical treatment in children with adenoid hypertrophy. Combination of Fluticasone intra nasal spray and oral fexofenadine for 8 weeks duration may delay, or substitute, surgical intervention in some pediatric outpatients with mild to moderate adenoidal hypertrophy.

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Original Article

Skin Lesions in Systemic Lupus Erythematosus Patients

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ABSTRACT

Background: *Cutaneous lesions such as malar rash, discoid lupus erythematosus (DLE), photosensitivity, oral ulcers are important as a diagnostic aid as these account for 4 out of 11 revised American Rheumatism Association criteria for diagnosis of Systemic lupus erythematosus (SLE).* ***Aims and Objectives:*** *To find out cutaneous manifestations in SLE patients.* ***Materials and Methods:*** *A descriptive type of cross sectional study was carried out in the Department of Dermatology and Department of Medicine, Bangabandhu Sheikh Mujib Medical University (BSMMU) during the period of October 2005 to October 2006. A total of 30 cases of SLE fulfilled ARA criteria for diagnosis of SLE were studied for the cutaneous manifestations.* ***Results:*** *The mean age of the patients was 27.23 (SE±1.32) years; 96.7% patients were female and 3.3% were male. LE-specific cuteneous were malar rash (50.0%), discoid rash (20.0%), maculopapular rash (20%) and lupus profundus (6.7%). LE-non specific lesions were photosensitivity (70.0%), alopecia (43.3%), oral ulcer (33.3%), hyperpigmentation (23.3%), Raynauds phenomenon (16.7%), cutaneous vascuritis (6.7%), leg ulcers (6.7%) and livedo reticularis (3.3%).* ***Conclusion:*** *Photosensitivity is most common cutaneous maefistations, followed by malar rash, alopecia, oral ulcer, hyperpigmentation, discoid LE, maculopapular rash, Raynauds phenomenon, cutaneous vascuritis, leg ulcers and livedo reticularis. Recognition of both types of lesions is important in diagnosing SLE.*

Key words: Systemic lupus erythematosus, skin manifestation

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Introduction :

The visibility and accessibility of the skin are at the root of the challenge and satisfaction of dermatologic diagnosis: there are a myriad of visible lesions and, .consequently, a large number of recognizable syndromes and diseases. The physician who fails to perceive cutaneous

markers of systemic diseases, or who fails to recognize inconsequential or normal skin lesions for what they are, may fail to make an important diagnosis or subject patients to unwarranted, expensive and potentially harmful diagnostic procedures.1

SLE is perhaps the best example of a multi-system disorder in which cutaneous components of the disease can yield valuable diagnostic and prognostic information. Variations however exist in the incidence, clinical heterogeneity and severity of disease between different ethnic and racial groups. Environmental, cultural or genetic backgrounds may explain these variations. The skin and mucous membrane are symptomatically involved at some points in over 80% of patients with SLE. There is a tremendous variability and diversity in the type of involvement ranging from classical butterfly rash and atrophic hyperkeratotic lesions of discoid lupus to bullae, alopecia and vasculitis of dermal vessels.2

Many physicians find it convenient to conceptualize LE as a clinical spectrum ranging from mildly affected patients with only localized DLE skin lesions to those at risk of dying from the systemic manifestation of LE such as nephritis, central nervous System disease, or vasculitis. The pattern of skin involvement expressed by an individual patient with LE can provide insight about the position on the spectrum where the patient's illness might best be placed.3

The nomenclature and classification system originally devised by James N. Gilliam divides the cutaneous manifestations of LE into those lesions that show characteristic histologic changes of LE (LE specific skin disease) and those that are not histopathologically distinct for LE and/or may be seen as a feature of other disease process (LE nonspecific skin disease).3 The identification of nonspecific but disease related skin lesions is very important in LE since their presence implies systemic involvement.4

For purpose of identifying patients in clinical studies American Rheumatology Association (ARA) revised criteria for classification of lupus is used. A person is said to have SLE if any 4 or more of the 11 criteria are present, serially or simultaneously during any interval of observation. Cutaneous lesions are important as a diagnostic aid as reflected by the fact that they account for four of 11 revised ARA criteria of SLE.2

There is no published data in Bangladesh regarding cutaneous manifestations in SLE, guide clinicians to perform histopathology and specific serology for diagnosis of SLE. The main purpose of this study was to see the cutaneous lesions in SLE.

Materials and Methods

This was a descriptive type of cross-sectional study conducted in the Department of Dermatology and Venereology and Department of Medicine, Bangabandhu Sheikh Mujib Medical University, Dhaka during the period from October 2005 to October 2006. Thirty adult patients with SLE fulfilled the American Rheumatology Association (ACR) revised criteria for were enrolled. Patients with diabetes mellitus, thyroid disorders and pregnant women were excluded. A detailed history was taken and clinical examination was done subsequently by the investigator. Relevant investigations were done. Patients were selected on the basis of ACR criteria for SLE and relevant data were recorded in data sheet for each patient.

Statistical analysis: Data were screened and checked meticulously to find any pitfall. Then data were entered into computer and were analyzed with the computer aided statistical soft ware SPSS-11 (Statistical package for social sciences).

Ethical consideration: An informed consent was taken from the subjects before including in the study. Prior to commencement of the study an approval of protocol was obtained from the Department of Dermatology and Venereology, BSMMU.

Result

The age of the SLE patients ranged from 17-46 years with the mean age of 27.23 (SE±1.32) years. Figure-1 demonstrated that 43.3% of patients were in the age group of 15-24 years, 40.0% of patients were in the age group of 25-34 years, 13.3% of patients were in the age group of 35-44 years, and 3.3% of patients were in the age group of 45-54 years.

Figure-2 demonstrated that 96.7% of patients were female and 3.3% patients were male with a ratio of male to female of 29:1.

LE-specific lesions noted were malar rash (50.0%), discoid lupus erythematosus (DLE) (20.0%), maculopapular rash (20%) and lupus profundus (6.7%). Bullae were not seen (Table-I). LE-non specific lesions were photosensitivity (70.0%), alopecia (43.3%), oral ulcer (33.3%), hyperpigmentation (23.3%), Cutaneous vascuritis (6.7%), Raynauds phenomenon (16.7%), Leg ulcers (6.7%) and Livedo reticularis (3.3%) (Table-I).

Different combinations of cutaneous manifestations were photosensitivity and malar rash (46.7%); malar rash and alopecia (30.0%); Photosensitivity and alopecia (30.0%); Photosensitivity and oral ulcer (30.0%); Malar rash and oral ulcer (26.7%); Oral ulcer and alopecia (26.7%); and Photosensitivity, malar rash and oral ulcer (26.7%) (Table-II).

Discussion

This descriptive type of cross sectional study was undertaken to see the cutaneous manifestations of systemic lupus erythematosus and 30 patients were included according to the American Rheumatology Association (ARA) revised criteria for SLE.

In this study the age of the SLE patients ranged from 17 to 46 years with mean age of 27.23 (SE±1.32) years. This result is consistent with the study of Rabbani et al.2 who showed that the mean age at presentation SLE is 31.0±12.3 years. James, et al.5 reported that young to middle aged women are predominantly affected with SLE.

The present study demonstrated that 96.7% of patients were female and 3.3% patients were male with a ratio of male to female of 29:1. The female preponderance of SLE was reported in other populations (e.g., 28 out of 32 in an Indian,6 and 73 out of 78 in an Australian,7 88 out of 100 in Pakistani study.2

Nearly three-quarter (70%) of the cases had photosensitivity. This finding is comparable with that of the study conducted by Yell et al.8 who reported photosensitivity in 63% cases. However, Rabbani et al.2 differed by reporting photosensitivity in 33% cases.

In our study 50% of cases demonstrated malar rash which is consistent with the findings reported by cardinali et al.4 and Yell et al.8 who found malar rash in 46.5% and 51% respectively.

The present study reveals that oral ulcer is present in 33.3% of cases. This finding is comparable with the finding of Yell et al.8 who found oral ulcer in 31.5% of cases.

But slightly higher than that of Rabbani et al.2 who reported oral ulcer in 20% of cases.

The present study shows that noncicatritial alopecia is present in 40% of cases. Yell et al.8 reported nonscarring alopecia in 40% cases. Both the findings are identical.

Hyperpigmentation was seen in 23.3% of cases in the present study which was almost similar to the result obtained by Rabbani et al.2 who reported hyperpigmentation in 20% of cases. Whereas Cardinali et al.4 reported hyperpigmentation in one patient out of a series of 58 patients. The difference could be due to excessive exposure to sun light in our part of the world and a general tendency to post inflammatory melanosis.

DLE lesion was found in 20% of cases. Rabbani et al.2 who reported this lesion in 15% of their patients and Yell et al.8 reported it in 25% of cases. Whereas Cardinali et al.4 reported in 32.6% (localized 12% and generalized 20.6%) of their SLE patients. Our finding regarding discoid lesions is consistent with the reports mentioned by other different authors.

Raynaud's phenomenon was seen in 16.7% of patients. Rabbani et al.2 reported this phenomenon in 2.5% of Pakistani patients. But Yell et al.8 reported this change in 60% SLE patients in an English hospital while Cardinali et al.4 reported in 39.6% patients in Florence, Italy. Again Paul et al.9 noted a very low incidence (2.7%) of Raynaud's phenomenon. According to Paul et al.9 this low incidence is attributable to the warm climate in Northern Kerala, India. We believe in the same explanation for low incidence of Raynaud's phenomenon in our study.

In the present study maculopapurar rash was present in 20% of patients which was consistent with the findings of Rabbani et al. who also reported this features in 20% of patients, but contradicts with the findings of Cardinali et al.4 who reported this finding in only one of their 50 patients.

Cutaneous vasculitis was noted in 16.7% of cases in our study, Yell et al.8 reported this change in 11% and Cardinali et al.4 in 13.7% of their SLE patients, whereas Rabbani et al.2 reported this in 20% of their cases. All the above findings are almost similar to the present study.

In our study lupus profundus was found in 6.7% of patients. Yell et al.8 reported 1 patient with lupus profundus out of 73 patients with SLE while Cardinali et al.4 found no patient with lupus profundus in their series of 58 patients.

Some of the rare findings of SLE were also noted in the present study. Livedo reticularis and leg ulcer were found in 3 .3% and 6.7% of cases respectively. Lesions of subacute cutaneous LE (like papulosquamous lesions and annular polycyclic lesion), hypertyrophic DLE, lupus tumidus, bullous lesions, erythema multiforme, Urticaria, subcutaneous nodules, gangrene extremities, periungual telangiectasia, sclerodactyly and thrombophlebitis were not found in SLE patients.

This study was not without limitations (1) Sample size was not large enough due to time constrained and (2) The study was carried out in a tertiary care and may not reflect the true nationat scenario of Bangladesh.

Conclusion

There are many cutaneous manifestations in systemic lupus erythematosus. Malar rash, Maculo-papular rash, DLE and lupus profundus are specific for SLE, and photosensitivity, Alopecia, oral ulcer,

Hyperpigmentation, Cutaneous vasculitis, Raynauds Phenomenon, Livedo reticularis, Leg ulcers are nonspecific for SLE. Recognition of both types of lesions is important in diagnosing SLE. However, there is a need for large, multicentre, randomized trials to know the more precise figures in our population.

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Original Article

Eletrolyte Imbalance in the patient of perforatedpeptic ulcer Diseases presented in various interval

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ABSTRACT

Background: *The study was aimed to find out the pattern of dyselectrolytaemia in the patients with perforated peptic ulcer presenting at various time intervals.* ***Methodology:*** *There were total 50 cases. Male: female ratio 15.6 : 1. Age range from 18-63yrs and mean age of the patient was 39.93 yrs. The duration of symptoms varied from one hour to four days and mean duration was 28.2 hours. All the patients more or less presented with the classical features of peptic ulcer perforation. Almost all the patients were dehydrated, among them 6(six) were severely dehydrated. After proper resuscitation all the patients were treated surgically, among them 2 (two) were found gastric ulcer perforation peroperatively, with a ratio of duodenal ulcer: gastric ulcer of 25:1. The electrolyte levels were grossly abnormal in a good number of cases those who presented late and dehydrated. The Na+ level was below the physiological limit in 54% of cases, that of K+ in 42% of cases, Cl- in 52% of cases and Hco3 in 38% of cases as a whole. There was a profound imbalance of electrolyte levels between patients presenting after 12 hours and after 48 hours. Imbalance was more profound in those who were severely dehydrated in comparison with no or some sign of dehydration. The patients who presented early such as before 24 hour's and with mild or no dehydration, electrolyte and acid base imbalance was less marked. So, electrolyte estimation is not mandatory before 24 hours .But individual case should be evaluated by its own merit.* ***Conclusion:*** *An I.V. fluid containing all the electrolytes and able to correct acidosis should be started before the report of serum electrolytes become available. Hartman's solution fulfils all the above criteria. Electrolyte estimation is not mandatory before 24 hours. But individual case should be evaluated by its own merit. Electrolyte imbalance should be corrected before operation.*

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Introduction :

Despite the widespread use of gastric antisecretory agent and helicobacter pylori eradication therapy, the incidence of peptic ulcer has decreased to a great extent but the incidence of perforated peptic ulcer has changed a little.1 Pylroduodenal perforation occurs 6 - 8 times more than gastric perforation. Gastric perforation was more frequent in elderly women andprepyloric perforation occurred more often in young men.2Risk factor includes increasing patient age, COPD, major burns,immunosuppressant treated with steroid and multiple organ failure. 1, 3

In our country, as the general people are not so health conscious or sometimes lack of early diagnosis the patients of perforated peptic ulcer diseases present late. During this period they remain untreated or not properly treated. Besides these, peritonitis, shock, electrolyte imbalance and other coexisting medical condition worsen the prognosis. It is mandatory that a short time is spent on resuscitation of the patient prior to operation. The purpose of this study is to diagnose peptic ulcer perforation early. To know the pattern of electrolyte imbalance in the patients of perforated peptic ulcer disease and the management at the time of hospital admission with different duration of symptoms. A good outcome of the treatment depends on early diagnosis, vigorous resuscitation and timely surgery.

Materials & Methods

The study was carried out in different surgical units of Dhaka Medical college Hospital, Bangladesh from June 2005 to June 2006.The all 50 patients were perforated peptic ulcer of adult age group and randomly selected. After admission each cases were evaluated clinically by detailed history and complete physical examination. In the history taking, attention was paid to the radiation of epigastric pain and sequence of appearance of physical symptoms. For diagnostic purpose in all cases, plain X-ray of abdomen in erect posture and supine (some cases) were done. After hospital admission and diagnosis, the blood samples were collected for serum electrolyte estimation before starting resuscitation. Electrolytes were measured in all 50 patients. But the serum electrolytes of patients who presented late were influenced to some extent by prior administration of intravenous fluid and electrolytes before presenting at hospital. Estimation of four major serum electrolytes i.e. Na+, K+, Cl- and HCo3- were done. All samples were analyzed in a single laboratory and were repeated if necessary. The blood was poured into test tube filled with liquid paraffin and immediately sent to the laboratory. The factors which could cause haemolysis and increased potassium level like shaking were avoided.

Exclusion criteria: The patients of illeal, jejunal, colonic perforation, and the patient who refused operation or unfit for operation were treated by conservative method and excluded from the study.

Data analysis: Data were recorded and analyzed accordingly.

Results

This study included the patients of perforated peptic ulcer of adult age group. A total number of 50 cases were studied. Of them 47 were male and 03 were female, with a ratio of 15.66 : 1. Age of the patients ranged from 18 to 64 years. The mean age of the patient was 39.93 years. The highest number of patients was found in 36 to 45 year group (34%).

Table I

Duration of symptoms at presentation (n= 50)

Group	Duration of Symptoms (hour)	Number of patients	Percentage (%)	Mean duration in each group (hour)
A	0-12	12	24	7.75
B	12-24	17	34	18.11
C	24-48	13	26	37.84
D	≥48	08	16	64.75

The various duration of symptoms of patients were grouped into four. The duration of symptoms varied from 01 (one) hour to 4 (four) days and mean duration was of 28.22 hours. The patients presented within A (0-12) hours (24% of study population) with mean duration of 7.75 hours, within B (12-24) hours (24% of study population) with a mean duration of 18.11 hours, within C (24-48) hours (26% of study population) with a mean duration of 37.84 hours and within D (>48 hours) (16% of study population) with a mean duration of 64.75 hours.

Table-I1, shows almost all cases have decreased electrolytes level. The table also shows the relationship between duration and symptoms to the severity of metabolic derangement as reflected by alteration serum electrolyte and acid base status.

Table- II

Influence of degree of dehydration in electrolyte and acid base balance.

Degree of dehydration	No. of cases (n)	Sodium (Na^+)	Potassium (K^+)	Chloride (Cl)	Bicarbonate (hco_3-)
Absent	09	137.53	4.14	101.06	25.26
Some sign	41	130.15	3.48	97.03	24.39
Severe	06	125.35	2.85	93.01	23.58

The relationship between clinical degree of dehydration with change in electrolyte and acid base status.

Discussion

In our country due to lack of awareness, poverty, poor rural communication system etc. the patients of perforated peptic ulcer present in hospital late. During this period they remain untreated or not properly treated. So they are in increased risk of fluid and electrolyte imbalance. Adequate management of the patients demands a sound knowledge of the change in fluid and electrolyte balance. The study was done on a limited group of 50 patients to determine the pattern of electrolyte derangements in the patients of perforated peptic ulcer with increasing duration of symptosms.24

In this study the incidence of perforated PUD is more (34% of study population) between the age group 36 to 45 years and a low incidence (6% of study population) in noticed below 25 years. It is consistent with the studies of developed countries.3 The ratio of pyloroduodenal and gastric ulcer was increased more (15.6:1). The duration of symptoms varied from 1 (one) hour ot 4 (four) days. The mean duration was 28.22 hours. The late appearance was due to lack of consciousness, poverty and maltreatment by quacks and poor communication in the rural areas.

There were found some signs of dehydration in 41 cases. Among them 6 (six) were severely dehydrated and managed properly. Dehydration was absent in 9 (nine) cases. Because they came earlier and most of them were younger age group.Estimation of serum electrolyte of serum electrolyte were done in all 50 case. Na+, K+, C1- and Hco3- all were low in a number of cases. Sodium (Na+) was within the physiological limit in 46% of cases (n=23) and below the physiological limit in 54% of case (n=27). Potassium (K+) level was normal in 58 %

of cases (n=29) and below normal in 42% of cases (n=21).

Chloride (C1-) level was normal in 48% if cases (n=24) and it was below normal in 52% of cases (n=26). Bicarbonate (Hco3-) level was normal in 62% if cases (n=31) and below normal in 38% of cases (n=19). No value was found above the normal. The change of potassium (K+) and bicarbonate (Hco3-) was less marked than others. It is due to shift of intracellular potassium to the extra cellular compartment in cases of Hco3- it is due to renal compensation.

The result showing the electrolyte status of different groups of patients with different duration of symptoms. The patient who presented early such as before 24 hours, the level of serum electrolytes decreased but minimum. On the other hand, the patients who presented late such as after 24 hours, gradual decreasing pattern of serum electrolytes were observed. This result consistent with the other study e.g. "pattern of serum electrolytes in the patients of perforated duodenal ulcer presenting at various duration.33"

Other result showing dehydration was absent in 9 (nine) cases and all the electrolytes were within normal limit. Some sign of dehydration was present in 41 cases and electrolyte was markedly changed there. 6 (six) patients were severely dehydrated and change of electrolytes were more marked. So the clinical assessment of degree of dehydration was found to be reflected in significant deviation of all biochemical parameters studied. With increasing dehydration Na+, K+, C1- and Hco3- all tended to decrease. In 6 (six) patients with minimum duration of symptoms and with no dehydration, all the electrolytes were within normal limit. This consistent with the study of Emdad.27 The study also shows that there is definite biochemical change in some degree of dehydration.

This result consistent with the study of electrolyte status in patients with gastroenteritis. 21 In perforated peptic ulcer patients the level of serum electrolytes e.g. Na+, K+, C- and Hco3- were decreased due to loss of various digestive juices into peritoneal cavity, nothing per oral and nasogastric aspiration etc. So, knowledge about the duration of symptoms and degree of dehydration is of predictive value in identifying those who are likely to have major metabolic disturbances and planning for fluid and electrolyte therapy and choice of patients in whom serum electrolyte must be assessed as it is costly in our country.

Conclusion

Peptic ulcer perforation is one of the commonest surgical emergencies found in our country. The mortality and morbidity increases markedly due to late presentation. So, it is important to know to all about the hazards of undue delay in cases of peptic ulcer perforation.There are many options in the management of peptic ulcer perforation. But Early diagnosis and proper resuscitation can essentially prevent death. Electrolyte and acid base imbalance is evident in cases of dehydration and in patients with more than 24 hours of duration. So, in this group of patients, serum electrolyte level must be monitored for proper planning of fluid and electrolyte therapy. Correction of dehydration and electrolyte imbalance before operation decreases postoperative morbidity and morality with better outcome. An I.V. fluid containing all the electrolytes and able to correct acidosis should be started before the report of

serum electrolytes become available. Hartman's solution fulfils all the above criteria. The patients who presented early such as before 24 hours and mild or no dehydration, electrolyte and acid base imbalance is less marked. So electrolyte estimation is not mandatory before 24 hours. But individual case should be evaluated by its own merit. Electrolyte imbalance should be corrected before operation.

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Original Article

Management of congenital talipes equinovarus by Ponseti technique in infants: our experience

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ABSTRACT

Objective: *The purpose of this study is to evaluate the results of Ponseti technique in the management of congenital Talipes Equino Varus (CTEV) in infants.* ***Methods:*** *This prospective observational study conducted during the period of sixteen months (from December 2010 to March 2012) in the Department of Pediatric Surgery in a tertiary hospital. All the infants with CTEV coming to outpatient department were treated with Ponseti casting technique. Infants associated with other congenital deformities, arthrogryposis and myelomeningocele were excluded.* ***Results:*** *Total 93 CTEV feet of 60 were treated. Forty (66.67%) were males and 20 (33.33%) were females. 33 patients (55%) had bilateral and 27(45%) had unilateral involvement. Mean pre-treatment Pirani score of study group was 5.58 ± 0.58. Mean number of plaster casts required per CTEV was 3.75 ± 0.81. (range: 2-7). A total of 80 feet required percutaneous tenotomy. Out of 93 feet 87(93.6%) were managed successfully. Five (5.4%) patients developed complications like skin excoriation and blister formation. Mean post-treatment Pirani score of the study group was: 0.36 ± 0.43.* ***Conclusion:*** *The Ponseti technique is an excellent, simple, effective, minimally invasive, and inexpensive procedure for the treatment CTEV deformity. Ideally it can be performed as a day case procedure without general anesthesia.*

Key words: Infant, Talipes equino-varus, Ponseti technique

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Introduction :

The Congenital Talipes Equinovarus (CTEV) or clubfoot is one of the most common congenital deformities1 . It is a complex three dimentional deformity having 4 components: equinus, varus, adductus and cavus. The goal of treatment is to reduce or eliminate these 4 deformities so that the patient has a functional, pain free, plantigrade foot wih good mobility and calluses2.

The incidence of idiopathic clubfoot is

estimated to be 1 to 2 per 1,000 live births. It has a male predominance of 2:1 and an incidence of bilateralness estimated to be about 50%. All clubfoot are not of the same severity. The soft tissue changes vary from mild to severe3

Many cases are associated with neuromuscular diseases, chromosomal abnormalities, Mendelian and non Mendelian syndromes and in rare cases with extrinsic causes1

Clubfoot in otherwise healthy child can be corrected in 2 months or less with the method of manipulation and plaster cast application, with minimal or no surgery. This method is particularly suited for developing countries where there is few orthopedic surgeons. The technique is easy to learn by allied health professionals such as therapist and assistants4.

Materials & Methods :

This was a prospective observational study, conducted in a tertiary hospital. from December 2010 to March 2012.

Patients with CTEV under one year of age attended at the outpatient Department of Pediatric Surgery were treated according to the Ponseti casting technique. Infants with clubfeet associated with meningocele, myelomenincele, arthrogryposis, and other neuromuscular causes were excluded. A prior approval was taken from the Institutional Review Board. An informed written consent was taken from all parents. All relevant data were collected from each participants using pre-designed data sheet that included patient's demography, physical examination, management, which included Pirani severity scoring score5 for initial assessment of the severity, and for evaluation of the feet after each component of the treatment and ultimate final outcome), total number of the casts applied before tenotomy, pre and post procedure complications.

Treatment protocol and follow up:

The treatment protocol included gentle manipulation of the foot and the serial application of plaster casts with adequate padding and moulding at weekly interval as described by Ponseti 6(Ponseti 2000)

If a residual equinus persisted even after complete correction of varus deformity, a percutaneous Achilles tenotomy was performed under local anesthesia and an additional above knee cast with knee flexed in 90 degrees was applied and left in place for three weeks. After removal of the cast, a Denis-Browne bar and shoes (D-B splint) was used to prevent relapse of the deformity. It was worn full time or at least 23 hours per day for the first 3 months and then for 12 hours at night and 2 to 4 hours at day for a total of 14 to 16 hours per day. The patients were followed up weekly during the initial stages and after applying D-B splint, on a monthly for three months.

Final outcome measurement:

The outcome was measured by Pirani score5 which can detect the degree of correction. It scores 6 clinical signs: 3 for midfoot, 3 for hindfoot grading the amount of deformity between 0 and 3. Normal foot has a pirani score 0 and Pirani score 6 means severely abnormal foot.

In our study the final outcome was categorized as excellent, good and poor. When Pirani score became 0, it was graded as excellent, when it became 0.5 to 1, it was graded as good and poor outcome occurs when the score became more than 1. Excellent and good outcomes obviously reflected to successful management. Poor outcome reflected treatment failure; these patients were advised further surgical management.

Results

During the study period a total of 60 patients with 93 clubfeet were treated and followed up thoroughly. There were 40 boys and 20 girls with a male female ratio of approximately 2:1.

Among 60 patients 33 patients (55%) had bilateral and 27(45%) patients had unilateral involvement. Among the unilateral cases, 14 (23.33%) were left sided and 13 (21.67%) were right sided. Mean pre-treatment Pirani score in the study group was 5.58 ± 0.58.

Table 1: Initial Pirani score

Pirani score	Total no. of feet (Percentage) (n=93)
5 or more	85(91.4)
<5	08(8.6)
Total	93(100)

Mean number of plaster casts required per CTEV was 3.75 ± 0.81.

A total of 80 (86.0%) feet required percutaneous tenotomy. Only 13 (14%) feet were improved by plaster cast alone.

Out of 58 feet 56 (96.55%) were managed successfully.

Only 5 (5.4%) patients developed complication. One (1.1%) developed skin excoriation,3(3.2%) developed blister formation and 1 (1.1%) developed excessive bleeding from tenotomy site.

Table 2: Pirani score at last follow up

Pirani score	Total No.	%(n=93)
1 or less	87	93.5
>1	06	6.5
Total	93	100

The Pirani score after completion of treatment was recorded. Mean post-treatment Pirani score of the study group was 0.36 ± 0.43. Mean follow up period was 1year 11 months (range: 2years 4months to 10 months).

Discussion

CTEV is one of the commonest congenital deformities. It requires meticulous and dedicated effort on the part of treating physician and parents for the correction of the deformity7. The Ponseti casting technique yielded satisfactory anatomical and functional result with simple, effective, minimally invasive, inexpensive and ideally suited for all countries and cultures6.

More than half of the CTEV patients in our series presented in the neonatal age. This has been the experience of other authors also [13] and probably relates to the growing awareness of the entity in the parents nowadays. In this series, Male female ratio was 2:1. This ratio is almost the same as stated by Turek (2001) and very near to the result of Morcuende et al8. (2004).

In our study (55%) have bilateral, (21.7%) have right sided and 14 (23.3%) have left sided involvement. These figures nearly corresponds to Honein, Paulozzi and Moore9 (2000), Cooper and Dietz10 (1995) & Rijal et al11(2010). Mean pre-treatment Pirani score grouping this series were similar to those reported previously12,13,14 The mean number of plaster casts required per feet in our series was 3.75, much less as compared to the other series8,9,15 This is possibly due to presentation of more patients earlier after birth

86% feet required percutaneous tenotomy. Tenotomy was needed in 95% of Gupta's patients7 and 91% of Dobbs's patients15

All the studies show that tenotomy was required in those patients who initially have severe de-formity. Many pediatric orthopedic surgeons think that success of

Ponseti casting technique depends on whether casting begins within hours of birth12. Probably the figure is less due to early presentation and manipulation of the defects.

93.6% CTEV feet were managed successfully. The complication rate was low (5.4%). All the parents of the patients with successful repair were satisfied with the corrected feet of their children. The success rates for this technique in children have been quoted to range from 78% to 96.7%.12,16,17

We agree with most of the authors that correction of the foot also depends on the brace protocol7,8,12,18 . Parental compliance can be improved by educating the parents as to the proper use of bracing and the hazards of improper or insufficient bracing.

Conclusion

Ponseti Method can be effectively applied in the treatment of Congenital Tallipes Equinovarus (CTEV) deformity with excellent result without significant morbidity. This method is simple, effective, minimally invasive, inexpensive and ideally can be performed at outpatient department without general anaesthesia.

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Original Article

Treatment of Femoral Neck Fractures With Bipolar Hemiarthroplasty-our experience in Rangpur medical College Hospital

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ABSTRACT

Background: Femoral neck fractures are common in the elderly population. To avoid the poor outcome of internal fixation and for early mobilization, hemiarthroplasty is performed. However, there is inadequate evidence to support the choice between unipolar or bipolar Hip prosthesis.. Methods: Forty-one patients above 60 years of age and an acute displaced fracture of the femoral neck were Purposively allocated to treatment by bipolar hip prosthesis , in the Department of Orthopaedics, Rangpur Medical College ,Hospital between September 2012 and October 2013. Functional outcome was assessed by radiological parameters with a follow-up of one year. Results: The mean age of the 67.3. in bipolar group. The mean Harris hip score in bipolar 86.18±12.18, range of motion was 210.63±28.39 with bipolar. Functional activities were better in the bipolar hip prosthesis.. Complications like painful hip, posterior dislocation, periprosthetic fracture and acetabular erosion were not significant in Bipolar prosthesis. Conclusion: The use of bipolar endoprosthesis in the management of displaced femoral neck fractures in the elderly was associated with better mean Harris hip score and incidence of complications was limited. Hence, bipolar would be a better option in elderly patients with fracture neck of femur.

Key Words : Unipolar; Bipolar; Hip prosthesis.

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Introduction :

Fracture of the hip is a common injury. With increasing life expectancy worldwide, the number of elderly individuals is increasing, and it is estimated that the incidence of hip fracture will rise from 1.66 million in 1990 to 6.26 million by 2050. According to the Swedish National Hip Fracture Register, intracapsular fractures of the femoral neck constitute 53% of all hip fractures with 33% undisplaced and 67% displaced1.The rationale for operative treatment by means of internal fixation is to reduce the risk of secondary displacement from undisplaced and displaced fractures, and to maintain fracture reduction for displaced fractures. The main reasons for the failing of internal fixation are avascular necrosis and nonunion. Failure of internal fixation leads to a re-intervention rate of 35% with decreased function and increased morbidity as demonstrated by a meta-analysis by Lu Yao 2.Replacement of the femoral head and neck with a prosthesis offers a way to prevent complications of internal fixation and is therefore an attractive alternative in the elderly patient3. There is however no consensus on how to treat patients with a displaced intracapsular fracture between sixty and eighty years of age. It is because of the poor clinical results that the displaced intracapsular fracture is referred to as "the unsolved fracture"4. Moore and Bohlman5,6 after removal of a giant cell tumor of the femoral head, introduced hemiarthroplasty in 1940. Since then it has also been used for the treatment of displaced femoral neck fractures. It had the following features: solid polished unipolar head with a collared, straight, fenestrated stem designed for non-cemented use.The development of bipolar hemiarthroplasty was based on the clinical experience with limited success of unipolar prosthesis due to progressive acetabular erosion and protrusion.Based on Charnley's pioneering arthroplasty principles, two bipolar designs emerged in the early 1970's: the Bateman and the Gilberty prostheses.This is cross sectional descriptive type study of the short-term results of hemiarthoplasty using Austin Moore bipolar prosthesis. Outcomes at six weeks, three months, six months and 12 months were analyzed and compared using Modified Harris hip score and radiographs.

Methodology:

The present study is of intracapsular fracture neck of femur in elderly patients above the age of 60 years, irrespective of gender, treated with hemiarthroplasty using bipolar endoprosthesis in 41 patients, in the Department of Orthopaedics at Rangpur medical college Hospital selected on the basis of purposive sampling (judgment sampling) method All the patients were walking normally before injury.

All patients were operated through a southern approach, and received antibiotics and venous thromboembolism prophylaxis. Postoperatively, full weight bearing was allowed with the help of physiotherapists as per their compliance. The patients were assessed preoperatively and post operatively based on Harris hip score at intervals of six weeks, three months, six months and one year. Sequential radiographs were compared to assess diminishing joint space, acetabular erosion, proximal migration and protrusion

of the acetabulum. Loosening, subsidence and angular shift of the femoral stem were also assessed on these radiographs. Descriptive and inferential statistical analyses were carried out by SPSS and windows excel.

Results:

Patients who had Bipolar prostheses were comparatively older. Females constituted 65.8%. Mean length hospital stay was not so high. All cases were analyzed based on the Harris hip score .The total score was tabulated and graded as excellent, good, fair, poor and failure .

Table I

Harris Hip score	
Poor	02
Fair	06
Good	10
Excellent	23

Table II

Complications :	
Dislocation	02
Reoperation	01
Acetabular erotion	01
Painful Hip	03
Gaping	04
Periprosthetic fracture	02
General complications	05

Discussion:

Bipolar hemiarthroplasty in 41 cases of Austin-Moore prosthetic replacement for femoral neck fractures in elderly patients over a one year period has shown that patients with bipolar prostheses had better functional outcomes in terms of range of motion, ability to use public transport and ability to cut toe nails. Mean Harris hip score was better with the bipolar group.Lunceford Jr7 felt that the pain following hemiarthroplasty should not be the reason for condemning the procedure. He listed the following causes for pain: infection, improper prosthetic seating, metallic corrosion and tissue reaction, improper sized femoral head, contractures, periarticular ossification, toggle or acetabular wandering and redundant ligamentum teres. Limping is a common consequence of hemiarthroplasty in adults. Alteration in the abductor mechanism due to a marginally greater excision of neck is the most probable cause8.Cornell et al9 reported that patients with bipolar prosthesis did better on walk tests and had better range of motion at six months. Sabnis and Brenkel10 reported 14 % unipolar patients walking unaided compared to 54% of bipolar patients walking unaided.Yamagata et al11, in their classical study, reviewed 1001 cases of hip hemiarthroplasty. There were 682 unipolar and 319 bipolar cases. Patients undergoing bipolar arthroplasty exhibited higher hip scores and lower acetabular erosion rates compared to the unipolar replacement.

Lestrange12 reviewed 496 patients with bipolar replacement for displaced femoral neck fractures and compared them with patients having fixed-head prosthesis. He found that the bipolar prosthesis offered advantages over one-piece designs in terms of stability, decreased acetabular erosion and improved function.D'Arcy and Devas13 reported incidence of dislocation following prosthetic replacement ranging from 0.3% and 10%.Dislocation following hemiarthroplasty was due to the disruption of the posterior stabilizers while performing the posterior approach, ultimately leading to failure and dislocation14. The dislocated hemiarthroplasties have a lower center-edge angle of Wiberg and the patients with low offset hips were more inherently

unstable and hence prone to dislocation. The posterior approach is associated with higher dislocation rate15. Sikorski and Barrington16 reported dislocation rates of 10% in the unipolar prosthesis. Blewitt and Mortimore17,20 reviewed cases of dislocation in a series of 1000 consecutive hemiarthroplasties. Recurrent dislocation can be related to component malalignment or improper soft tissue tensioning.Bochner et al18 observed that dislocation occurs less frequently with bipolar prostheses. The theoretical advantage of the bipolar prosthesis is that the combined arc of motion of the dual joint should reduce the incidence of dislocation, because most of the motion during activities of daily living should take place at the inner articulation. Attarian19 reported that bipolar prosthesis has a self-aligning acetabular component, which finds a correct orientation on its own (self-centering mechanism), and the incidence of subluxation and dislocation is low.Whittaker et al20 reporting in a series of 160 hemiarthroplasty cases noted the rate of joint spacing in a 5-year study was 64% with the unipolar prosthesis. Acetabular erosion occurs as a result of impact causing injury to the acetabular cartilage at the time of the trauma, especially as the elderly often sustain injury by a fall directly on the hip.Excessive pressure on the acetabular cartilage after arthroplasty also produces erosion when insufficient femoral neck is resected. The exact matching of the size of the prosthetic head is particularly important as too large a head produces ring wear of the acetabulum and too small a head increases point bearing with subsequent wear. Finally, the cemented metal implant within the upper part of the femoral shaft will be more likely to transmit the impact of each step with greater stress across the prosthesis to bone interface than would normal bone in which there is considerable resilience21.Skala-Rosenbaum et al22 observed that prosthesis migration depended on the position of the head, CE angle and position of the prosthetic stem in the medullary canal. The resection level of the femoral neck and the subsequent position of the prosthetic head is a significant factor influencing the progress of acetabular erosion.

Conclusion:

Bipolar Hemiarthroplasty is the treatment of choice for the elderly patients with displaced fractures of the femoral neck. The results of our study showed that the incidence of complications were lower after bipolar hemiarthroplasty. Some literature report about the disadvantages of Bipolar hemiarthoplasty but our institution we are practicing Bipolar hip prosthesis with great satisfaction.

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Original Article

The effect of Inhaled Levosalbutamol on heart rate and respiratory rate in patients with Acute Asthma.

MR Ali1 S Akhter2, MM Haque3 ,MM Rashid4, MA Kabir5, S. Sarkar6, BN Shaha7

ABSTRACT

Background: *This study was conducted to show the effects of levosalbutamol on heart rate and respiratory rate in adult patients with acute asthma.*

Materials & Methods: *The study was a randomized, single-blind, prospective study and was carried out in the emergency department of National Institute of Diseases of the Chest and Hospital (NIDCH), Mohakhali, Dhaka over a period of twelve months and total 100 patients fulfilling the criteria of inclusions were included in this study and two groups are done in randomized manner. Study group received a multi-dose regimen of levosalbutamol by a metered dose inhaler through a spacer device and control group received salbutamol by metered dose inhaler through an identical spacer device. Clinical parameters, pulmonary functions,heart rate,respiratory rate and side effects profile were recorded and results were analyzed by "unpaired 't' test".* ***Result:*** *In this study,in respect of age and sex there was significant improvement in heart rate and respiratory rate in study group and there is also significant improvement in expiratory flow chart rate and better oxygenation and fewer side effects in levsalbutamol group in maltidose inhalation form.* ***Conclusion :*** *Our results indicate that repetitive doses of Levosalbutamol delivered by MDI through spacer device shows significant improvement in heart rate and respiratory rate in management of patient with acute asthma.*

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Introduction :

Bronchial asthma is a chronic inflammatory disorder of airways. It is a major public health problem and important cause of morbidity and mortality. It is widely distributed but variable in the prevalence. Around 300 million people in the world currently have asthma. It is estimated that there may be an additional 100 million people with asthma by 20251

In Bangladesh, according to First National Asthma Prevalence Study2 about 7 million- people (5.2% of population) are suffering from current asthma

(at least three episodes of asthma attack in last 12 months). Unfortunately, majority of these patients are in 1-15 years of age group that is 7.4% of total pediatric population of our country is suffering from asthma3.

The disease causes physical, emotional and financial sufferings for patients leading to deleterious effect on the overall socio-economic structure of the country4.

The aims of treatments are, to abolish symptoms, to restore normal or best possible long-term airway function, to reduce the risk of severe attacks, to enable normal growth to occur in children, to minimize absence from school or, employment, patient and family participation, avoidance of identified causes where possible, use of lowest effective doses of convenient medications minimizing short-term and long-term side effects5,6.

Currently the cornerstone of the therapy for acute asthma is the rapid reversal of the patients airways obstruction. The main stay therapy for severe acute asthma is nebulized B2 agonist therapy. Salbutamol is a B2 agonist and manufactured as a mixture containing 'R' Salbutamol and 'S' and Salbutamol 'R' salbutamol is responsible for its biological activity.7,8

Early in the course of treatment systemic corticosteroid should be administered to patient with moderate to severe acute asthma or to patient who fail to respond promptly and completely to inhaled b agonist9. In the emergency department theophylline is not recommended because it appear to provide no additional benefit to optimum inhaled B2 agonist therapy and steroid and increase the adverse effect. It has narrow therapeutic index and frequently associated with adverse effect even in therapeutic. 10

Despite the refinement in therapeutic strategy for acute asthma emergency department visit and hospitalization continue to account for predominant proportion of health care costs for asthma. These facts stress the need for the innovative emergency department based intervention.

Materials and Methods

Study population

Adult patient with acute asthma attending the emergency department of NIDCH during the above mentioned period were the study population.

Selection of patients

In this study of one hundred adult (18 to 50 years) patients with acute asthma attending the emergency department of NIDCH were selected. The diagnosis of acute asthma was done from history, examination and previous records of investigations (according to National Guideline for Asthma, Bronchiolitis and COPD).

Study design

1. In this single-blind, randomized controlled, prospective study, adult patients with acute asthma wasselected consecutively from emergency department.

2. After selection of patients, a written consent was taken from the participants.
3. Patient's demographic data, total duration of acute exacerbation, total asthma suffering period and pre-medication taken to control asthma were noted in a protest questionnaire.
4. These patients were divided into two groups 'A' and 'B' with the use of a computerized random number table. Randomly selected group 'A' was enrolled in study and group 'B' was enrolled as control.
5. Study group received levosalbutamol delivered by a metered dose inhaler (MDI) into a volumetric uptech spacer device in a dose of five puffs at 10 minutes interval. The randomly selected another group received five puffs of salbutamol (100 mgm/puff) at 10 minutes interval by the same measure and same device.
6. High flow oxygen was given when S02 had fallen below 92%
7. Variables were measured immediately before starting treatment and at 20 minutes interval thereafter for one hour in each patient.
8. Peak expiratory flow (PEF, saturation of oxygen (S02), respiratory rate (R/R), heart rate (HR), accessory muscles used, dyspnoea, wheeze were the variables that were recorded in a preformed questionnaire form (appendix-I)
9. At the end, each patient was asked for nausea, palpitation, tremor, anxiety, headache, dry mouth and if present was noted.
10. At the end every patient was assessed and those improved and PEFR > 60% of predictive value were discharged with oral prednisolone and bronchodilators.

Results

Out of 100 patients 50 patients were enrolled in levosalbutamol group and 50 patients were in control group.

Age of Levsalbutamol (study) group was 31.9±11.3 (mean±SD) and control group was 32.5±7 (mean±SD). The difference was not statistically significant (P=0.82). Among the study group the highest percentage of patients (50%) was in the age group 21-30 years followed by 32% in the age group 31-40 years, 18% in the age group 41-50 years and below 20 age group. Similar age pattern was found in the control group patients with highest percentage (52%) in the age group 31-40 years followed by 28% in the age group 21-30 years and also below 20 age group, the lowest in the age group 41-50 years (16%).

At the end of protocol, every patient was assessed clinically & PFT and those improved and PEF >60% of predictive value was discharged with oral prednisolone and bronchodilators. 6% patients in levosalbutamol group and 20% patients in control group don't fulfilling the criteria for discharge were admitted into the hospital. This difference is statistically significant (P<0.05).

At the end of study, each patient was asked for any adverse effect and 24% patients in control group 16% patients in study group had tremor. Palpitation nausea and headache occur in almost equal number of patients in both groups. This side- effect profile had no significant statistical difference between these two groups.

Table-I

Changes of Respiratory rate before and after intervention in two groups of patients in studied population.

	Group A Mean Res±SD	Group B Mean Res±SD
Pre-treatment	31.20±1.56	31.20±1.49[NS]
After 20 minutes	28.80±1.32	28.93±1.95*
After 40 minutes	26.83±1.49	27.40±2.11*
After 60 minutes	25.73±1.23	26.13±1.85*

Table-II
Changes of Heart rate before and after intervention in two groups of patients in studied population.

	Group A Mean HR±SD	Group B Mean HR±SD
Pre-treatment	123.13±5.76	125.13±5.36^{NS}
After 20 minutes	124.87±5.32	126.27±5.11*128.
After 40 minutes	125.93±5.27	13+4.82*129.93±
After 60 minutes	127.60±5.21	4.64*

Discussion:

Bronchial asthma is a major public health problem. Around 300 million people in the world have current asthma. An effective management is essential to control the disease and as well as disease prevention. The aim of the present study was to findout an effective therapy for adult patients with acute asthma. This prospective study was conducted in National Institute of Diseases of the Chest and Hospital, Mohakhali, Dhaka, for a period of one year starting from December 2006 to November 2007. Total 100 patients were treated during this period, and two groups were made from a computerized random table. Socio-demographic and clinical variables were measured in each patient. The present study demonstrated that levosalbutamol produced significantdifferences in heart rate and respiratory rate.It also shows significant bronchodilation in asthmatic patients.

Sociodemographic data of the study subjects were evaluated. Mean age of the study subject was 31.9 +_11.3 years and that of the control group was 32.5 ±13.7 years and the highest proportion of the study

subjects (50%) were below 30 years. Analysis revealed that no statistically significant mean age difference was found between patients of study and control group (P > 0.05). This meen age of patients was consistent with the finding of Nowalk et al (2004)11 who conducted a pilot study comparing the effect of levsalbutamol and racemic salbutamol.

Conclusion:

Repetitive doses of Levosalbutamol delivered by MDI through spacer device is an effective modality for management of patient with acute asthma. It is well tolerated by most of the patients.

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Three copies of the article and the manuscripts on a CD should be submitted to the editor. Manuscripts should be typed in English on one side of white good quality paper with margins of at least 25 mm and using double space through out. Each component of the manuscript should begin on a new page in the sequence of:

1) Title page: The title page should include the title of the article, name of the department(s) and institution(s) to which the work should be attributed, name and address of the author with post code responsible for correspondence and source of support for work in the form of grants, equipment, drugs etc.

2) Abstract: A structured abstract must be provided which should indicate in brief the objective and purpose of the study, a briefly worded description of the study with summary of the results and a statement of the study's conclusion.

3) Introduction.
4) Aims and Objective.
5) Materials and methods.
6) Results.
7) Discussion.
8) Conclusion.
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10) Reference: It should be numbered in the sequences in which they appear in the text and then listed in this order in the reference section.

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Measurements should be in SI unit, but blood pressure should be expressed in mm of Hg. Statistical methods should be defined in the method section of the paper, Standard abbreviations should be used. The full terms for which an abbreviation stands should precede its first use in the text.

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Satkhira Medical College Journal encourages manuscript submission on CD, along with the standard three hard copies. Each disc must be labeled with the following: Date, Name of principle author, word processing software and version number, format type, file names.

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References

References should be numbered in the order in which they appear in the text. References should be identified in the text, tables, and legends by Arabic numerals (in parenthesis). At the end of the article the full list of references should give the names of authors, unless there are more than six, when only the first three should be given, followed by et al. The authors' name are followed by the title of the article, the title of the journal abbreviated according to the style of the index medicus, year of publication, the volume number, and the first and last page number of the article. Reference to books should give the names of the any editors, place of publication, publisher, year and relevant page(s). Unpublished observations or personal communications should be referred to as such in the text and should not be include in the final list of reference. Paper which have been submitted and accepted for publication should be included in the reference list, the phrase "in press" (in parenthesis) replacing volume and page number.

The references must be verified by the author(s) against the original documents. Example of correct forms of references are given below:

1) Standard Journal articles: (List all authors when six or less; when more than six, list only three and add et al.).

Thakur CP, Kumar M, Kumar P, Mishra BN,

Panday AK. Rationalization of regimens of treatment of Kala-azar with sodium stibogluconate in India: a randomized study. Br Med J 1988; 196: 1556-60.

2) Personal author(s) in a book:

Eisen HN. Immunology: an introduction to molecular and cellular principles of the immune response. 5th ed. New York. Harper and Row, 1974; 406.

3) Editor, complier as number in a book: Robbins SL, Cortan RS, Kumar V, eds. Pathological Basis of Disease. 3rd ed. Philadelphia: WB Saunders, 1984: 236 - 48.

4) Chapter in a book:

Weinstein L, Swartz MN, Pathologic properties of invading microorganisms. In: Sodeman Jr, Sodeman WA, ed. Pathologic physiology: mecganism of disease. Philadelphia: WB Saunders, 1974: 457 - 72.

5) Dissertation or Thesis:

Uddin MM, Study of Hypoglycemic Effect of Fenugreek (Methy) in Type 2 Diabetic Patients (Thesis). Bangladesh: Rajshahi Medical College under Rajshahi University, 2005.

Tables

Each table should be typed on separate sheet. Table should have brief title for each, should be numbered consecutively using roman numerals (I, II, V, X) and be cited in the text in consecutive order. Internal horizontal and vertical rules should not be used.

Illustrations

All drawings should be made with black Indian ink on white paper. Letters, numbers and symbols should be large and thick enough to be visible if and when the figure is reduced for publication. Photographs and photomicrographs should be supplied as glossy black and white prints un-mounted. Figure number, an indication of the top edge and name of first author should be marked lightly on the back of each figure with soft pencil. Legend for each illustration should be referred to as figures numbered consecutively in the text in Arabic numerals (1, 2, 6, 9).