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CONTENTS

Editorial

Original Articles

Editorial

Contaminated Water Still a Major Threat

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Around 40 per cent of all reported diseases and deaths in Pakistan are attributed to poor water quality in the country and also the leading cause of deaths in infants and children up to 10 years of age.

The population of Pakistan is now estimated to be more than 160 million. With the present growth rate of 1.5per cent, the population of the country is expected to be doubled by the year 2025. Per capita decline of water availability from 5600m to 1,000m has seriously raised the water quality and quantity concerns, according to a report carried out by Pakistan Council of Research in Water Resources.

In developing countries, it is common for water collectors, usually women and girls, to walk several km daily to fetch water. Filled pots and jerry cans weighing as much as 20 kilograms. By 2015, the international community hopes to reduce, by half, the proportion
of people who are unable to reach, or afford, safe drinking water.

An extensive study of water quality in the country's rural areas has revealed that as many as 82% water sources in 24 districts provide unsafe water to the people of Pakistan. This well below standards set by Pakistan Standards and Quality Control Authority and a major cause of diseases and deaths.

Safe drinking water is the most basic service a government can provide its people. In Pakistan, even this fundamental provision remains elusive. The Science and Technology Ministry's Pakistan Council of Research in Water resources report prepared after a 5 years study noted that water related diseases cause annual loses of atleast Rs.25 billion and that 2,50,000 children in Pakistan die in every year due to diarrhea related diseases alone. The information gathered by the study has verified research studies done earlier by International Agencies and concluded that only 25.61% of the country's 159 million inhabitants have excess to save a sufficient drinking water. The water monitoring study selected 14000 water sources from as many as 2807 villages of 1567 union councils from 80 tehsils of 24 districts.

Islamabad faces severe water quality problems. Data from the recent study shows that 40% of the collected sample were contaminated with total coliforms, 33% with nitrate and 11% had high levels of total dissolved solid. Hence, 59% water samples from rural areas in the Federal capital were found unsafe and only 41% were found safe for the purpose of drinking water.

In Rawalpindi the situation was even worse, 73% samples were contaminated, 29% with nitrate and 15% with dissolved solids. Attock, Bahawalppur, Faisalabad, Gujranwala, Gujrat, Kasur, Lahore, Multan Sialkot, Sheikhupura, Sargodha and Rawalpindi were selected for sampling in Punjab. Abbottabad, Mangora, Mardan and Peshawar in KPK. Hydrabad, Karachi and Sukkar in Sindh and Khuzdar, Loralari, Quetta and Ziarat in Balochistan.

In the above-said research, 5 main water quality problems were seen bacteriological 64% dissolved solids, 25% turbidity 14%, nitrate 9% and fluoride 7%.

Lahore, the second largest city of Pakistan has shown an alarming situation of drinking water contamination as all 16 of its sources are supplying unsafe water due to the bacteriological (50 per cent) and arsenic (100 per cent) contamination.

38-79 per cent for Faisalabad, 52-76 per cent for Bahawalpur, 29-71 per cent for Gujranwala, 56-100 per cent for Gujrat, 40-50 per cent for Kasur, and 37-63 per cent for Lahore.

As far other cities are concerned, bacterial contamination in Multan is 31-87 per cent, 53-87 per cent for Rawalpindi and 75-83 per cent for Mardan.

22 water samples including 6 dams, 9 rivers, 2 canals, 4 lakes and one drain, Left Bank Outfall Drain. Right Bank Outfall Drain (Sukkar) from 23 selected surface water bodies were also collected and analyzed for 28 water quality parameters.

All samples (22) were found microbiologically contaminated. Only 3 samples (14 per cent) showed high values. Detailed data analysis has identified 4 major water quality tribulations in drinking water sources of Pakistan which is bacteriological (68 per cent), arsenic (24 per cent), nitrate (13 per cent) were found safe and the remaining 312 (87 per cent) were unsafe for drinking purpose.

The outcome of the report has led to the realization that the federal and provincial governments need to take immediate initiatives for the provision of safe drinking water to the public in order to prevent the onslaught of water born diseases.

Provision of safe drinking water to the public has only been a slogan of different governments. Advocacy efforts for the awareness and education of the general public, regarding the water quality testing and treatment are required.

Original Article

Non Endoscopic Predictors of Esophageal Varices in Cirrhotics

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ABSTRACT

Objective: To identify non-invasive predictors of esophageal varices in patients of Liver Cirrhosis.

Place and duration of study: First Medical unit, Nishtar Hospital Multan from January 2003 to December 2005.

Patients and methods: Sixty five patients diagnosed as Cirrhosis of liver and without any history of hematemesis and/or melena were included in this study. These patients underwent complete clinical, biochemical and ultrasonographic evaluation. Four variables selected to predict the presence of esophageal varices were platelet count, spleen diameter, portal vein diameter and platelet count/spleen diameter ratio. Upper GI endoscopy was done in all these patients to see esophageal varices.

Results: Thirty three patients had esophageal varices while varices were not found in 32 patients. Best cut off values of spleen diameter (160 mm, p-value <0.001) and portal vein diameter (13.5 mm, p-value of <0.001) were statistically significant for prediction of presence of varices. Positive and negative predictive values for spleen diameter were 90% and 81% respectively. Positive and negative predictive values for portal vein diameter were 74% and 77% respectively. Best cut off values of platelet count (145 X 10^3/µL, p-value-0.486), and platelet count/spleen diameter ratio (1200, p-value-0.153) were statistically not significant for prediction of presence of varices.

Conclusion: Spleen diameter (cut off value 160 mm) and portal vein diameter (cut off value 13.5 mm) have very good predictive values (positive and negative) and can be used as predictors for presence of varices in patients of cirrhosis with no past history of bleeding.

Key Words: Esophageal varices, Spleen diameter, Portal vein diameter, Platelet count, Platelet count/spleen diameter ratio.

INTRODUCTION

Chronic liver disease is very common in our country. Patients of chronic liver disease ultimately progress to develop cirrhosis of liver and its associated complications like portal hypertension.[1]

Development of esophageal varices is among the major complications of liver cirrhosis, with an estimated prevalence of approximately 50%.[2]

Their presence correlates with the severity of liver disease [3]; while only 40% of Child A patients have varices, they are present in 85% of Child C patients.[4] Esophageal varices may cause life-threatening bleeding with attendant high hospital cost. Even with modern therapeutic interventions bleeding from esophageal varices carries a mortality of 20%.[5,6] Since effective preventive modalities for variceal hemorrhage have been established, early detection of esophageal varices is critical for primary prevention of bleeding.[7]

The usual clinical practice is to screen all patients with established cirrhosis at the time of diagnosis by upper GI endoscopy for the presence of varices. However, fewer than 50% of cirrhotic patients have varices at screening endoscopy and most have small sized varices, with a low risk of bleeding.[8,9]

Several authors have found that some clinical (splenomegaly), hematologic (thrombocytopenia), radiologic (portal vein diameter) parameters and their combination (platelet count/spleen diameter ratio) are useful predictors for the presence of esophageal varices.[1,2,6,9,14-20]

The aim of the present study was to determine whether some of these non-endoscopic parameters could predict the presence of esophageal varices in our setting.

Objective:

To identify noninvasive predictors of esophageal varices in cirrhotic patients admitted to Medical Unit 1 Nishtar Hospital Multan.

PATIENTS AND METHODS

Consecutive patients admitted to Medical Unit 1 Nishtar Hospital Multan with cirrhosis from January 2003 to December 2005 were considered for inclusion in the study.

Inclusion criteria:

All patients diagnosed as cirrhosis of liver on clinical grounds, laboratory investigations and ultrasound, without history of upper GI bleeding were enrolled in this study.

Exclusion criteria:
Patients with a past history of hematemesis and/or melena, hemodynamically unstable patients and those with evidence of hepatocellular carcinoma were excluded.
The patients underwent clinical examination, laboratory and Ultrasonographic evaluation. Laboratory tests done included complete blood counts, liver function tests, serum albumin, prothrombin time, HBsAg and anti-HCV antibodies.
Ultrasonographic examination was performed using Toshiba Justvision 200 machine to evaluate echotexture of liver, portal vein diameter, splenic diameter and ascites.
All the patients were classified according to Child-Pugh classification. All the patients were scoped for the presence of esophageal varices using Olympus GIF 160 videoscope. Procedure was done by one of the authors.
Statistical analysis:
Patients were divided into two groups based on the presence or absence of esophageal varices. Receiver operating characteristic curve (ROC curve) was applied to find the best sensitivity, specificity and cut off values to discriminate between presence and absence of varices. For all analysis, a p-value < 0.05 was considered statistically significant. Data was analysed using SPSS version 13.

RESULTS

Total number of patients in the study were 65. Male to female ratio was 1:1.95 (22/43). Mean age of the patients was 45.2 years (range was 13-70). On the basis of clinical examination, biochemical and hematological parameters, patients were classified according to the Child Pugh classification. Six (9.23%) patients were in class A, 31 (47.69%) in class B and 28 (43.07%) in class C. Twenty (30.76%) patients were HBsAg positive, 24 (36.92%) patients were anti-HCV positive, 2 (3.07%) patients were positive both for HBsAg and anti-HCV and 19 (29.23%) patients were negative for anti-HCV and HBsAg.
Characteristics of patients with and without esophageal varices are given in Table No.1. Splenic diameter on the basis of ultrasonography ranged from 118 to 190mm in patients without esophageal varices with a mean diameter of 140mm. In patients with esophageal varices, range was 140 to 190mm with a mean diameter of 163 mm.

Table No.1: Main characteristics of the 65 patients included in the study, divided according to the presence or absence of esophageal varices.

VARIABLE		NEV (n = 32)	EV (n = 33)
Gender: Male	n (n%)	07 (21.8)	15 (45.5)
Female	n (n%)	25 (78.1)	18 (54.5)
Age (years)	Mean (Range)	44.8 (13-70)	45.5 (22-65)
Child grade: A	n (n%)	04 (12.5)	02 (06)
B	n (n%)	17 (53.1)	14 (42.4)
C	n (n%)	11 (34.3)	17 (51.5)
HBsAg +ve	n (n%)	09 (28.1)	11 (33.3)
Anti-HCV +ve	n (n%)	13 (40.6)	11 (33.3)
Both B & C +ve	n (n%)	01 (3.1)	01 (3.0)
Both B & C -ve	n (n%)	09 (28.1)	10 (30.3)
Splenomegaly	n (n%)	19 (59.3)	27 (81.8)
Ascites	n (n%)	22 (68.7)	32 (96.9)
Bilirubin mg/dl	Mean (Range)	4.7 (.5-24.9)	5.0 (.8-27.5)
SGPT IU/L	Mean (Range)	113.9 (8-449)	97.7 (19-395)
PT sec	Mean (Range)	29 (14-89)	24.6 (15-38)
Albumin g/dl	Mean (Range)	2.9 (1.8-5.8)	3.1 (1.9-4.6)
Spleen diameter (mm)	Mean (Range)	140 (118-190)	163 (140-190)
Portal vein diameter (mm)	Mean (Range)	12 (8-17)	13.8 (9-20)
Platelet count X $10^3/\mu L$	Mean (Range)	159.5 (40-593)	139.3 (29-536)
Platelet/Spleen Diameter ratio	Mean (Range)	1180.2 (295.4-2949.6)	878.8 (177-3288.3)

NEV=Non esophageal varices; EV= Esophageal varices

Portal vein diameters ranged from 8 to 17mm in patients without esophageal varices with a mean portal vein diameter of 12 mm, while in patients with esophageal varices, it ranged from 9 to 20mm with a mean portal vein diameter of 13.8mm.

Platelet count ranged from 40 X $10^3/\mu L$ to 593 X $10^3/\mu L$ in patients without esophageal varices with a mean count of 159.5 X $10^3/\mu L$, while in patients with esophageal varices, it ranged from 29 X $10^3\mu/L$ to 536 X $10^3/\mu L$ with mean platelet count of 139.3 X $10^3/\mu L$.

The ratio between platelet count and splenic size was calculated. The mean ratio for those without esophageal varices was 1180.2 (295.4-2949.6) and for those with esophageal varices was 878.8 (177-3288.3).

Applying the receiver operating curves (ROC) best sensitivity and specificity cutoff values of different variables for the presence of varices were calculated. For spleen diameter best cutoff value of 160mm had sensitivity of 79% and specificity of 91%. Positive predictive value (PPV) was 90% and negative predictive value (NPV) was 81%. For portal vein diameter best cut off value of 13.5mm had sensitivity of 79% and specificity of 72%. PPV and NPV were 74 and 77% respectively. For platelet count best cutoff value of 145 X 10^3/µL had sensitivity of 70% and specificity of 44%. PPV was 56% and NPV was 58%. For platelet count/spleen diameter ratio cut off value of 1200 had sensitivity of 82% and specificity of 31%. PPV and NPV were 55 and 63% respectively. Spleen diameter and portal vein diameter were statistically significant (p-values <0.001) while platelet count and platelet count/spleen diameter ratio were statistically insignificant (p-values 0.486 and 0.153 respectively) (Table No.2 and 3).

Table No.2: Spleen size, portal vein diameter, platelet count and platelet count/spleen diameter ratio of 65 patients subdivided according to the presence or absence of EV.

Variable		n	Minimum	Maximum	Mean ± SD	*P - value*
Spleen diameter (mm)	NEV	32	118	190	140 ± 15.3	*< 0.001**
	EV	33	140	190	163 ± 16	
Portal vein diameter (mm)	NEV	32	8	17	12 ± 2	*< 0.001**
	EV	33	9	20	13.8 ± 1.9	
Platelet count X 10^3/µL	NEV	32	40	593	159.5 ± 125.9	*0.486*
	EV	33	29	536	139.3 ± 109.7	
Platelet count/ spleen diameter ratio	NEV	32	295.4	2949.6	1180.2 ±1008.3	*0.153*
	EV	33	177	3288.3	878.8 ± 684.4	

*Statistically significant at P-value <0.05

Table No.3: Sensitivity, specificity, positive and negative predictive values according to cut off values of spleen diameter, portal vein diameter, platelet count and platelet count/spleen diameter ratio of 65 patients.

Variable	Cut off	Total	EV (n=33)	NEV (n=32)	Sensitivity	Specificity	PPV	NPV
Spleen diameter (mm)	> 160	29	26	3	79%	91%	90%	81%
	≤ 160	36	7	29				
Portal vein diameter (mm)	> 13.5	35	26	9	79%	72%	74%	77%
	≤ 13.5	30	7	23				
Platelet count x10^3/µL	≤ 145	41	23	18	70%	44%	56%	58%
	> 145	24	10	14				
Platelet count/spleen diameter ratio	≤ 1200	49	27	22	82%	31%	55%	63%

DISCUSSION

The Baveno 111 Consensus conference on portal hypertension recommended that "all cirrhotic patients should be screened for the presence of varices at the time of initial diagnosis of liver cirrhosis.[10] However, fewer than 50% of cirrhotic patients have varices at screening endoscopy and most have small sized varices with low risk of bleeding.[9] Endoscopically, the most consistent findings associated with increased risk of bleeding are the size of varices and the presence of red wale markings.[11] These

endoscopic findings, in combination with Child class, form the North Italian Endoscopic club index, which predicts the risk of esophageal bleeding.[12] Since the prevalence of varices at risk of bleeding is relatively low in compensated cirrhotic patients, the AASLD single topic symposium[13] suggested performing an upper gastrointestinal endoscopy only on those patients with clinical evidence of portal hypertension to avoid an invasive and unnecessary procedure.

Many studies have been performed to identify any clinical or biochemical parameters which can be used as predictors of presence of esophageal varices.[1,2,9,14-20] These parameters include spiders, platelet count, spleen diameter, platelet/spleen diameter ratio, portal vein diameter, ascites, prothrombin time, bilirubin and albumin. Some of them have been claimed to have significant predictive value e.g., platelet count and platelet count/spleen diameter ratio.

In our study we selected 4 variables, splenic diameter, portal vein diameter, platelet count and platelet count/spleen diameter ratio.

The first variable was spleen size. The best cut off value for spleen size to predict presence of varices was 160 mm with p value of <0.001 (which is significant). Positive predictive value (PPV) was 90% and negative predictive value (NPV) was 81%. This is similar to the findings of other workers.

Thomopoulos et al[9] found that spleen length of 135 mm (with a significant p-value of 0.01) is cutoff value for prediction of esophageal varices. Sethar et al[1] observed that spleen diameter of 130 mm (p-value of 0.001) is the cut off value. Ismail et al [14] found splenic size ≥158 mm to be independent noninvasive predictor of large varices.

Second variable in our study was portal vein diameter. Its best cut off value for prediction of presence of varices was 13.5 mm and it was significant (p value <0.001). PPV was 74% and NPV was 77%.

Sarwar et al[15] observed that patients with portal vein diameter of >11mm (p-value of 0.038) were more likely to have high grade varices. Schepis et al[16] concluded that compensated cirrhotic patients should be screened by upper gastrointestinal endoscopy if ultrasonographic portal vein diameter greater than 13 mm (p-value was 0.001) was observed. This is again in confirmation with our findings. Cherian et al[17] also found portal vein diameter of 13 mm (p-value was 0.026) as an independent predictor for the presence of esophageal varices.

Third variable was platelet count. We observed that best cutoff value of platelet count for the presence of varices was 145,000 X $10^3/\mu L$ (with p value of 0.486 which was not significant), with PPV of 56% and NPV of 58%. Hence we conclude that platelet count alone is not a useful predictor of presence of varices. This is against the observation of many workers.

Schepis et al[16] concluded that compensated cirrhotic patients should be screened by upper gastrointestinal endoscopy if platelet count was less than $100 \times 10^9/L$ (with a significant p-value of 0.01). Thomopoulos et al[9] found that platelet count of 118,000 (p-value of 0.0001 which is very significant) is the cutoff value for prediction of esophageal varices.

Sanyal et al [18] in a study on 1016 patients observed that a minimum platelet count of $150,000/mm^3$ was a cut off value that excluded medium and large esophageal varices with a sensitivity of 90%.

Sarwar et al[15] in a study observed that patients with platelet count of less than $88,000/mm^3$ (p-value of 0.156 in a multivariate analysis which is not significant) were more likely to have esophageal varices. This confirms our finding.

To assess the validity of Schepis study Riggio et al[19] conducted a study on 215 patients. Esophageal varices were detected in 104 patients. It was found that 58 patients classified as those with the lowest probability of having varices (PLT ≥100 X $10^9/L$; PT ≥70%; P ≤13mm) 20 (34.4%) had varices. On the other hand among the 24 patients with high probability of having varices, 10 had no varices at endoscopy (with a lower AUC (area under the curve) of 0.63 ± 0.03).

Fourth variable in our study was platelet count/spleen diameter ratio. The cut off value for platelet count/spleen diameter was 1200 (with a p value of 0.153 which is insignificant, PPV of 55% and NPV of 63%). This parameter is also not useful for the purpose and this observation is against the conclusion of some other studies. Sethar et al[1] observed that cutoff value for platelet count/spleen diameter of 1445 (with p value of 0.001) to predict the presence of varices.

Giannini et al [20] found that mean platelet count/spleen diameter ratio cut off value of 909 had 100% negative predictive value for a diagnosis of varices.

Alempijevic et al[2] in their study concluded that the mean platelet count/spleen diameter ratio was 1017.75 ± 729 was a non-invasive parameter providing accurate information pertinent to determination of presence of esophageal varices but this was not significant (p-value 0.686).

CONCLUSION

Out of 65 cirrhotics without any history of upper GI bleed, 33 patients had varices while 32 patiens had no varices on upper GI endoscopy.We selected four variables to predict the presence of varices. Cut off values for prediction of varices were: spleen diameter 160 mm (p-value of <0.001), portal vein diameter 13.5 mm (p-value of <0.001), platelet count 145 X $10^3/\mu L$ (p-value of 0.486), and platelet count/spleen diameter ratio 1200 (p-value of 0.153).

Out of four variables we studied, spleen diameter and portal vein diameter turned out to be statistically

significant non invasive parameters to predict the presence of varices. While other two variables (platelet count and platelet count/spleen diameter ratio) were not statistically significant.

We conclude that only those patients of liver cirrhosis without history of bleeding should be scoped for varices who have spleen diameter of ≥160 mm or portal vein diameter of ≥13.5mm or both.

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Original Article

Frequency of Primary Infertility in Woman Having Fibriod Uterus

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ABSTRACT

Objectives: To ascertain the frequency of primary infertility in women suffering from fibroid uterus.
Study Design: Observational analytical study of cohort type
Place and Duration of Study: Department of Obstetrics and Gynecology, Bolan Medical Complex Hospital, Quetta, from April 2009 to March 2010.
Patients and Methods: This prospective study was conducted in department of Obstetrics and Gynecology Quetta from April 2009 to March 2010.One hundred patients with fibroid uterus were studied. The age ranges from 20 - 50years.Detailed history were taken. In each patient thorough systemic examination was performed and patient with finding of medical disorder were excluded. All analysis and computation including data base were done by SPSS 10.
Results: During the study period, a total of one hundred women presented with fibroid uterus were observed. All the cases were within reproductive age group ranging from 20-50 years of age. Out of them 60% were between 20 – 30 years, 29% between 31 -40 years and 11% belongs to 41-50 years of age. Considering the symptoms, infertility was 14%.According the number of fibroids, in 72% of cases there were multiple fibroids. Single uterine fibroid was seen in 28% of cases.
Conclusion: Fibroid is relatively common in the patients in reproductive age and is exclusively responsible for infertility in 10% of cases. This study helps in establishing the relationship between fibroid uterus and primary infertility and by early detection with treatment, reducing the frequency of infertility in women having fibroid uterus.
Key Words: Fibroid uterus, primary infertility.

INTRODUCTION

Leiomyomas are benign tumors of smooth muscles occurring any where in the body, principally the uterus. Uterine cavity leiomyomas are indeed the most common pathological growth in the female genital tract, affecting about 40% of female population, menstruating beyond the age of 50[1].

Although Leiomyomas may remain symptom less in a small group of patients, they nevertheless cause morbid symptoms in a large population of patient's affected[2].

The common symptom with which patients with fibroid uterus come to the out patients is menorrhagia but a significant number of patients suffer from primary infertility[3]. Among the general effects symptoms of anemia are probably the most common, with patients presenting with weakness, breathlessness or both .Rare general effects include hypokalemia, hypoglycemia and polycythemia all of which are unproven to date[4].

Rarely Leiomyomas may present with pressure symptoms such as sensation of weight in pelvis, edema and varicosities of legs and bladder irritability[5].

Next to menstrual disturbance and infertility, Leiomyomas cause numerous complications during pregnancy. A pregnancy complicated by fibroid uterus occurs at a frequency of 1 in 2 women over the age of 35 years, half of whom are primi pared[6].

Abortion, low insertion of placenta, faulty presentation, obstructed labours; premature labours and abnormal uterine action all are the result of distortion of the endometrial cavity by fibroids[7].

The exact etiology of leiomyoma uteri is entirely unknown. It has been seen though that the growth of uterine fibroids is clearly dependant upon ovarian hormones, since fibroids almost never occur before puberty and after menopause and increase in size during may actually recede after menopause[8]. Other factors such as parity, age, social and genetic factors have also been postulated but never established with certainly[9].

The actual cause and effect relationship between fibroids and primary infertility has not been established but it is clear that fibroids or leiomyomas in the uterus interfere with implantation of the zygote in the uterus[10].

It is also theorized a uterus with fibroid is rendered infertile, due, perhaps to the interference of fibroids in the uterus with ovulation[11].

Infertility is commonly associated with myomas. The majority of patients are either nulliparous or of low parity[12]. The association between fibroid uterus and primary infertility is intriguing principally because each supports and augments the other in a vicious cycle .fibroid interfere with fertility and deterrence of pregnancy encourages leiomyomas. Whether both are merely associated with each other or related in a cause

and effect pattern is unclear but surely both are the cause of significant morbidity[13].

A woman suffering from fibroids and infertility is perhaps psychologically most susceptible to depression14. Primary infertility due to fibroids uterus is important also because it is one of the causes of infertility that can be surgically treated[15].

Fibroma is relatively common in the patients in reproduction age and is exclusively responsible for infertility[16].

Approximately 50% of the women with infertility and myomas become pregnant after myomectomy. Uterine leiomyoma constitute a major public health problem to the community in term of out patient attendance and hospital cost for surgery[17].

In order to evaluate the relationship between leiomyomas and primary infertility, which remains a subject of debate, I have tried to evaluate the impact of myomas on fertility in different conditions where myomas are implicated. Leiomyomas of the uterus are the most common solid pelvic tumors in women, and are present in 20 to 25% of women aged ≥ 35 years. Leiomyomas are associated with infertility, the causal relationship in this regard appearing to be more evident for sub mucosal myomas[18].

In deed, leiomyomas represent an increasing medical problem in women attempting to conceive at a more advanced age, when the rate of development of these lesions is also increased. Uterine fibroids have been reported in 27% of infertile women and 50% of women with unexplained infertility become pregnant after myomectomy. The age at which a first pregnancy occurs is increasing from the thirties to the forties. This increase and the recurrence rate of Leiomyomas from 15 to 30% points to the effect of myomas on the infertility[19].

The aim of present study was to ascertain the frequency of primary infertility in women suffering from fibroid uterus.

MATERIALS AND METHODS

It was an Observational analytical study conducted at Outpatient department of Gynecology and Obstetrics BMCH, Quetta. Over a period of One year from April 2009 to March 2010.

All the patients in this study were included on the basis of detailed history, clinical examination and investigations through out door patient department.

Detailed questions including age, parity, date of marriage, chief complaints, history of medical disorder and surgery was taken. . Each patient was examined thoroughly after complete and detail history. The fibroid was confirmed by ultrasonography. All analysis and computation including data base were done by SPSS version 10. Mean ± SD was computed for age. Analysis of different variables was performed using test of significance chisquare test.

RESULTS

During the study period, a total of one hundred women presented with fibroid uterus were selected on the basis of history, clinical examination and radiological findings that came through the out patient department of Bolan Medical Complex Hospital Quetta. All the women were counseled regarding the objective and different diagnostic procedures and the cost of procedures. Regarding the age, all the cases were within reproductive age group ranging from 20 years to 50 years of age. 60% were between 20-30 years, 29% were between 31-40 years, and 11% were 41-50 years of age group. The mean age was 33 year. (Table 1)

Considering the symptoms, primary infertility was 14%; menstrual disturbance was 52% mass abdomen 24%, lower abdominal pain 6%. Different type of pressure symptoms like frequency of micturation, chronic constipation and varicosity were 4 %.(Table2)

According to the number of leiomyomas, in 72% of cases there were multiple leiomyomas. Single uterine leiomyoma was seen in 28% of cases. (Table3)

We have done ovulation schedule, tubal patency, pelvic ultrasound and hystrosalphingiography in all patients having leiomyoma presenting with primary infertility.

After diagnosis every women were advised about the treatment.

Table No.1: Age Distribution of Cases. (n=100)

Age	Number	Percent
20-30 Years	60	60%
31-40 Years	29	29%
41-50 Years	11	11%

Table No.2: Presenting Symptoms (n=100)

Symptom	No. of Cases	%
Primary Infertility	14	14%
Menstrual abnormalities	52	52%
Pain	6	6%
Mass abdomen	24	24%
Pressure symptoms	4	4%

Shows significantly high proportion (P<o.oo1)

Table No 3: Number of Fibroids Presenting With Primary Infertility. (n = 100)

Number of fibroids	Number	%
Solitary	28	28%
Multiple	72	72%

Shows significantly high proportion (P<o.oo1)

DISCUSSION

Fibroma is relatively common in the patients in reproduction age and is exclusively responsible for infertility. Approximately 50% of the Women with infertility and myomas become pregnant after Myomectomy. Uterine leiomyoma constitute a major public health problem to the community in term of out patient attendance and hospital cost for surgery[20].

In order to evaluate the relationship between leiomyomas and primary infertility, which remains a subject of debate, I have tried to evaluate the impact of myomas on fertility in different conditions where myomas are implicated[21].

Leiomyomas of the uterus are the most common solid pelvic tumors in women, and are present in 20 to 25% of women aged ≥ 35 years. Leiomyomas are associated with infertility, the causal relationship in this regard appearing to be more evident for sub mucosal myomas. In deed, Leiomyomas represent an increasing medical problem in women attempting to conceive at a more advanced age, when the rate of development of these lesions is also increased.22Uterine fibroids have been reported in 27% of infertile women, and 50% of women with unexplained infertility become pregnant after myomectomy[23].

Few studies have been carried out in the gynaecological population of world. However in this study we assessed the condition in Bolan Medical Complex Hospital Quetta. It was an analytical observational type, carried out in out patient department and ward.

In this study frequency of primary infertility in uterine leiomyomas was 14%. Although the etiology is unknown but certain factors were determined which predispose to uterine leiomyoma; like the family history, chronic pelvic infection and ovarian cyst with anovulatory cycle. The common mode of presentation of patients with leiomyoma of uterus was either menstrual problem or infertility. In my study primary infertility rate was 14%. Infertility cases have been evaluated by semen analysis, presence of ovulation, pelvic ultrasound and hystrosalphingiography.

In this study I have found that 72% have multiple fibroids and 28% have solitary fibroid. The results of my study were comparable to a study carried out in Nigeria. Among 141 Nigerian women with uterine leiomyomas and 270 married gynaecological subjects matched for age and parity were studied[24].

Another study carried out in Paris where the frequency of infertility with myomas was 27.5% and a Dutch study where the frequency was 13%[25].

The role of myomectomy in subsequent fertility was evaluated. Of 50 patients undergoing myomectomy, 25 subsequently conceived. The most important correlation with subsequent fertility was surgical indication, 68 per cent of the women who underwent exploration for a pelvic mass having conceived, whereas only 16 per cent of women with a normal infertility evaluation conceived. In addition, women more than 30 years of age who became pregnant had fewer and smaller fibroid tumors than those who did not. It is concluded that myomectomy itself may decrease fertility, probably on the basis of adhesion formation and may be unjustified in women with otherwise negative infertility evaluations[26].

Another study conducted in the Department of Obstetrics-Gynecology of Swedish Hospital and in this series of 64 myomectomies describes the indications, technique, and efficacy of the procedure; the majority of operations were performed on large multinodular uteri. Indications included enlarging pelvic mass, menorrhagia, anemia, and pregnancy wastage in women who wished to preserve reproductive capability. Although infertility was not the primary indication in any case, 32 patients were nulligravid. Only 10 patients were parous and 14 had a history of spontaneous abortion or pregnancy wastage. The average age of the patients was 35.8 years (range, 27 to 47 years). There were no major complications and no patients received blood transfusions. Followup revealed three patients with recurrent tumors necessitating repeat procedures. Successful pregnancies have occurred in 40% of those attempting pregnancy. It is concluded that successful myomectomy can be performed in most patients regardless of uterine size, thereby preserving reproductive potential. The results of my study were not comparable to studies carried out in America showing the frequency of 5%[28].

After diagnosis and establishing a relationship between fibroid and infertility every woman was advised about the treatment.

CONCLUSION

Leiomyoma is relatively common in the patients in reproductive age and is exclusively responsible for infertility in 10% of cases. Therefore, presence of myoma in the uterus is a relevant factor in infertility cases. The conclusion of this study shows that the presence of myoma in the uterus is a significant factor in women with infertility and effort should be made for early detection of these myoma. There are lots of new techniques such as hysteroscopic resection, laparoscopic laser surgery and by these techniques uterine leiomyomas can be detected early and its correlation with infertility. These procedures are safe, less invasive and have fewer complications. The role of uterine fibroids remains controversial but seems to suggest that the presence of myoma decreases the pregnancy rates, while their removal increase the rate of pregnancies. Therefore, further trials with larger patients, samples are needed to verify the relation of

fibroids and primary infertility.

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Original Article

Manual Measurement Compared With Ultrasonographically Measured Fetal Liver Length

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ABSTRACT

Objective: To assess the reliability of sonographic measurement of liver length by comparing the measurement of fetal liver length obtained by ultrasonography with that obtained by manual measurement.
Material and Methods: 30 fetuses of 18 to 30 weeks of gestation diagnosed as cases of inevitable abortion were selected at the antenatal clinics. Liver length was measured sonographically and after abortion the fetuses were collected and their livers were dissected out for measurement of liver length. Both the sonographic and manually measured readings of liver length were compared.
Results: Insignificant difference was found between the manually measured fetal liver length and that measured sonographically at each gestational week of pregnancy.
Conclusion: Sonographically measured fetal liver length is accurate and can be used for monitoring fetal well being.
Keywords: Fetal liver length, Sonographic, manual measurements.

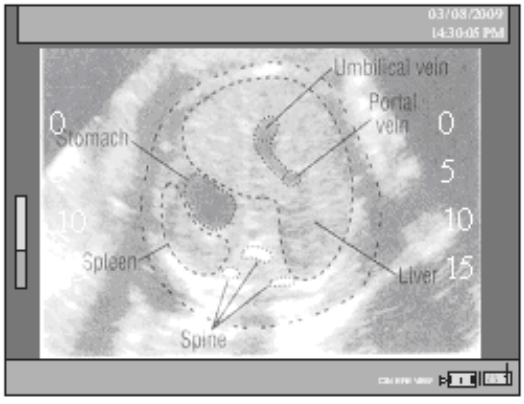
INTRODUCTION

Fetal biometry has been measured sonographically for the last four decades. The use of these measurements are crucial in modern practice of obstetrics for ascertaining the age of fetus, evaluation of fetal growth, the detection of congenital malformation, etc. Fetal abdominal circumference measurements are more predictive of fetal intrauterine growth retardation[1]. Fetal abdominal circumference is mainly affected by fetal liver size. Direct measurements of fetal liver size may help in the early detection of the fetus at risk of growth retardation. Many efforts have been made to assess fetal liver dimensions directly. Measurements of liver length have been performed in normal pregnancies[2] and in pregnancies complicated by abnormal fetal growth[3,4]. A linear relationship between fetal liver length and abdominal circumference has been established[2]. Fetal liver volume measurements by echo-planar magnetic resonance imaging (MRI) have been reported[4]. It was suggested that the measurement of fetal liver volume has the potential to contribute to early assessment of fetal growth[4]. Three-dimensional ultrasonography has been proposed for accurate determination of fetal organ volume[5]. The studies related to fetal liver measurements through sonography are widely available in medical literature [2,3,4,5,6,7] but no single study has been conducted on manual measurements of fetal liver. The present study was undertaken with an objective to compare the measurement of fetal liver length through sonography with manual procedures.

MATERIAL AND METHODS

Thirty (30) fetuses between 18 to 30 weeks of gestation diagnosed as cases of inevitable abortion at the antenatal clinics of Hayatabad Medical Complex and Hamza Surgical Hospital Peshawar were included in the study. Fetal liver length was measured ultrasonigraphically before abortion and then manual measurement of the fetal liver was done after dissecting the liver from the aborted fetuses.

Method of liver measurement through sonography: The liver fills the upper portion of fetal abdomen. It is homogenous in echogenecity. The fetal liver length was measured from the dome of right hemi-diaphragm to the caudal tip of right lobe. This was the long axis measurement. It was measured in millimeters. The recommended technique is first to identify the abdominal aorta in long axis and then move the transducer toward the right side of the fetus, the caudal tip of right lobe can usually be seen. Ordinarily the liver is visualized by transverse scan[7].



Ultrasonographic Measurement of Fetal Liver at 21 weeks of gestation

Method of manual measurement of liver: The liver was dissected out of the abdominal cavity. The liver length was measured manually between the upper convex margins and caudal tip of right lobe. It was measured in millimeters.

Manual measurement of fetal liver at 21 weeks of gestation.

RESULTS

Both sonographic and manual measurements of fetal Liver values from 18 to 30 weeks of gestation are shown in table. In the table at 18th week of gestation liver length is 23.0 mm while at 30th week of gestation it is 39.0 mm. The net increase observed in fetal liver length by both the sonographic and manual methods was 16mm.

Table shows comparison between sonographic and manual measurement of fetal liver length at different weeks of gestation, t-test was applied and P-value was deduced. On comparison of both methods of fetal liver length determination in different weeks of gestation showed a non-significant difference in P-value.

Table: Fetal Liver measurements through sonographic and manual methods in relation to gestational ages.

GA (Wks)	No of Cases	Sonographic measurement of liver length (mm)	Manual measurement of fetal liver length (mm)
18	5	23.0	23.0*
21	4	27.0	26.8*
24	6	32.0	32.0*
25	4	33.0	33.1*
27	4	36.0	35.8*
28	3	37.0	36.8*
30	4	39.0	39.0*

* Non-significant P value on comparison between sonographic and manual method.

DISCUSSION

Detection of fetal growth retardation is important because it caries a risk to the fetus. To date the best predictor of fetal growth retardation is the measurement of fetal abdominal circumference[1]. Fetal liver occupies most of the fetal abdomen. Changes in the liver size are likely to affect the abdominal circumference. In normal fetuses, glycogen reserves in the liver increase towards the end of gestation. However, growth-restricted fetuses have severely reduced hepatic glycogen stores because of fetal malnutrition[8]. Ultrasonic measurement of the fetal liver is a reliable indicator of fetal growth in the third trimester, as growth rates of the biparietal diameter and head circumference are blunt. Furthermore, consecutive measurements of fetal liver size enhance the detection of symmetrical, fetal growth[910]. Accurate assessment of liver size may contribute to the early detection of the intrauterine growth retardation[4,5,11,12,13,14].

Measurement of liver length at mid-pregnancy may be helpful in predicting affected fetuses of hemoglobin Bart's disease among pregnancies at risk. Normal liver length measurement is associated with a very low risk of the disease[15]. Measurement of fetal liver length in the diabetic pregnancy, as a parameter, is important for monitoring the effectiveness of treatment of the diabetic pregnancy[16]. Liver length measurement is a useful indicator of the degree of fetal anemia in isoimmunized pregnancies[17]. There is a strong relationship between AC and Fetal liver length in healthy pregnancies. Interobserver variability is minimal. Fetal liver length measurement in routine ultrasound examination may provide considerable information in many mortal obstetric conditions such as IUGR, maternal diabetes, macrosomic fetus, twin-to-twin transfusion and fetal anemia[18]. Estimation of fetal liver weight appears to be an accurate and reproducible method and may enhance sonographic assessment of fetal growth abnormalities and conditions with fetal liver involvement[19]. Fetal liver length increases in gestational diabetes mellitus. Mid trimester measurement of the fetal liver length can be used to diagnose macrosomia in patients having GDM[20].The findings from our study indicate that fetal liver length is worthy of further investigation as a measure for monitoring the effectiveness of treatment of the diabetic pregnancy. These studies emphasize the importance of measurement of fetal liver length and size as an indicator of fetal well being.

CONCLUSION

In the present study the reliability of measurement of fetal liver length by ultrasonography was assessed by comparing the measurement of f etal liver length

obtained by ultrasonography with that obtained by manual measurement. Statistical analysis shows insignificant difference between the two measurements. It is suggested that measurement of fetal liver length by ultrasonography is an accurate measurement of the fetal liver length and can be used for the assessment of intrauterine growth retardation, fetal anaemia and for the monitoring of diabetic pregnancies.

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Original Article

Pattern of Haemotological Disorders Diagnosed by Bone Marrow Examination at a Paediatric Hospital in Larkana Pakistan

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ABSTRACT

Background: Bone marrow examination is an integral part for establishing the diagnosis of haematological disorders in association with clinical and other routine laboratory tests.
Objective: To evaluate the frequency and pattern of haematological disorders in children at a tertiary care hospital in Larkana.
Study Design: Descriptive study.
Place and Duration: The study was conducted at children hospital and pathology department of Chandka Medical College Larkana from Jan: 2008 to Dec: 2010.
Patients and Methods: Marrow aspirates were collected from children under the age of 15 years as per guidelines recommended by international council for standardization in haematology (ICSH). Smears obtained were stained with Romanowsky stains and examined under light microscope.
Results: Bone marrow examination reports of 271 patients ranged from 2 months to 15 years, with male /female ratio of 1.6:1 were analyzed. Malignant disorders were seen in 36.5% and non malignant disorders in 59.8% of children. Amongst the malignant haematological disorders, acute lymphoblastic leukaemia (ALL) cases were 64 (23.6%) and was found to be most common disorder, followed by lymphoma 7 (2.6%) cases and acute myeloid leukaemia (AML) 6 cases (2.2%). In non malignant disorders aplastic anaemia was the most common 40 (14.8%) cases, followed by iron deficiency anaemia 30 (11%) cases. The megaloblastic anaemia was least common seen only in 8 (3.0%) cases. Other non malignant disorders were idiopathic thrombocytopenic purpura (ITP) 71 (26.2%) cases and malaria 4 (1.5%) cases.
Conclusion: Appropriate diagnosis can not be made in haemotological disorders of childhood without bone marrow examination.
Key Words: Bone marrow examination, diagnostic value, haematological disorders.

INTRODUCTION

Hematological diseases are quite common affecting both sexes and all ages including pediatric populations [1,2]. Wide range of common as well as rare hematological disorders can be seen in children[2]. Most of these can be diagnosed by thorough clinical examination and simple laboratory tests, but Bone Marrow examination is essentially required for confirmation of not only hematological but also for non hematological diseases [2,3,4,5,]. This is an invasive procedure [6] but usually safe if carried out by experienced medical personnel [5]. Occasionally infection, bleeding or embolism has been reported [7]. Most frequent indications for bone marrow examination are unexplained anemias and pancytopenia [4, 8]. It is commonly done for diagnosis and follow up of haematological malignancies like leukemia [2, 8] and continues to be gold standard test for diagnosis of multiple myeloma, [9] accurate staging of lymphoma [10], Neuroblastoma and investigation of bone marrow metastases[11]. So for none of the study has been carried out on the prevalence of haematological problems in children in upper part of Sindh as well as adjacent areas of Balochistan and Punjab, hence this study would correctly highlight the frequency of haematological diseases in children of this region, there by helping health managers and planners to formulate adequate future strategies for prevention and early diagnosis of these diseases.

PATIENTS AND METHODS

This is a retrospective descriptive study done with approval of ethical committee of Chandka Medical College, Larkana. A total of 271 children under 15 years of age, admitted in children hospital Chandka Medical College Larkana, who underwent bone marrow aspiration in pathology department of same institute, during the period from Jan: 2008 to Dec: 2010 were

included in this study. After reviewing clinical records and routine haematological tests, procedure was explained in details to the parents of patient, and informed consent was obtained. Bone marrow aspirate specimen were collected as per guidelines recommended by International Council for Standardization in Haematology (ICSH) [12]. Anatomic site selected for aspiration was posterior iliac crest or medial surface of tibia in infants under 6 months of age. 2% lignocaine injection was used as local anesthetic and injection diazepam, as a sedative. Lumber puncture 16 gauge needle (Nipro) was inserted and aspirate drawn in 10cc plastic syringe Becton Dickinson (B.D). Smears were prepared on glass slides either directly or after mixing the aspirate with Eythylenedinitrilo tetra acetic acid (EDTA) anticoagulant. Smears were air dried, stained with Romanowsky stain and examined in microscope under low power to look for the cellularity of particles and under oil immersion lens for the morphological assessment of cells. The aspirate slides were always reviewed in conjunction with peripheral blood smear. The reports were prepared by consultant pathologist and finalized after discussing the findings with fellow expert. Data was analyzed on SPSS version 13.

RESULTS

A total of two hundred seventy one bone marrow aspirates were examined during the study period. There were 167 males and 104 female, with a male/female ratio of 1.6:1. (Table No.1). The age ranged from 2 months to 15 years.

Table No.1: Frequency distribution according to sex.

Sex	Frequency	Percent	Valid percent	Cumulative
Male	167	61.6	61.6	61.6
Female	104	38.4	38.4	100.0
Total	271	100.0	100.0	

The majority of patients were in the 6-15years age, representing 62% of study group while ages of 38% patients were upto 5 years. (Table No.2).

Table No.2: Frequency distribution according to age.

Age	Frequency	Percent	Valid percent	Cumulative
0-5	103	38.0	38.0	38.0
6-15	168	62.0	62.0	100.0
Total	271	100.0	100.0	

The most frequent indication for BME was investigation of suspected leukaemia and remission assessment, followed by anaemia, thrombocytopenia and others as shown in table No.3.

Table No.3: Clinical indications for Bone Marrow Aspirates

Indication	No of Patients	Percentage
1. Suspected Leukaemia & remission assessment	90	33.2
2. Investigation of anaemia	78	28.8
3. Thrombocytopenia	71	26.2
4. Lymphoma and solid tumour investigation	09	3.3
5. Fever lasting for more than 02 weeks	23	8.5
Total	271	100

Non malignant haematological disorders were seen in 162 (59.8%) patients and 36.5% patients showed malignant disorders. Marrow findings were normal in 3.7% of cases (Table No.4).

Table-No.4: Frequency distribution of malignants and non malignant disorders.

	Frequency	%cent	Valid %cent	Cumulative
Malignant haemoto-logical disorder	99	36.5	36.5	36.5
Non-malignant haemoto-logical disorder	162	59.8	59.8	96.3
NAD	10	3.7	3.7	100.0
Total	271	100.0	100.0	

Table No.5: Diagnosis on the basis of Bone Marrow Examination in descending order of frequency.

	Frequency	%cent	Valid %cent	Cumulative
ITP	71	26.2	26.2	26.2
Aplastic anemia	40	14.8	14.8	41
Hypochromic Microcytic anemia	30	11.0	11.0	52.0
Megaloblastic anemia	8	3.0	3.0	55.0
ALL	64	23.6	23.6	78.6
ALL (Remission)	20	7.4	7.4	86.0
AML	6	2.2	2.2	88.2
Lymphoma	7	2.6	2.6	90.8
Metastatic	2	.7	.7	91.5
Malaria	4	1.5	1.5	93.0
Reactive	9	3.3	3.3	96.3
NAD	10	3.7	3.7	100
Total	271	100.0	100.0	

In non-malignant haematogical disorders, anaemias of various etiologies accounted for 28.9% cases. Of the anaemias, aplastic anaemia was most common and magaloblastic least common. Another frequent non malignant haematogical disorder was idiopathatic thrombocytopenic purpura, seen in 71 cases (26.2%). Amongst the malignant haematological disorders, acute lymphoblastic leukaemia was the most common, seen in 23.6% (64) of cases, followed by lymphoma and others (Table No.5).

DISCUSSION

Bone marrow examination (BME), being safer method in children is frequently used for the diagnosis of variety of haematological and non haematological disorders[2]. In the present study 90 cases (33.2%) of leukaemia were observed, while Rahim et al noted lower percentage (24.76) of leukaemia cases in children[2]. Acute lymphoblastic leukaemia (ALL) was found to be the commonest, seen in 23.6% of our cases and acute myeloid leukaemia (AML) was rare (2.2%). ALL to AML ratio was found to be 10.6:1, much higher than that of Githang'a and Dave (3.75:1)[4]. Our study was different from studies of kasili[13] and Mwangi[14] in which ALL to AML ratio was 1:2 and 1:17 respectively.

Bone marrow examination was performed for assessment of remission status of ALL during and at the end of chemotherapy in 20 (7.5%) cases. This indicates the improved survival of these patients. However some workers have suggested no diagnostic or prognostic value of this invasive procedure in such cases[15].

BME is also indicated in the evaluation of lymphoma and other solid tumours in children[4]. Involvement of bone marrow by malignant lymphoma indicates stage IV disease [10]. In this study bone marrow was involved in all seven cases. Variable percentage of bone marrow involvement ranging from 27.6 to 55% has been reported in the literature[10, 16]. Bone marrow involvement in all our cases is due to inadequate diagnostic facilities and lack of health awareness in the community so that patients consult the health experts at an advanced stage. Bone marrow involvement in two cases of solid tumours, one each in neuroblastoma and nephroblastoma was noted.

Anaemia affects 30% of world population[17]. In our study, cases of anaemia were on the top in non malignant disorders (28.8%). Of these, aplastic anaemia with picture of marrow failure was seen in 14.8% of cases, our results are almost similar to study of Rahim et al [2]. Higher frequency reported in our study & in developing world as compared to industrialized West [18, 19] may be due to common injudicious use of antibiotics like chloramphenicol etc in children with prolonged fever by unqualified quacks especially in the rural areas. In this study iron deficiency anaemia with the picture of hypochromia and microcytosis has been seen in 11% of cases. Our results are significantly higher as reported by Rahim et al (5%) [2], but comparable with studies of Githang'a & Dave[4] and Mwangi (12.7%) [14]**.** The higher number of cases of iron deficiency anemia may be due to economic starved population of this region who can not afford the iron rich fruit and food items. Megaloblastic anaemia is commonly caused by folate deficiency in paediatric age groups[20]. In our study megaloblastic anemia cases are merely 3%. Our results are different as various studies have shown these, ranging from 24% to as high as 68%[2,21,22]. The lowest percentage of cases of megaloblastic anaemia are possibly due to frequent supplementation of vitamin A, E and Folic acid in the prescription of children attending the paediatric clinics.

The ITP is common in childhood as compared to adults[4]. Though bone marrow is not needed for diagnosis of ITP,[23] but it is noted in 26.2% of cases. Our results are different and higher than reported by Bashawari[5], Rehman et al[6] and Al-Ghazaly et al[24], who reported its frequency 9.5%, 7.6% and 3.7% respectively. However Mohammad [25] has reported higher percentage of cases (48%). Such a large number of cases seen in the present study could be due to an exaggerated altered immune response in children of this region.

Reactive marrow findings due to recurrent and chronic infection were seen in 13 (4.8%) cases. One and half percent of our cases had evidence of malaria, which are comparable to study conducted by Githang'a and Dave[4]. Normal active marrow was found in 10 (3.7%) cases which might have been seen because cases may have been referred without proper indications or just on the basis of doubt about the diagnosis.

CONCLUSION

Appropriate diagnosis can not be made in haemotological disorders of childhood without bone marrow examination.

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Original Article

Correlation of Hepatitis B with multiple blood transfusions in children of Thalassemia major

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ABSTRACT

Objective: To assess the correlation of Hepatitis B (HBV) virus with multiple blood transfusions in patients of Thalassemia major (TM).

Study Design: Descriptive study.

Place and Duration of study: This was conducted in the Thalassemia center, Bolan Medical Complex Hospital Quetta for a period of six months.

Patients and Methods: One hundred and fifty (150) patients of Thalassemia major (already diagnosed) who received two or more blood transfusions were included in this study. Blood sample from these 150 thalassemic patients was scrutinized for HBsAg.

Results: All 150 thalassemia patients were in the age range of 6 months to 20 years Younger patients aged 0-4 years required transfusion every 4.6 weeks while patients above 15 required every 2 weeks. Every TM patients received a mean of 167.64 $\pm$ 121.01 units of blood. A substantive number 25 (17 %) were HBsAg positive .Direct correlation was found between HbsAg positivity and number of blood transfusions.

Conclusion: Conservative management with blood transfusion is probably the best and sometimes the only survival for patients of TM in our country but it carries a substantial amount of risk of acquiring hepatitis B due to repeated blood transfusions. It is extremely important to sensitize the public regarding prevention of the disease

Key Words: Beta thalassemia, HBV, Multiple blood Transfusion(s), HbsAg.

INTRODUCTION

Beta thalassemia is the most common single gene disorder in Pakistan with a gene frequency of 5-8% and about 8-10 million carriers in the country[1]. There are currently 50,000 to 100,000 thalassemia patients and every year 5,000 babies are born with the deadly disease[2]. Over the past three decades, regular blood transfusions and iron chelation has dramatically improved the quality of life and transformed thalassemia from a rapidly fatal disease in early childhood to a chronic disease compatible with prolonged life[3]. Patients with thalassemia major who receive blood transfusions regularly to maintain optimal hemoglobin (Hb) level frequently suffer from the hepatitis infection. Screening of blood for HBsAg reduces the risk of transmission but cannot eliminate it entirely, because of window period and low titer HBV infections and HBV variants[4]. Nearly eighty percent of the carriers of hepatitis B virus (HBV) belong to Asian subcontinent where the prevalence ranges from 8-10 %. Higher prevalence of Hepatitis B has been reported from various parts of Pakistan[5]. As thalassemia major patients undergo blood transfusion every 20 to 30 days in order to maintain their hemoglobin level above 9 g/dl, they are at high risk of contracting hepatitis B infection[6].

PATIENTS AND METHODS

A total of 150 patients were included in this study. The patients fulfilled the following criteria: They were diagnosed with thalassemia major, were above six months of age and had received blood transfusions more than once. Patients who were critically ill were excluded from the study. Every third patient was included in this study to decrease bias. A detailed clinical history and examination was done. Following this sample of blood was taken from patients after informed consent and Hepatitis B surface antigen (HbsAg) EIAgen (Elisa) HBsAg kit was used to detect seropositivity of HBV (Clone Systems Code 07-1000E). The data collected was analyzed using SPSS software version 10.Mean, and Standard deviation and percentages for Age, sex and number of blood transfusions and also sex ratios were reported .Correlation regression equation was applied to assess the correlation between hepatitis B and multiple blood transfusions.

RESULTS

A total of 150 transfusion dependent patients with thalassemia major constituted the study population. Their age ranged from 9 months to 20 years with the mean age of 9.3 $\pm$ 4 years. Fifty patients were under the

age of 9 years and only 8 % above 15 years. There were 96 (64 %) males, 54 (36 %) females with a male to female sex ratio of 1.8 to 1.0. Statistically this difference was very significant (P<0.0001)

The interval with which these patients required blood transfusion ranged from 1-10 weeks .The mean interval between two transfusions was 3.1 weeks. Every patient was exposed to 17 different donors/year. The requirement of blood transfusion was increasing proportionately with the increase in age of the patients. The patient's age group 0-4 years required transfusion after every 4.6 weeks, while patients above 15 years of age required blood after every 2 weeks. On each visit they were transfused only one unit of packed red cells regardless of their demand. The total number of transfusion ranged from 6-636 units. All the patients received about 25147 transfusions. Every thalassemic patient received mean 167.64 + 121.01 units and in this way each patient was exposed to an average of 17 different donors per year.

Hepatitis B surface antigen (HBsAg) was positive in 1 (6 %) in the patient's age ranging from 9 months to 4 years, 12 patients (20 %) in age range 5-9 years, 9 patients in age ranging from 10-14 years and only 3 (25%) in group of patients above 15 years of age. The maximum seropositivity of viral marker was detected in patients of 5 years of age. None was positive below three years of age. On consideration of number of transfusions and HbsAg seropositivity none was positive in patient group who received less than 20 transfusions and only one patient was seropositive in the group of patients who received 21-50 transfusions and the rest of the seropositivity was seen in the patients who received more than 50 transfusions. Statistically this increase in prevalence was significant. Sex wise distribution showed HbsAg positivity in 5 (9 %) out of 54 female and 21 (22 %) out of 96 male patients.

DISCUSSION

During the past twenty years, an effective form of treatment with red cell transfusion and iron chelation has led to steadily improved survival of these patients[7]. Even then the patient's die in the second decade from intractable congestive heart failure, cirrhosis or other complications[8]. In the present study the highest age of TM patient was 20 years. The age ranged from 9 month to 20 year and the mean age was 9.3±4.0 years. There was downward trend in the number of patients after the age of 14 years. Only a few patients (8 %) were above 15 years of age and about 80 % of the patients fell in the range of 5-14 years of age. Madan and Sharma from India conducted a study in the 11-18 years old age group of thalassemics[9]. The present study also shows that survival of patients fairly well up to the mid of second decade of life. The most common reported causes of death in patients of thalassemia major are endocrine failure, hepatic cirrhosis and cardiac failure which are due to iron overload resulting from blood transfusion[10]. This analysis of age distribution suggests that the survival of thalassemia major patients is markedly low in our country.

There were 96(64 %) males and 54 (36 %) female patients in the present study. Male to female ratio was 1.8:1.0. Kyriako A, Savva also described that thalassemia is more common and more severe in males then females[11]. The preponderance of males over females in the present study is difficult to explain. One possible reason is the fact that the people are more concerned with the health of male offspring and hence are more likely to seek medical care for them.

Different transfusion regimen has been employed with baseline hemoglobin level ranging from 8-12 g/dl for the management of TM. The interval between transfusions varies considerably between patients and the scheme of transfusion adopted. In the present study the interval between transfusions ranged from 1-10 weeks with a mean of 3.1 weeks. The difference was even more striking when calculated for different age groups .Transfusion requirement increased with age and interval between transfusions decreased. Similar results were observed in two studies, one by Tillman and Schroter[12] and other by Kontoghiorghes et al[13] Interval ranged from 1-13 weeks in these studies

The total number of blood transfusion varied with the age of the patients. It ranged from 6 to 636 units of packed red cells, with an average of 167 units. This supports to the earlier studies carried where it ranged from 5 to 662 units in TM patients studied by Gratwick et al[14], Kontoghiorghes[13], Flynn[15], Graziano et al[16], and Leon et al[17].

Hepatitis B surface antigen (HbsAg) was used to screen patients for hepatitis B virus (HBV). The frequency of HbsAg in multitransfused children of thalassemia major was 17 %. In the male patients, frequency was 21 % (20/96) while in female patients frequency was 9 % (5/54). The frequency of post transfusional HBV infection observed in the present study was in agreement with 20% in Indian thalassemic patients conducted by Irshad M and Peter S[18]. On the contrary the prevalence of 5 % has been reported by Ahmad and Shamsi[19] and by the AIDS-Haemophilia French Study Group[20]. However Yadev et al could find even lower prevalence of only 3%[21] and Naseerullah found none to be positive for HbsAg in his study[22]. In another study conducted by Rahman M and Lodhi Y in the Institute of Hematology & Blood Transfusion Service (IHBTS) Punjab, Lahore reported even lower frequency 1/60 (1.7%) to be positive for HBV[23] Similarly in Saudi Arabia a study conducted by EL-Hazmi and Ramia presented figures of 14.7 % positivity for HBV in

Riyadh 14.7 %, Jaizan 37 %, Khaiber 39.6 % and in AL-Hofouf 21.4 % indicating hyperendemicity of HBV in certain regions of Saudi Arabia[24]. These differences correlate well with the exposure rate to HBV in the general population of that region. The possible explanation for the high prevalence of HBV positivity in the present series of patients may be due to the infrequent facility of HbsAg testing for preventive measures. In the present study none was positive for HbsAg who had received up to 20 units of blood transfusions, 4 % in patient group who had received 21-50 transfusions, 19 % in patient group who received 51-100, 101-250 transfusions and it increased to 22 % in patients who received more than 250 units of blood transfusions. These results agree with the observation of Yadev et al who observed significant similar increasing trend in seropositivity of viral markers along with the increase in the number of transfusions[21].

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Original Article

Frequency of Malignancy in Goiter in Pakistan: A Review of 359 Thyroidectomics

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ABSTRACT

Objective: To determine the frequency of malignancy in patients presenting with goiter undergoing for surgery.
Study Design: An observational study.
Place and Duration of Study: Surgical Department of Social Security Hospital Islamabad January 2002 to February 2011.
Patients and Methods: All patients more than 10 years of age underwent thyroidectomy were included in the study. Postoperatively histopathologies of specimens were evaluated in all patients.
Results: A total of 359 patients were operated and post operative histopathology specimens were reviewed. Eleven patients (3.06%) were having carcinoma. . Among all the thyroid carcinomas, papillary carcinoma was the commonest i.e. (45.45%, 5/11) followed by follicular carcinoma (27.27%, 3/11). Anaplastic carcinoma was seen in (18.18%, 2/11) and medullary carcinoma seen only in (9.09%, 1/11)
Conclusion: Thyroid carcinoma is not an uncommon condition. Frequency of papillary carcinoma is very high in females among all the thyroid carcinoma.
Key words: Goiter, Malignancy, Carcinoma Thyroid

INTRODUCTION

Thyroid carcinoma represents the most frequent form of cancer of the endocrine glands. It may present either as a solitary nodule or as a dominant nodule in a multinodular goiter.[1] The incidence of malignancy varies from 0.9% to 13% in different parts of world.[2] In Pakistan, thyroid cancer is responsible for 1.0% cases of all malignant tumors.[3] There is a well recognized spectrum of pathological variants and their incidence and prognoses varies considerably. In differentiated carcinoma, papillary carcinoma spreads into lymph nodes, but follicular carcinoma spreads by blood stream. The growth is usually firm in consistency and it is common in younger age. Prognosis of differentiated carcinoma in low-risk cases is good, but in the presence of high risk conditions like age, more than 40 years in male and more than 50 years in female, distant metastasis, tumour larger than 5 cm in size, or capsular invasion prognosis is poor.[4]

In undifferentiated carcinoma medullary, anaplastic and lymphoma involved the lymph node and also spread by blood stream. Medullary thyroid carcinoma is associated with MEN type 2A and 2B. Anaplastic carcinoma is usually hard, irregular and infiltrating. It is an aggressive malignancy and prognosis is poor. This make-up the need for an early detection of carcinoma.[5]

Exposure to ionizing radiation, changing levels of iodine nutrition and increased pathologic diagnosis of clinically unimportant thyroid neoplasia have all been proposed as explanations for a world wide rise in the incidence of thyroid carcinoma over the past six decades.[6]

Goiter is common in the north-west areas of Pakistan.[3] The purpose of this study was to determine the frequency of malignancy in goiter among patients undergoing for thyroid surgery.

PATIENTS AND METHODS

This observational study was carried out in the Surgical Department of Social Security Hospital Islamabad from January 2002 to February 2011. The Social Security Hospital Islamabad is a 300 bed, teaching hospital affliated with Islamabad Medical and Dental College, which provides health care to the workers and their families of upper Punjab industries who are residing in Northern and Central Punjab, Azad Kashmir and Khyberpukhtoonkha. Approval of the study was taken from the ethical committee of the institution. All patients of goiter reported for treatment were included in the study. Patients below age 10 years were not included in the study. Informed consent was taken from all the patients. Patients were admitted and detailed preoperative clinical, biochemical, histopathological and radiological evaluation was carried out. Patients were prepared for operation and all necessary routine investigations for thyroidectomy were carried out. After thyroid surgery all thyroid specimens were sent for histopathology. All preoperative, operative and post-operative findings were recorded in detail on a proforma. The results were evaluated and statistical analysis was done by using software EPI 6.

RESULTS

A total of 359 patients were operated during the study period from January 2002 to February 2011. Majority patients were females (97.49%, 350/359) and males were only (2.51%. 9/359). Majority of the patients were from 5th (44.85%, 161/359) and 4th (31.40%, 92/359) decade of life. Histopathology of resected specimens revealed that 11/359 female patients (3.06%) were having malignancy. None of the male patients were having malignancy in our study. Among all the thyroid carcinomas, papillary carcinoma was the commonest i.e. (45.45%, 5/11) followed by follicular carcinoma (27.27%, 3/11). Anaplastic carcinoma was seen in (18.18%, 2/11) and medullary carcinoma seen only in (9.09%, 1/11) (Table-III). Papillary carcinoma was commonest in the age group 21-30 years and follicular carcinoma was more common in the age group 31-40 years i.e. (27.27 %, 3/11) in each group. The medullary and anaplastic carcinoma was seen in patients more than 50 years.

Table No. I: Age and Sex Distribution of the Patient under study (n=359)

Age groups	Male	Female	Total
11-20	1	3	4 (1.11%)
21-30	-	19	19 (5.29%)
31-40	3	89	92 (25.63%)
41-50	3	158	161 (44.85%)
51-60	2	73	75 (20.89%)
>60	-	8	8 (2.23%)
Total	9 (2.51%)	350 (97.49%)	

TABLE No. 2: Histopathology of Goiter N=359

Age Groups	Carcinoma	Thyroiditis	Colloid Goiter	**Total**
11 - 20	-	1	3	**4 (1.11%)**
21 – 30	3	2	14	**19 (5.29%)**
31 – 40	3	1	88	**92 (25.63%)**
41 – 50	2	2	157	**161 (44.85%)**
51 – 60	2	-	73	**75 (20.89%)**
>60	1	-	7	**8 (2.23%)**
Total	11 (3.06%)	6 (1.68%)	342 (95.26%)	**359**

Table No.3: Types of Carcinoma N=11

Age Groups	Differentiated				**Total**
	Papillary	Follicular	Medullary	Anaplastic	
11-20	-	-	-	-	-
21-30	3	-	-	-	**3 (27.27%)**
31-40	1	2	-	-	**3 (27.27%)**
41-50	1	1	-	-	**2 (18.18%)**
51-60	-	-	1	1	**2 (18.18%)**
>60	-	-	-	1	**1 (9.09%)**
Total	**5 (45.45%)**	**3 (27.27%)**	**1 (9.09%)**	**2 (18.18%)**	**11**

DISCUSSION

Thyroid carcinoma commonly presents as a lump in the neck which clinically may be solitary or multinodular. The other symptoms of carcinoma like hoarseness of voice, lymphadenopathy in the neck and distant metastasis are suggestive of advanced disease.[7] All solitary nodules should be viewed with suspicion for malignancy especially when it is of recent origin, firm, fixed, irregular in shape and increasing in size rapidly or when there is family history, history of neck irradiation, hoarseness of voice, accompanied with lymph adenopathy and development of rapidly enlarging nodule in very young (<15 years) or old (>65years) patient. Dominant nodule in a multinodular thyroid probably has the same cancer risk as truly solitary nodule.[8,9]

The incidence of malignancy in goiter has been found to vary from 3-17% in different parts of the world.[10,11,12] The literature review has shown that the incidence of malignant tumors in patients with solitary nodule does not differ much from those with multinodular goitre.[8,9] The incidence reported by Prades and his colleagues[13] in France is 12.2%, Benzarti et al[14] in Tunis found 9.5% and in another study[15] conducted at Sarajevo showed incidence of malignancy about 8% . In local studies done by Waseem Memon[16] and Haq et al,[17] the prevalence is 7.6% and 2.92% respectively. In our study the prevalence is 3.06%.

Thyroid carcinoma is more common in females and male to female ratio is 2.5:1.[17] In our study, all patients having carcinoma were females. Regarding the high incidence among females, it is suggested that some hormonal factors are involved in its pathogenesis.[17] Different studies suggests that recent pregnancy with in about 5 years, is a thyroid carcinoma risk.[18,19,20] Other suggested risk factors for thyroid carcinoma in women are exogenous estrogens, including oral contraceptives, lactation suppressant drugs, postmenopausal estrogen

therapy and fertility drugs.[17] Although positive associations between hormonal and reproductive factors and the incidence of thyroid carcinoma have been found in some studies, they are generally weak and not always consistent across studies.[20,21]

Majority of primary thyroid carcinoma are of the differentiated type and papillary thyroid carcinoma is the predominant histologic form in most parts of the world. This is more common in females younger than 40 years of age.[22] Radiation is considered as one of the major etiologic factor in papillary carcinoma especially in children exposed under the age of 5 years. The relationship between radiation and carcinoma thyroid was first described by Duffy and Fitzgerald in 1950.[23] This relationship was subsequently confirmed by many epidemiological studies. It is now clear from Chernobyl accident experience that incidence of carcinoma thyroid is increased from 0.5 per million to 95 per million.[24] In local studies the prevalence of papillary carcinomas vary between 33% to 65%. [3,16,17,22] In our study the frequency is 45.45% and it is more common in females younger than 30 years of age.

The second most common type is follicular thyroid carcinoma among differentiated carcinomas. Studies showed that incidence is high in geographic distribution associated with iodine deficiency goiter. Prevalence in Pakistan ranges from 20% to 33% in various studies. [3,16,17,22] In our study it is 27.27% and it is more common in females more than 30 years of age.

Undifferentiated carcinoma is more common in old age i.e. >50 years. Anaplastic carcinoma is more common having incidence of up to 15% as reported in various studies.[5,19] In our study the incidence is 18.18% followed by medullary carcinoma i.e. 9.09%. It is also found primarily in iodine deficient areas.[3,17]

CONCLUSION

Thyroid carcinoma is not an uncommon condition. Histopathologies of all the thyroid specimen must be carried out to see the malignancy as frequency of papillary carcinoma is very high in females among all the thyroid carcinoma.

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Original Article

Assessment of Hindrances in Offering Prayers in Catheterised Patients

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ABSTRACT

Objectives: To determine the difficulties which hinder the Muslim patients with urinary catheters in offering regular prayers and help them solve those difficulties.

Design: A descriptive study.

Place and Duration of Study: The study was conducted in the department of Urology Foundation University Medical College and Fauji Foundation Hospital Rawalpindi from July 2008 to December 2009.

Inclusion Criterion: Muslim ambulant and mentally alert patients between the age 20 to 70 having a urinary catheter (urethral or suprapubic) were included in the study.

Patients and Methods: 500 volunteer patients from both genders fulfilling the inclusion criterion were included in the study. Patients were given a questionnaire and asked about their regularity regarding offering of prayers before the insertion of urinary catheter and any change in that aspect after the catheter was placed. They were asked to mention the hindrance faced by them in offering their regular prayers after they got the urinary catheter.

Results: Before insertion of the urinary catheter 39.2% patients were offering their prayers regularly, while after having been catheterized only 0.4% patients remained regular in their prayers. 30% mentioned about the urinary leakage alongside the catheter as a hindrance to prayers. 28% said they did not know how to perform Wudhu (washing of arms up to elbows, face and feet, and touching the hair on the front of the head with water) while they had a catheter inserted. 12% described urethral pain as a hindrance to offer prayers. Remaining 29.6% gave no reason for abandoning regular prayers. However, all the patients wished they could pray. Those patients complaining about urine leakage were managed. Those who did not know how to perform Wudhu in this situation were guided. Patients complaining of pain due to catheter were treated. Those who could give no reason were counseled. A positive approach on the part of the patients was observed after these measures.

Conclusion: Muslim patients having a urinary catheter can offer regular prayers. Urinary catheter is not a hindrance to prayers. Patients need to be counseled accordingly.

Key Words: Foley catheter, urinary leakage, antispasmodics, regular prayers.

INTRODUCTION

Urinary catheter is one of the most frequently used medical devices [1]. Almost 25% of the hospitalized patient s are catheterized [2,3]. Majority of the patients who are catheterized are in the elderly age group and they have a saner and more responsible attitude towards regular prayers, a religious duty ordained upon all Muslims by Allah [4, 5,6].

However, it has been observed that once an individual is catheterized he or she gives up prayers and finds difficult to perform this sacred duty. Many patients are mentally perturbed in this situation and want to offer prayers but find a hindrance to do so due to the presence of the catheter. These patients experience a very high level of anxiety and are constantly disturbed throughout the duration of catheterization. The present study was conducted to find out the difficulty which the patients having a urinary catheter faced in offering their regular prayers. The selected volunteer patients were distributed a questionnaire in which they were asked to compare how regular they were in offering prayers before and after the insertion of the urinary catheter. It was discovered that most patients regretted their inability to offer prayers after they had the urinary catheter. They were asked to mention the actual difficulty which they felt in offering prayers after the catheter was inserted. Difficulties mentioned by the patients were pericatheter leakage, lack of knowledge about performing Wudhu while having a urinary catheter and urethral pain. All these difficulties are manageable. Overall, it was discovered that the main reason was just lack of knowledge about the relaxation given by Allah to the sick individuals in the method of Wudhu before offering prayers. Patients with pericatheter leakage were treated with bladder relaxant drugs, those with urinary infection were administered urinary antiseptics and urethral pain was managed by analgesics. All the patients were counseled and informed that if they could perform Wudhu before the

prayers it was fine, if they were unable to perform Wudhu still they could offer prayers by doing Tayammum (a relaxation in Wudhu given to the sick by Allah) [7,8]. The patients welcomed this counseling, their anxiety level was reduced and they were mentally relaxed.

PATIENTS AND METHODS

The present study was conducted in the department of Urology Foundation University Medical College and Fauji Foundation Hospital Rawalpindi from July 2008 to December 2009. A total of 500 Muslim, ambulant patients from both genders ranging between 20-70 years of age willing to participate in the study were included. A questionnaire was distributed to the patients. The patients were asked to select an appropriate answer from "regular, occasional and missing" to describe their pattern of offering five times daily prayers prior to and after insertion of urinary catheter. They were also asked to describe specifically what actual hindrance due to presence of the urinary catheter posed in offering the prayers. An MSU (midstream urine) and urine culture and sensitivity of all the patients were carried out. The quantity of distilled water in the balloon of the Foley catheter was kept at 10 ml. Those with the pericatheter leakage were given Tab Detrusital (Tolterodine) 2 mg BD. Similarly those patients having urinary infection were treated by oral urinary antiseptic according to culture and sensitivity reports. All the patients were informed that presence of a urinary catheter did not exempt a Muslim from offering five times regular prayers. Patients were told that some degree of pericatheter leakage which persisted in spite of treatment could be ignored. They were educated how to empty the urine bag prior to prayer time and tug the urine bag inside their clothes. The patients were told to perform Wudhu if they could while those unable to do Wudhu could offer prayers after Tayammum.

RESULTS

A total of 500 patients participated in the study. There were 300 male and 200 female patients (male to female ratio 1.5:1). The age range was 20-70 years (mean age 55.6 years).

There were 462 patients with urethral catheter while 38 patients had suprapubic catheter. The indications for having a urethral catheter in our patients are depicted in Table No.1.

The patients with suprapubic catheter had the indications as shown in Table No.2

39.2% patients were offering five times daily prayers regularly before being catheterized. Only 0.4% of the patients offered their prayers regularly after they had a urinary catheter. These two patients were male and had suprapubic catheters. A comparison of the pattern of regularity towards prayers before and after the insertion of the Urinary catheter is given in Table No.3.

Table No.1: Indications for Urethral Catheterisation

Diagnosis	No	%
Benign Prostate Hyperplasia	180	38.96
Postoperative	110	23.80
Bladder Tumour	73	15.81
Vesical Stone	38	8.23
Neurogenic Bladder Dysfunction	31	6.71
Carcinoma of Prostate	30	6.49

Table No.2: Indications For Suprapubic Catheterisation

Diagnosis	No	%
Urethral Stricture	29	76.32
Neurogenic Bladder Dysfunction	9	23.68

Table No.3: Comparison of the Regularity Pattern of Prayers Before & after urinary catheter

Prior to catheter insertion			After catheter insertion		
Pattern	No	%	Pattern	No	%
Regular	196	39.2	Regular	2	0.4
Occasional	132	26.4	Occasional	0	0
Missing	172	34.4	Missing	498	99.6

Difficulties mentioned by the patients in our series for being unable to offer prayers are depicted in Table IV. 150 (30%) patients complained of leakage of urine at intervals alongside the catheter. This leakage of urine rendered their clothes and body unclean. These patients were administered Tab Detrusital (Tolterodine) 2 mg BD throughout the period of their catheterization. 64 (12.8%) patients had more than ten pus cells per high power field in their MSU. While 43 (8.6%) had symptomatic urinary tract infection with positive culture.

Table No.4: Hindrance In Offering Prayers

Hindrance	No	%
Pericatheter leakage of urine	150	30
Lack of knowledge about Wudhu in this situation	140	28
Urethral Pain	60	12
None	148	29.6

These patients were treated with antibiotics according to culture and sensitivity reports. These measures stopped the pericatheter leakage of urine. 140 (28%) patients did not know how to perform Wudhu while having an indwelling catheter. These patients were told they should perform Wudhu as before but if they were

unable to do that then Tayammum was enough for them. 60 (12%) patients complained of urethral pain as a hindrance to prayers. These patients were given simple analgesic Tab Paracetamol 500 mg SOS. This settled their pain. 148 (29.6) patients gave no reason for abandoning prayers. These patients were counseled.

Controlling the pericatheter leakage of urine, educating the patients about the relaxation given in Wudhu and facility of Tayammum, treating urethral pain and counseling of the patients led to a remarkable change in the overall approach of the patients. Their anxiety level was reduced and they felt convinced that having a urinary catheter offered no hindrance to offering regular prayers.

DISCUSSION

Urinary catheterization is such a common procedure that up to 25% of hospitalized patients have got a urinary catheter.[2,3] An acute episode of urinary retention is almost always treated by insertion of a urinary catheter while many patients awaiting surgery for prostate problems or bladder tumour stay on catheter. It has been commonly observed that once a Muslim patient is catheterized, he or she abandons offering routine regular prayers notwithstanding the fact that prior to catheterization he or she was regular towards that aspect. Further, disease processes like benign prostate hyperplasia, bladder tumour and others which necessitate bladder catheterization pre- or postoperatively are maladies of those who are in their saner years of life. People in that age group have got a mature approach to religion and want to practice with faith and conviction.

We have come across patients in our routine practice who were having urinary catheters and were much anxious and disturbed because they were not offering their regular prayers as a Muslim. Some patients on this lapse were so deeply perturbed that they had tears in their eyes for not being able to offer prayers. This unique study of its kind was therefore started to find out the actual hindrance the Muslim patients with catheter felt in offering regular prayers, address their problems and help them in order to allay their anxiety and cater for an important aspect of their social and religious life. A more holistic management approach can be offered to the patients in this manner.

Regular prayer ("Sala") is one of the most important basic duties of a Muslim ordained by Allah.[9] In Quran the importance of prayers has been highlighted at more than 65 times. There are thousands of sayings of the Prophet Muhammad (peace be upon him) emphasizing the importance of prayers. In fact the Prophet's final advice as he breathed his last was about prayers.[10] Five times regular prayers are compulsory for all Muslims both in health and sickness. Having a urinary catheter does not exempt a Muslim from performing this important duty. It is essential to be bodily clean before offering prayers.[7,8] Allah has guided us how to get bodily clean (Wudhu) before offering prayers for those who are healthy and those who are sick.[7,8] Allah does not put a burden greater than the capacity of an individual.[11] He has not placed any difficult thing in religion.[12] A Muslim is expected to follow the injunctions according to his capacity.[13] The Prophet Muhammad also made it clear by saying that religion is easy [14] and he added that you should follow my instructions according to your capacity. A Muslim patient is supposed to offer prayers even though he is so weak that he can do so only by lying on bed.[15] Similarly, if he should be bodily clean (do Wudhu) before prayers but in case of inability to do so a relaxation has been provided in religion (Tayammum) [7,8.]

In the light of above instructions from Quran and sayings of the Prophet Muhammad (Peace be upon him) we addressed the problems our patients. We discovered that 99.6% of our patients were missing prayers after having a urinary catheter whereas this figure was 34.4% prior to catheterization. All these patients who missed prayers were having an element of anxiety and felt perturbed on this great lapse on their part. Pericatheter leakage was disturbing in 30% of patients. This is a common complaint of patients having a urinary catheter both urethral and suprapubic. Stephen O Ikuerowo, Aderinsola A Ogunade, Taiwo O Ogunlowo, Charles C Uzodimma, and Julius O Esho reported 16.1% incidence of pericatheter leakage of urine in his series. [16] These patients stated they could not pray because they felt their clothes and body were unclean. This leakage is due to detrusor spasms and should not be corrected by a larger catheter size. It is treated by bladder relaxant medication, [17] treating symptomatic urinary tract infection (8.6% of our patients) and by reducing the volume of distilled water in the Foley catheter balloon. We administered Tolterodine (Tab Detrusital) 2 mg BD to control bladder spasms, gave antibiotics according to culture and sensitivity reports and kept the fluid in the balloon of Foley catheter at 10 ml. Todd W. Thomsen and Gary S. Setnik reported an incidence of urinary tract infections in catheterized patients between 3 to 10 % of per day of catheterization. [18] Sanjay Saint and Benjamin A. Lipsky reported that 5 % of patients develop bacteriuria each day of catheterization.[3] 28% of our patients were not praying because they did not know how to perform Wudhu while having a urinary catheter. These patients were told that they should just empty the urine bag and perform Wudhu as before and if they could not do Wudhu they should perform Tayammum (moving your hands on face and arms after putting the hands on clean soil: a relaxation given by Allah to the sick to obtain

cleanliness before offering prayers). 12% of our patients said urethral pain was disturbing and preventing prayers. In this group those with symptomatic urinary infection were treated with antimicrobials according to culture and sensitivity while others were given Tab Paracetamol 500 mg SOS. These measures settled the complaints of our patients. The patients received the counselling in a very positive manner. Their anxiety was reduced and they were convinced that having a urinary catheter was no barrier to offering prayers as a Muslim.

CONCLUSION

Urinary catheter is no barrier to offering regular prayers for Muslim patients. At the time of catheterization Muslim patients should be informed that they can offer their prayers as before. Patients should be inquired about any difficulty like pericatheter leakage and should be treated accordingly. Those ignorant about Wudhu in this condition should be counseled. A holistic approach to the patients' problems should be adopted. This would reduce the anxiety level of the patients especially those in the elderly age group.

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Original Article

Single Flexible Postprandial Plasma Glucose Test as a New Screening Modality for Diabetes Mellitus

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ABSTRACT

Background: The study was aimed at assessing the adequacy of single flexible postprandial plasma glucose (FPPPG) test with time of sampling between 30-120 min after breakfast/snack/meal as a screening test for diabetes mellitus and IGT.

Study Design: cross sectional study

Place and Duration of study: Study was carried out in the Department of Chemical Pathology and Endocrinology at Armed Forces Institute of Pathology, Rawalpindi from January to November 1995.

Patients and methods: Eighty eight consecutive patients referred to AFIP for oral glucose tolerance test were included. The ages of patients ranged from 30 - 65 y. In the first step, on day 1 oral glucose tolerance test and in the second step, on day 2 flexible time based postprandial plasma glucose (FPPPG) 30-120 min after breakfast/snack/meal were performed. 12 patients did not turn up on day 2 for FPPPG test. In this study we performed FPPPG test on 76 patients as a screening test, with a cutoff point of 7. 0 mmol / l

Results: The study revealed that all 22 diabetic patients (100%) had levels above the limit whereas, 15 (83.3%) out of 19 patients of IGT had levels above cutoff level. On the other hand out of 35 healthy subjects only 2 (5.71%) had values above the limit.

Conclusion: This study proposes a new screening test (FPPPG) for diabetes mellitus and IGT, which has a sensitivity of (100 %), specificity of (66.7 %) and positive predictive value of (55 %)

Key words: diabetes mellitus (DM), flexible post prandial plasma glucose (PPPG), world health organization WHO, oral glucose tolerance test (OGTT), impaired glucose tolerance (IGT), international diabetic federation (IDF), positive predictive value (PPV+), negative predictive value (NPV-)

INTRODUCTION

Diabetes mellitus is a syndrome of chronic hyperglycemia due to insulin resistance, deficiency or both[1]. In 2000, an estimated 171 million people worldwide had diabetes and numbers are projected to double by 2030[2,3]. WHO ranks Pakistan 7th in the world on diabetes prevalence list. According to International Diabetes Federation, 6.9 million people are affected by diabetes in Pakistan with the estimate that this number will grow to 11.5 million by 2025 unless measures are taken to control the disease[4]. One of the problems with diabetes is that it remains undiagnosed or under diagnosed until complications developed especially in developing countries where health screening facilities are less likely. About one third of people with diabetes do not know they have it, and the average lag between onset and diagnosis is seven years[5]. Diabetes is usually irreversible and although patients can have reasonably normal life style, its complications result in reduced life expectancy and major health cost. .The increasing prevalence of obesity and sedentary life styles are the major underlying causes of Type 2 diabetes to become one of the fastest growing public health problems worlds wide, imposing a high financial burden on health care cost[6,7]. The W H O definition for labeling diabetes is single raised glucose reading with symptoms, otherwise raised glucose values on two occasions of either, fasting plasma glucose $\geq$ 7.0 mmol/l (126 mg/dl) or with a glucose tolerance test, two hours after the oral dose a plasma glucose $\geq$ 11.1 mmol/l (200 mg/dl).[8-10]The process of diagnosing diabetes mellitus can not be regarded as a exact science. It has evolved over many years and even now continues to change as our knowledge and the perception of the condition alter. A difference of opinion still exists regarding the screening tests for early detection of diabetes mellitus. Blood glucose estimation is now a preferred screening procedure in a person clinically suspected of having diabetes mellitus. Diabetes screening is recommended for many people at various stages of life, and for those with any of several risk factors. The screening test varies according to circumstances and local policy, and may be a random blood glucose test, a fasting blood glucose

test, a blood glucose test two hours after 75 g of glucose, or an even more formal glucose tolerance test. Many healthcare providers recommend universal screening for adults at age 40 or 50, and often periodically thereafter. Earlier screening is typically recommended for those with risk factors such as obesity, family history of diabetes, history of gestational diabetes and with high-risk ethnicity. Interest has arisen in preventing diabetes due to research on the benefits of treating patients before overt diabetes. Pakistan is a third world country with budget restraints due to which budget allocation for health sector is very limited. Above all our 70% of the population is illiterate. Keeping in view of these facts we intend to evaluate a single postprandial plasma glucose test with time of sampling between 30-120 minutes after breakfast/meal/snack as a screening test for diabetes.

PATIENTS AND METHODS

The study was carried out in the Department of Chemical Pathology and Endocrinology at Armed Force Institute of Pathology Rawalpindi, in a year 1995. Initially eighty eight consecutive patients were included in the study, referred to AFIP for Oral Glucose Tolerance Test. The ages of patients ranged from 30 - 65 years. Oral glucose tolerance test was performed on all 88 subjects following WHO protocol as a first step. In second step on day 2 they were called for flexible time based postprandial plasma glucose (FPPPG) test. Out of 88 patients twelve did not turn up on day 2. FPPPG test was then performed on seventy six patients, 30-120 minutes after taking food. Blood glucose estimation was performed by glucose oxidase kit method. The test characteristics of FPPPG method for screening were assessed. The sensitivity, specificity and predictive values of the screening test for diabetes was studied at levels 7.0 mmol/l up to 11.1 mmol/l , at increments of 0.1 mmol/l .The data was processed by the computer program Special Package for Social Sciences (SPSS-10).

RESULTS

As per OGTT, out of 76 patients 22 had blood glucose level above7.0 mmol/l, 19 patients felled in IGT group, whereas 35 were found healthy. The sensitivity, specificity and predictive values of the screening test at different cut-off values were calculated and cut-off value for FPPPG was set at7.0 mmol/l. At this cut-off value for FPPPG all 22 diabetics, 15 out of 19 from IGT group and 2 out of 35 healthy subjects had values above the cut-off limit. Altogether 39 patients were picked up through FPPPG test, 22(100%) from diabetic group, 15 (83.3%) from IGT group and 2 (5.71%) from normal groups (Fig. 1).

Results showed that at cut-off value of7 mmol/l, FPPPG test for detecting diabetes had a sensitivity of 100% and specificity of 66.7% with the predictive value of 55%. FPPPG test in IGT group showed the sensitivity, specificity and positive predictive values as 79%, 91.4% and 83.3% respectively at same cut-off value.

The selected cut-off value i.e.7.0 mmol/l was found to be the most appropriate for its efficiency and performance for screening population. A detailed summary of workup for cut-off limits having relevant sensitivity, specificity and predictive values are shown in Table No. 1 & 2.

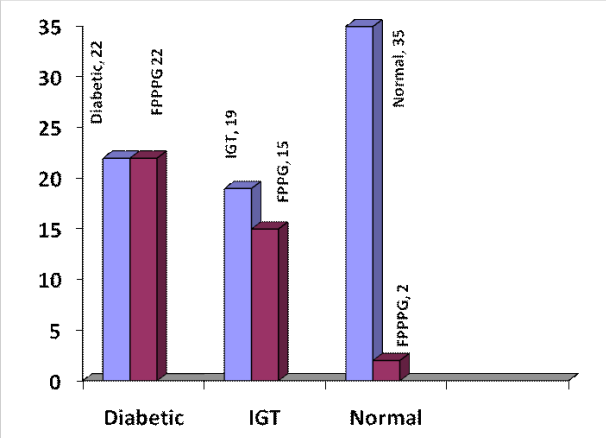
Table No.1: Summary of workup for cut-off values of FPPPG test for the detection of diabetes

FPPPG test mmol/l	Sensitivity (%)	Specificity (%)	PPV+ (%)	NPV- (%)
7.0	100	66.7	55	100
7.2	100	70.3	57.9	100
7.5	100	72.2	59.5	100
7.6	100	74	61	100
7.7	95.5	74	60	97.6
7.8	95.5	76	62	97.6
8.0	91	70.4	65.5	95.0
8.5	86.4	81.5	65.5	93.6
9.0	82	83.3	66.7	92.0
9.5	68	90.7	75.0	87.5
10.0	68.2	92.6	79.0	87.7
10.3	68.2	96.3	88.3	88.13
10.5	63.6	100	100	87.0
11.1	63.6	100	100	87.0

Table No. 2: Summary of workup for cut-off values of FPPPG test for the detection of IGT

FPPPG test mmol/l	Sensitivity (%)	Specificity (%)	PPV+ (%)	NPV- (%)
F6.5	78.9	86.7	62.5	86.7
6.6	78.9	83.0	71.4	87.9
6.7	78.9	85.7	75.0	88.2
6.8	78.9	88.9	83.3	88.9
7.0	79.0	91.4	83.3	88.9
7.1	79.0	94.3	88.0	89.2
7.2	79.0	97.1	93.0	89.5
7.3	74.0	97.1	93.0	87.2
7.4	74.0	97.1	93.0	87.2
7.5	74.0	97.1	93.0	87.2
7.6	68.4	97.1	93.0	85.0
7.7	68.4	97.1	93.0	85.0
7.8	63.2	97.1	93.0	83.0

Figure 1: Comparison of OGTT with FPPPG Test



DISCUSSION

In most of the prevalence studies oral glucose tolerance test is used as reference method[11]. In our study we used flexible postprandial plasma glucose (FPPPG) test as a screening test, with a cutoff point of7.0 mmol/l that has a sensitivity of 100 %, Specificity of 66.7 % with positive predictive value of 55 % for flexible postprandial plasma glucose (FPPPG) test. The result is comparable with other references in different populations having high prevalence of diabetes mellitus. In the Botnia[11] Study, the post load plasma glucose concentration measured at one hour with a cut off point of 155 mg/dl was a strong predictor of future risk for type 2 diabetes mellitus. While Rolka et al[12] evaluate the performance of recommended screening tests for undiagnosed diabetes and found a random capillary blood glucose test for diagnosis of diabetes mellitus with sensitivity of 75% at cut off value 6.7 mmol/l or more and specificity of 88 % that had low sensitivity as compared to our study but the specificity was better. In another study by Harris et al [13] the fasting plasma glucose level of > 7.0 mmol/l diagnoses current diabetes with sensitivity of about 50% and specificity of more than 95%. Compare with our study the sensitivity is low whereas specificity is on higher side. Pradhan et al[14] suggests HbA1C values as predictive of subsequent clinical diabetes in US female health professionals with cut of value of 6% or more having sensitivity of 16.7% and specificity of 98.9 %.In this study sensitivity is very low but specificity is very high. Several studies support Random Capillary Blood Glucose as screening test at cut-off value of 6-7 mmol/l, with high sensitivity and specificity and can be used as diagnostic test for diabetes mellitus[15-17]. By adjusting postprandial period and age, RCBG test had improved performance. Review of data[18], shows that the best test is the oral glucose tolerance test, but it is the most expensive, inconvenient and has weak reproducibility. Fasting plasma glucose would fail to notice people with IGT. Standardized estimation of glycated hemoglobin does not require fasting, reflects long term glycemia and with infrequent chance of errors makes it the best compromise. It may be that more people would be tested and diagnosed if the more convenient test was used, rather than the oral glucose tolerance test. Specific screening standards should be established that prompt further testing and closer follow-up for diagnosis of diabetes mellitus, including fasting Plasma Glucose of 100 mg/dl or more, random Plasma Glucose of 130 mg/dl or more, and HbA1Cgreater than 6.0% [5,18].

FPPPG screening test in our study has very high sensitivity for detection of the diabetes as compared to other studies and its low cost and convenience advocates it as a better screening method for detection of undiagnosed type 2 diabetes mellitus in developing countries like Pakistan, a third world country with budget restrains. A flexible postprandial plasma glucose test with time of sampling between 30-120 min after breakfast/snack/meal as a screening test is advocated.

CONCLUSION

This study proposes and recommends flexible postprandial plasma glucose (FPPPG) as new screening test for diabetes mellitus and IGT, with a cutoff point of7.0 mmol/l has sensitivity of (100 %), specificity of (66.7 %) and positive predictive value of (55 %). It is easy to perform, cheap and convenient for general population to comply.

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Original Article

Attitude of Mothers Regarding Use of Low Osmolar Oral Rehydration Solution (ORS) in Diarrhea. An Experience in Rural Area of Sindh

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ABSTRACT

Objective: To assess the knowledge and attitude of mothers regarding use of low osmolar Oral Rehydration Solution (ORS) in diarrhea and to find out the causes of under use of ORS and knowledge regarding ORS.

Study Design: cross sectional study.

Place and duration: Pediatric OPD civil hospital Badin with collaboration of Department of Pharmacology and therapeutics Mohammad Medical College Mirpurkhas patient and method.100 children of age 6 months to five years with various degrees of dehydration were enrolled in study. A questionnaire was given to mothers

Patients and Methods: It was a prospective, cross sectional and descriptive study conducted at Peadiatric OPD civil hospital Badin with collaboration of Department of Pharmacology and therapeutics Mohammad Medical College Mirpurkhas.100 children of age 6 months to five years with various degrees of dehydration were enrolled in study. A questionnaire was given to mothers. A proforma was designed for question and answers. Data was analyzed.

Results: 100 children were enrolled, out of which 55(55%, 28.0 ± 16.02) were under 2 years of age, 45(45%, 23.0 ± 13.13) were under 5 years of age, 62(62%, 31.50 ± 18.0) were males, 38(38%, 19.50 ± 11.11) were females. 70(70%, 35.01 ± 18.53) children were brought to OPD by mothers. 30(30%, 15.50 ± 8.80) were brought by parents. 60(60%, 30.50 ± 17.46) attendants were uneducated and 40(58%, 20.50 ± 11.69) educated. 58(58%, 29.50 ± 16.89) children had duration of illness 1-3 days. 42(42%, 21.50 ± 12.27) children has >3 days. 35(35%, 18.0 ± 10.25) children were with loose motion and vomiting. 29(29%, 15.0 ± 8.51) were with loose motion and fever. 30(30%, 15.50 ± 8.80) had only loose motion and 6(6%, 3.50 ± 1.87) with blood in stool. Out of 100 only 22(22%, 11.50 ± 6.49) children were given ORS and 78(78%, 39.50 ± 22.66) were not given ORS. Only 16(16%8.50 ± 4.76), mothers knew the proper way to prepare the ORS. The P-value of all variables were not significant in table no one, but P-value significant in table two statistically.

Conclusion: This study showed that there is insufficient use of ORS in rural areas of Sindh and those who use it do not know the proper way to prepare and serve it, As majority of mothers were uneducated and did not have knowledge regarding ORS use in diarrhea false belief and non availability were other reasons for under use of ORS. This needs to work harder in rural areas of Sindh, to educate mothers regarding use of ORS and recognition of signs of dehydration and initial home care. This task can easily be performed this needs cooperation of NGO and active participation of by lady health workers if they are fully committed and supported.

Key words: Diarrhea, Dehydration, Mothers, Low osmolar Oral Rehydration Solution.

INTRODUCTION

Diarrhea is the passing of increased amounts (more than 300g in 24 hours) of loose stools. It is often caused by a virus or bacteria and can be acute or chronic - lasting more than two weeks. [1]

It causes 4% of all deaths and 5% of health loss to disability. It is most commonly caused by gastrointestinal infections which kill around 2.2 million people globally each year, mostly children in developing countries[2]

Incidence of diarrhea in Pakistan is 3 – 4 episodes per child per year in children under 4 years of age.[3]

Around 1.1 billion people in low income countries lack access to improved water sources and diarrheal diseases are common among them. [4]

The case fatality of diarrhea in children under 5 years has been shown & be 19.7/1000(9%) Diarrheal disorders in childhood account for a large proportion (81%) of childhood deaths, with estimated 1.8 million deaths per year globally. The World Health Organization (WHO) suspects that there are > 700 million episodes of diarrhea annually in children < 5 years of age in developing countries, while global mortality may be declining the overall incidence of diarrhea remain unchanged at about 3.2 episodes per child per year [3]

The main symptom of diarrhoea is loose and watery stools. They might also have some or all of the following symptoms: I,e Vomiting, Abdominal pain, A low grade fever, Loss of appetite

- Signs of dehydration are
- Being very thirsty
- Being restless or irritable
- Suddenly losing weight
- Having sunken-looking eyes

Having a sunken fontanel (the soft spot babies have on their heads) [5]

Among the common cause of diarrhea the leading cause of severe diarrheal disease is rotavirus, particularly in the world's poorest countries. The release of these pivotal data comes on the heels of the World Health Organization's (WHO) June 2009 recommendation that vaccines preventing rotavirus—the most common and lethal form of diarrheal disease—be included in every country's national immunization program. [6]

Despite impressive public health gains made in the 1980s and 1990s, severe dehydration caused by diarrheal disease still contributes significantly to childhood morbidity and mortality in the developing world [7]

Diarrhea Easily Prevented by Soap and Clean Water, 88% of deaths due to diarrhea are caused by unsafe drinking water, inadequate sanitation, and poor hygiene. Access to clean water and good hygiene is the simplest solution, and can reduce incidence of diarrheal disease by 40%. WHO says hand washing with soap has been shown to reduce the incidence of diarrhoeal disease by over 40 per cent, making it one of the most cost-effective treatments for reducing child deaths caused by diarrhoea[8]

Dehydration, which can lead to death, is one of the most significant symptoms of diarrhoea, especially in children and oral rehydration therapy is the cornerstone of fluid replacement and is a simple, inexpensive and life-saving remedy that prevents dehydration in children suffering diarrhoea. WHO and UNICEF recommend treating diarrhea with low-osmolarity ORS and zinc tablets, which decrease the severity and duration of the attack. These treatments are simple, inexpensive and life-saving[9]

PATIENTS AND METHODS

It was a prospective, cross sectional and descriptive study conducted at Peadiatric OPD civil hospital Badin with collaboration of Department of Pharmacology and therapeutics Mohammad Medical College Mirpurkhas.100 children of age 6 months to five years with various degrees of dehydration were enrolled in study. A questionnaire was given to mothers.

Objective

To access the knowledge and attitude of mothers regarding use of low osmolar Oral Rehydration Solution (ORS) in diarrhea and to find out the causes of under use of ORS and knowledge regarding ORS.

Inclusion Criteria

Children age between 3 months and 5 years diarrhea and signs of dehydration present and OPD were include in this study.

Exclusion Criteria:

Sepsis
Pneumonia
Sever malnutrition

Patients

Before enrollment, a written informed consent was taken from the parents or legal guardian of each participating infant after explaining the nature of the study.

Proforma

OPD NO----------
Name----------Age----------Wt-----Sex----------
Address----------
Mother Education: Educated-------Uneducated----------
Number of Children: Male----------Female----------
Monthly income of Father:----------
Duration of Diarrhea: □<3days,□ >3days
Classification of Dehydration: □Severe Dehydration □Some Dehdration □No Dehydration

Blood in Stool:	□ yes	□ no
Fever	□yes	□ no
ORS given by Mother:	□yes	□no
How ORS prepare: Accurately:	□yes	□no
Quantity given:	□Sufficient	□Not sufficient

Data analyses

Statistical analyses was performed using SPSS for Window software (SPSS version 16). Ad-mission characteristics, such as, age, duration of diarrhea, etc., were analyzed to make a standard deviation, means, percentages of all variables and T-test apply for two mothers or parents croups whom were aware about ORS preparation and given to sick child in correct methods.

RESULTS

100 children were enrolled, out of which 55(55%, 28.0 ± 16.02) were under 2 years of age, 45(45%, 23.0 ± 13.13) were under 5 years of age, 62(62%, 31.50 ± 18.0) were males, 38(38%, 19.50 ± 11.11) were females. 70(70%, 35.01 ± 18.53) children were brought to OPD by mothers. 30(30%, 15.50 ± 8.80) were brought by parents. 60(60%, 30.50 ± 17.46) attendants were uneducated and 40(58%, 20.50 ± 11.69) educated. 58(58%, 29.50 ± 16.89) children had duration of illness

1-3 days. 42(42%, 21.50 ± 12.27) children has >3 days. 35(35%, 18.0 ± 10.25) children were with loose motion and vomiting. 29(29%, 15.0 ± 8.51) were with loose motion and fever. 30(30%, 15.50 ± 8.80) had only loose motion and 6(6%, 3.50 ± 1.87) with blood in stool. Out of 100 only 22(22%, 11.50 ± 6.49) children were given ORS and 78(78%, 39.50 ± 22.66) were not given ORS. Only 16(16%8.50 ± 4.76), mothers knew the proper way to prepare the ORS. The P-value of all variables were not significant in table no one, but P-value significant in table two statistically.

Table No. 1: The base line score with Percentages, Mean, Standard Deviation, and P-value of study participants.

Categories	%age	Mean ± SD	P-Value
Total Patients	100%	50.5 ±29.01	1.00 NS
Under 2 Years	55%	28.0 ± 16.02	1.00 NS
Undre 5 Years	45%	23.0 ± 13.13	1.00 NS
Male	62%	31.50 ± 18.0	1.00 NS
Female	38%	19.50 ± 11.11	1.00 NS
Brought by Mothers	70%	23.50 ± 20.35	1.00 NS
Brought by Parents	30%	15.50 ± 8.80	1.00 NS
Uneducated M/P	60%	30.50 ± 17.46	1.00 NS
Educated M/P	40%	20.50 ± 11.69	1.00 NS
Illness 2-3 Days	58%	29.50 ± 16.89	1.00 NS
IllnessMorethan3Days	42%	21.50 ± 12.27	1.00 NS
Loose Motion	35%	18.0 ± 10.25	1.00 NS
Loose Motion ĕ Fever	29%	15.0 ± 8.51	1.00 NS
Loose Motion	30%	15.50 ± 8.80	1.00 NS
Blood in Stool	6%	3.50 ± 1.87	1.00 NS
Awared Mother For ORS	16%	8.50 ± 4.76	1.00 NS

Percentages, Mean, Standard Deviation are calculated by descriptive-frequency and P-value by cross tab

DISCUSSION

Diarrhea is common problem in third world countries and associated with significant mortality. 100 children were enrolled, out of which 55(55%, 28.0 ± 16.02) were under 2 years of age, 45(45%, 23.0 ± 13.13) were under 5 years of age, 62(62%, 31.50 ± 18.0) were males, 38(38%, 19.50 ± 11.11) were females. 70(70%, 35.01 ± 18.53) children were brought to OPD by mothers. 30(30%, 15.50 ± 8.80) were brought by parents. 60(60%, 30.50 ± 17.46) attendants were uneducated and 40(58%, 20.50 ± 11.69) educated.

Table No.2: Total Number of Patients, and ORS use n=100

Total No. of Patients n=100	ORS given by Mothers =22 Mean ± SD	ORS not given by Mothers =78 Mean ± SD	P-Value
(100%)	(22%)	(78%)	
50 ± 29.01	11.50 ± 6.49	39.50 ± 22.66	.00**

* By One Sample T-Test
** P-Value significant

58(58%, 29.50 ± 16.89) children had duration of illness 1-3 days. 42(42%, 21.50 ± 12.27) children has >3 days. 35(35%, 18.0 ± 10.25) children were with loose motion and vomiting. 29(29%, 15.0 ± 8.51) were with loose motion and fever. 30(30%, 15.50 ± 8.80) had only loose motion and 6(6%, 3.50 ± 1.87) with blood in stool. Out of 100 only 22(22%, 11.50 ± 6.49) children were given ORS and 78(78%, 39.50 ± 22.66) were not given ORS. Only 16(16%8.50 ± 4.76), mothers knew the proper way to prepare the ORS. The P-value of all variables were not significant in table no one, but P-value significant in table two statistically.

We interview 100 attendants who brought children with diarrhea, regarding ORS use. Significant number of mother that is 78% did not use ORS in diarrhea due to many reasons which is corner stone of treatment on children

The prevalent beliefs and therapeutic preferences for diarrhea among mothers from an urban area in Eastern Saudi Arabia were investigated. Knowledge regarding dehydration and malnutrition as a complication of diarrhea was far from optimum in the studied groups.[10]

Our study match with study of Seyal T (2009)[3] they observed ORS use in 9.67% of mothers, 42.85% could prepare properly, Diarrheal disease continues to be a significant burden in terms of childhood morbidity and mortality despite tremendous progress in many fields. Regarding ORS use out of 100 patients 22 (22%) given ORS to children and only 16 (16%) mothers knew how to prepare it properly and sufficient quantity was given by 14 mothers.

As viral causes are common in our part of world so, advocacy and communication efforts to raise awareness about rotavirus sufficient for prioritization and accelerated vaccine introduction might benefit from a knowledge translation approach that delivers information and evidence about rotavirus through the

broader context of diarrheal disease control, an existing priority, and including information about other new interventions, specifically low-osmolarity oral rehydration solution and zinc treatment [7]

In the study of vikram (2001)[11] 1/3 mothers did not prepare ORS in correct way for their diarrheal children. Nearly half of mothers were not practicing adequate hand washing, 32% were using feeding bottles and 2/3rd of them were not boiling the feeding bottles. This is consistent with our study as majority of our woman did not care hygiene and ORS use.

Our study matched with the study of the Jha N Singh (2009)[12] in which mother's were interviewed for the use of ORS ,97% mothers had information about ORS and also preparation and use of ORS to their children ideally.22% given ORS and ideally know usage of ORS in diarrhea in our study. Intervention such as increasing woman's literacy, improving basic sanitation and health care services, and raising the general nutritional status for the population can only be exploited to decrease the diarrheal disease morbidity and mortality in long term.

Diarrhea is a leading cause of childhood morbidity and mortality in Nepal, a developing country where larger proportion of the population live in rural areas. Poverty, literacy, lack of health care facilities at local level, demographic distribution and traditional beliefs are the major obstacle for getting proper and timely health care, there is necessity to consider the cultural believes of different ethnic communities before designing and educational protocol or guide line. Educational protocol or guide line which respect the local cultural believes and stimulates the utilization of their locally available faculties can be easily accepted and would be more suitable to achieve the object[13]

Diarrheal disease is a major cause of morbidity and mortality among under-fives especially in developing countries. Important fact about diarrhea is the cause about children for easier course. Very often child-care is not adequate because of low knowledge and attitude and wrong practices. Experts now believe that children should continue their regular diet when they have diarrhea. In fact, the American academy of pediatrics states that most children should continue to eat normal diet including formula or milk while they have mild diarrhea[14]

The study was limited by use of poor population, questionnaire given to answer yes or no, but our study proved that rural women must be educated, provide health educated and employment, than we achieve the expected results for health. Use of ORS must be promoted on electronic media especially along with hand washing with soap. Unnecessary inhibited usage must be discouraged by general practitioner and child specialists during acute watery diarrhea episodes. Diarrhea control programs and other NGO should be involved along different media and promote ORS use.

Intervention such as increasing women's literacy, improving basic sanitation and health care services and raising the general's nutritional status for the population can only be expected to decrease the diarrheal diseases morbidity and mortality in long term.

There is an immediate need for campaign in order to try to change the maternal practices on management of acute diarrhea.

The maternal knowledge towards diarrhea and ORS was inadequate in the population studied and there was a big gap between actual and diarrhea practices Education of mother play important role in care practice for sick child. Mother with higher education has better opportunity for information of child care.

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Original Article

Morbidity and Mortality associated with Vaaginal Hysterectomy

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ABSTRACT

Objectives: To access the morbidity and mortality of vaginal hysterectomy

Study Design: Observational analytical study of cohort type

Place and Duration of Study: Department of Obstetrics and Gynecology, Bolan Medical Complex Hospital, Quetta, from June 2008 to June 2010.

Patients and Methods: This prospective study was conducted in department of Obstetrics and Gynecology Quetta from June 2008 to June 2010.One hundred twenty five patients undergone vaginal hysterectomy were studied. The age ranges from 25 -65years.Detailed history were taken. In each patient thorough systemic examination was performed and patient with finding of medical disorder were excluded. All analysis and computation including data base were done by SPSS 10.

Results: During the study period, a total of one hundred twenty five women undergone vaginal hysterectomy were observed. All the cases were within age group ranging from 25-65 years of age. Out of them 48% were between 41 – 50 years, 27% between 51 -60 years, 9.6% belongs to 25-40 years of age and 15.2% were above the age of 60 years. Considering the commonest indication of vaginal hysterectomy is utero vaginal prolapsed, other important indications were dysfunctional uterine bleeding and uterine myoma. Comprises of the intra-operative and postoperative complications, show hemorrhage was the main complication during the surgery and it is the major cause of postoperative mortality in our study.

Conclusion: Vaginal hysterectomy have less morbidity, shorter hospital stay and early resumption of patient to daily activities In our referral area where women's delivered at there home attend by inexperienced DIAS-traditional birth attendants, rapid succession of pregnancy greatly enhance the Perineal tear leads to high ratio if utero vaginal prolapse. Vaginal hysterectomy having less morbidity and mortality, so it is more convenient in our center.

Key Words: Vaginal hysterectomy, bilateral salpingo-oophorectomy, abdominal Hysterectomy.

INTRODUCTION

Vaginal hysterectomy is a procedure in which the uterus is surgically removed through the vagina. One or both ovaries and fallopian tubes may be removed during the procedure as well; removal of both ovaries and fallopian tubes is called bilateral salpingo-oophorectomy (BSO). A vaginal approach may be used if the uterus is not greatly enlarged, and if the reason for the surgery is not related to cancer[1].

Studies have shown that vaginal hysterectomy has fewer complications, requires a shorter hospital stay, and allows a faster recovery compared to removal of the uterus through an abdominal incision (abdominal Hysterectomy)[2].

The uterus is a hollow, pear-shaped muscular organ located in the lower abdomen or pelvis. One end of each fallopian tube opens into the side of the uterus, at the upper end, and the other end of the fallopian tube lies next to an ovary. At its lower end, the uterus narrows and opens into the vagina. The lower end of the uterus is called the cervix. The ovaries lie Next to and slightly behind the uterus[3].

A hysterectomy may be advised for a number of conditions. For some of these conditions, there may be alternatives to hysterectomy[4].

Excessive uterine bleeding, called menorrhagia, can lead to anemia (low blood iron count), fatigue, and contribute to missed days at work or school. Menorrhagia is generally defined as bleeding that lasts longer than seven days or saturates more than one pad per hour for several hours[5].

Menorrhagia and metrorrhagia are generally treated first with medication or other surgical alternatives to hysterectomy. However, abnormal uterine bleeding that does not improve with conservative treatments may require hysterectomy[6].

Fibroids are noncancerous growths of uterine muscle. Fibroids may become larger during pregnancy, and typically shrink after menopause. They may cause excessive and irregular uterine bleeding[7].

Pelvic organ prolapse occurs due to stretching and weakening of the pelvic muscles and ligaments. This allows the uterus to fall (or prolapse) into the vagin[8].

It is usually related to pregnancy, vaginal childbirth, genetic factors, chronic constipation, or lifestyle factors (repeated heavy lifting over the lifetime)[9].

Precancer or carcinoma in situ (CIN 3) of the cervix that does not resolve after other procedures
(such as cone biopsy, laser or cryosurgery) may require hysterectomy[10].

Endometrial hyperplasia is the term used to describe excessive growth of the endometrium (the tissue that lines the uterus). It can sometimes lead to endometrial cancer. Although endometrial hyperplasia can often be treated with medication, a hysterectomy is sometimes needed or preferred to medical therapy[11].

Chronic pelvic pain can be due to the effects of endometriosis or scarring (adhesions) in the pelvis and between pelvic organs. However, pelvic pain can also be caused by other sources, including the gastrointestinal and urinary systems. It is important for a woman with pelvic pain to ask about the probability that her pain will improve after hysterectomy[12].

Before surgery, there are two main decisions that need to be made: whether the ovaries should be removed, and whether estrogen replacement therapy is needed[13].

Removal of ovaries - A hysterectomy does not involve removing the ovaries, but they may be removed at the same time as hysterectomy; this procedure is known as oophorectomy[14].

The decision to remove the ovaries depends upon several considerations. Occasionally, it may not be possible to remove the ovaries due to scar tissue or other factors that increase the risk of removal[15].

Premenopausal women may decide to keep the ovaries to provide a continued, natural source of hormones, including estrogen, progesterone, and testosterone[16].

These hormones are important in maintaining sexual interest and preventing hot flashes and loss of bone density loss. On the other hand, women who have menstrual cycle-related migraines, epilepsy, or severe premenstrual syndrome may have an improvement in symptoms when hormone levels are reduced by removal of the ovaries. Individuals should discuss the risks and preferences with a doctor before surgery[17].

Estrogen replacement therapy - Estrogen replacement therapy (ERT) may be recommended after surgery for women who had their ovaries removed. Women who have not reached menopause may use ERT to avoid hot flashes, night sweats, and loss of bone density, which may occur when the ovaries are surgically removed. Women who plan to use ERT should talk with their clinician about the risks and benefits and about how long to use this treatment[18].

In younger women who retain their ovaries, ERT may be needed at a later date if the ovaries stop functioning earlier than expected.

Pre-operative testing — Standard pre-operative testing may include a physical examination, ECG, chest x-ray, and blood testing, depending upon age and other medical condition Vaginal hysterectomy is performed in a hospital setting, and generally requires one to two hours in the operating room. Patients are given general or spinal anesthesia plus sedation so that they feel no pain. Heart rate, blood pressure, blood loss, and respiration are closely observed throughout the procedure. After surgery, patients are transferred to the recovery room so that they can be monitored while waking up. Most patients will then be transferred to a hospital room and will stay one to two days[19].

After surgery has begun, the surgeon may find conditions, such as extensive scar tissue, that require him or her to make an abdominal incision to remove the uterus. Sometimes these conditions are not apparent before surgery.

A number of complications can occur as a result of hysterectomy. Fortunately, most can be easily managed and do not cause long-term problems[20].

Hemorrhage - Excessive bleeding (hemorrhage) occurs in a small number of cases. Excessive bleeding may require a blood transfusion and/or a return to the operating room to find and stop it.

Infection - Low-grade fever is common after hysterectomy, is not always caused by infection, and usually resolves without treatment. However, a high or persistent fever may signal an infection. Serious infection occurs in less than five percent of women, and can usually be treated with intravenous antibiotics. Much less commonly, patients require another surgical procedure.

Constipation - Constipation occurs in most women following hysterectomy, and can usually be controlled with a regimen of stool softeners, dietary fiber, and laxatives. Urinary retention - Urinary retention, or the inability to pass urine, can occur after vaginal hysterectomy. Urine can be drained using a catheter until retention resolves, usually within 24 to 48 hours.

Blood clots - Pelvic surgery increases the risk of developing blood clots in the large veins of the leg or lung. The risk is increased for approximately six weeks after surgery. Medications may be given to some women to prevent blood clots. In addition, women taking oral contraceptives or hormone replacement should ideally discontinue them one month prior to surgery since they can further increase the risk of blood clots. Women who are sexually active and premenopausal should use alternative methods of birth control (e.g. condoms) to prevent pregnancy before surgery[21].

Damage to adjacent organs - the urinary bladder, ureters (small tubes leading from the kidneys to the bladder), and large and small intestines are located in the lower abdomen and pelvis and can be injured during hysterectomy. Bladder injury occurs one to two percent

of women who have vaginal hysterectomy, while bowel injury occurs in less than one percent of women. Injury can usually be detected and corrected at the time of surgery. If detected after surgery, another operation may be needed.

Early menopause - Women who have undergone hysterectomy may experience menopause earlier than the average age of menopause (age 51). This may be due to an interruption in blood flow to the ovaries as a result of removing the uterus. Fluids and food are generally offered soon after surgery. Intravenous (IV) fluids may be administered during the first day, particularly if there is nausea or vomiting. Pain medicine is given as needed, either intravenously, or by intramuscular (IM) injection or pill. Patients are encouraged to resume their normal daily activities as soon as possible. Being active is particularly important since it helps to prevent complications, such as blood clots, pneumonia, and gas pains.

Studies of women's response to hysterectomy show that most women are very satisfied with their results. Most reported improvement in symptoms directly related to the uterus, including pain and vaginal bleeding.

PATIENTS AND METHODS

It was an Observational analytical study conducted at Outpatient department of Gynecology and Obstetrics BMCH, Quetta. Over a period of two year from June 2008 to June 2010.

All the patients in this study were included on the basis of detailed history, clinical examination and investigations through out door patient department.

Detailed questions including age, parity, chief complaints, history of medical disorder and surgery was taken. . Each patient was examined thoroughly after complete and detail history. All the patients were undergone vaginal hysterectomy. The postoperative period were observed.

All analysis and computation including data base were done by SPSS version 10. Mean ± SD was computed for age. Analysis of different variables was performed using test of significance chisquare test.

RESULTS

This study consist of the 125 patient of vaginal hysterectomy, which were carried out during the period of two years from June 2008 to June 2010 in the department of gynecology Bolan Medical Complex Hospital Quetta.

All the women were counseled regarding the objective and different diagnostic procedures and the cost of procedures.

Regarding the age, all the cases were within reproductive age group ranging from 25 years to 65 years of age. 9.6% were between 25-40 years, 48% were between 41-50 years, and 27.2% were 51-60 years, 15.2% were above 60 year of age group. The mean age was 33 year. (Table No.1)

Considering the incidences of vaginal hysterectomy as compare to the abdominal hysterectomy were done in our center in two years duration,, shows out of 520 hystrectomies, vaginal hysterectomies were done in 125 patients. The ratio of about 1:3.2 (Table No.2)

Comprises of the intra-operative and postoperative complications, shows hemorrhage was the main complication during the surgery and it is the major cause of postoperative mortality in our study. Infection was the second most complication. (Table No.3)

Table No.1: Age Distribution of Cases. (n-125)

Age	Number	Percent
25-40 years	12	9.6%
41-50 years	60	28%
51-60 years	34	27.2%
About 60 years	19	15.2

Table No.2: Incidence of Vaginal Hystrectomy (n-125)

Year	Vaginal Hystrectomy	%	Abdominal Hystrectomy	%
2008	40	32%	105	26.5%
2009	55	44%	160	20.4%
2010	30	24%	130	33%
Total	125	24%	395	76%

Table No.3: Complication (n-125)

Complication	Number	Percent
Hemorrhage	20	16%
Urinary bladder Injury	2	1.6%
Urinary tract infection	20	16%
Fever	20	16%
Wound infection	3	2.4%
Vault prolapsed	4	3.2%
Mortality	1	0.8%

DISCUSSION

Hysterectomy is the most common non- pregnancy related surgical procedure performed in united state.

The ratio of vaginal hysterectomy to abdominal hysterectomy is 1:3 is depend upon certain factors including ability of a surgeon, indication for surgery, practicing style, the absence of a clear guideline for selecting a surgical route, lack of patients knowledge about the option and in appropriate decision making.

Vaginal hysterectomy is less invasive and provides an acceptable alternative to abdominal surgery in especially medically compromised patient with problem

like Diabetes Mellitus, Hypertention and Cardiovascular disease.

In our study patients underwent vaginal hysterectomy was 24% and the ratio of 1.3.2 in vaginal hysterectomy and abdominal hysterectomy. In other study conducted by Thomas the frequency of vaginal hysterectomies 25% and abdominal hystrectomy was 75%.Some studies show the ratio of vaginal hysterectomy and abdominal hysterectomy was about 1.4.22

An other study conducted by Mather wood in Newzeland, total of 1940 hysterectomies were performed during 5 year period; 74% of hysterectomies were performed abdominally, 24% vaginally and 2% were laparoscopically assisted.

The largest segment of women who underwent vaginal hysterectomy were in age group 40-50 years. The percentage was 48 while a study conducted by Arif Tajamul the percentage was 42.85 in the same age group.23

In our study intra-operative complication rate was 10% and postoperative was 15%, in study conducted by Dr. Tajamul complication rate during surgery was 14.3%.

There was one mortality postoperatively in our study. In most of studies showed vaginal hysterectomy causes 0.1% to 0.2% mortality due to age and medical complication.

The study conducted by Harkki Siren overall complication rate was 44% for abdominal hysterectomy (AH) and 27.3% for vaginal hysterectomy (VH). Vaginal hysterectomy was associated with a lower febrile morbidity and minor complication rate. Prophylactic antibiotics reduced the febrile morbidity for VH and AH by 50% and 40% respectively the overall mortality rate was 1.5 per 1000.24

CONCLUSION

Vaginal hysterectomy is better routes of operation as compared to abdominal hysterectomy but it depends upon the ability of surgeon and indication of surgery.

Vaginal hysterectomy has less morbidity, shorter hospital stay and early resumption of patient to daily activities. In our referral area where women's delivered at their homes attend by inexperienced DIAStraditional birth attendants, rapid succession of pregnancy greatly enhance the Perineal tear leads to high ratio of utero vaginal prolapsed.

Vaginal hysterectomy having less morbidity and mortality, so it is more convenient in our center

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Original Article

Which is Better in Care of Volvulus Sigmoid Colon? Primary Repair or Double Barrel Colostomy

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ABSTRACT

Background: Volvulus refers to torsion of a segment of the alimentary tract, which often leads to bowel obstruction. Sigmoid volvulus is the most common form of volvulus of the gastrointestinal tract and this condition is responsible for 8% of all intestinal obstruction. Sigmoid volvulus is particularly common in elderly persons.

Objective: To compare the outcome of double barrel colostomy versus primary repair after on table lavage in cases of volvulus of sigmoid colon.

Design of Study: Comparative Study.

Place and Duration of Study: This study was conducted in the Department of Surgery, from April 2010 to September 2010 in Nishtar Hospital, Multan.

Patients and methods: This study was conducted in the Department of Surgery, from April 2010 to September 2010 in Nishtar Hospital, Multan. A total of 100 patients were included in the study.

Results: Majority of the patients in the age group 41-50 years. Out of 100 patients, 80 (80%) were male and 20 (20%) were female. Out of 100 patients, 40 (40%) belonged to Baluchistan, while 30 (30%) from DG Khan, 10 (10%) from Sindh and remaining 20 (20%) from Multan.

Conclusion: It is concluded from the study that morbidity and hospital stay was significantly lower in patients with Group-A (sigmoidectomy and primary anastomosis after on table lavage) as compared to group-B (sigmoidectomy + double barrel colostomy), so economic burden and morbidity related to colostomy can be prevented.

Key words: Outcome, Colostomy, Morbidity.

INTRODUCTION

Volvulus refers to torsion of a segment of the alimentary tract, which often leads to bowel obstruction. Sigmoid volvulus is the most common form of volvulus of the gastrointestinal tract and this condition is responsible for 8% of all intestinal obstruction. Sigmoid volvulus is particularly common in elderly persons. Patients present with abdominal pain, distension and absolute constipation[1]. Sigmoid volvulus is responsible for 5-7% of all intestinal obstruction and is the 3rd leading cause of large bowel obstruction[2].

Sigmoid volvulus is particularly common in South America, Africa and parts of Asia where the consumption of high fibre diets results in a long, redundant sigmoid colon. This condition accounts for 79% of all intestinal obstruction at a Bolivian hospital[3].

Sigmoid volvulus is common cause of large gut obstruction. It is reported that 30% of intestinal obstructions were caused by sigmoid volvulus in Pakistan, 25% in Brazil and 20% in India[4]. When early laparotomy is performed the gut is usually found viable in most (80%) of the patients[5]. In United States, caecal and sigmoid volvulus accounts for 52% and 43% resectively[6].

Accurate diagnosis is essential for optimal management. Delay in diagnosis and treatment may lead to sigmoid ischemia, infarction, perforation, peritonitis and septicemia resulting in mortality up to 60%[7].

Flexibility sigmoidoscopy is the preferred mode of decompression as it allows direct visualization of the mucosa to assess its viability. However, sigmoidoscopy should not be performed in patients who have developed clinical evidence of bowel gangrene etc[8].

This study was carried out to compare the outcome of double barrel colostomy versus primary repair after on table lavage in cases of volvulus of sigmoid colon.

PATIENT AND METHODS

This study was conducted in the Department of Surgery, from April 2010 to September 2010 in Nishtar Hospital, Multan. A total of 100 patients were included in the study. Patients were divided equally in two groups. Group-A (sigmoidectomy and primary anastomosis after on table lavage) and group-B (sigmoidectomy + double barrel colostomy).

RESULTS

Majority of the patient in the age group 41-50 years Table No.1).

Out of 100 patients, 80 (80%) were male and 20 (20%) were female (Table No.2).

Out of 100 patients, 40 (40%) belonged to Baluchistan, while 30 (30%) from DG Khan, 10 (10%) from Sindh and remaining 20 (20%) from Multan (Table No.3).

Table-No.1: Age distribution

Age (years)	No. of patients	Percentage
0-15	05	05.0
16-30	10	10.0
31-40	15	15.0
41-50	40	40.0
51-60	10	10.0
61-70	20	20.0

Table No.2: Sex distribution

Sex	No. of patients	Percentage
Male	80	80.0
Female	20	20.0

Table No.3: Area wise distribution of patients

Area	Male	Female	%age
Baluchistan	30	10	40.0
DG Khan	15	05	20.0
Sindh	07	03	10.0
Multan	16	04	20.0

DISCUSSION

Sigmoid volvulus is a common cause of large gut obstruction in many developing countries like India, Iraq, Turkey, parts of Africa and South America. These parts of the world are sometimes referred to collectively as the volvulus belt. In these countries sigmoid volvulus accounts for 25-30% of intestinal obstruction[9]. Sigmoid volvulus is the most common cause of acute large gut obstruction in NWFP, Pakistan[10].

It is reported that 30% of the intestinal obstructions were caused by sigmoid volvulus in Pakistan, 25% in Brazil, 20% in India, 17% in Poland and 16% in Rusia[3]. In developed countries like Europe and North America it accounts for only 20% of intestinal obstruction. It accounts for 30% in Eastern Europe and Scandinavia[11]. It is rare disease in United Kingdom and affects mainly the elderly perople[12].

There is a significant racial difference in incidence of volvulus of sigmoid colon within a defined geographical area. It is more common in blacks than in whites in United States[13]. In Pakistan it is more common in Pathans in NWFP[14].

Most of the patients in present study were inhabitants of rural areas and were having poor socio-economic status. The higher incidence in rural areas has also been reported in many other studies from developing countries[15].

In present study there were 80 males and 20 females. This is consistent with other series from the developing countries. The lower incidence in females is thought to be due to wider female pelvis. In females higher incidence occurs in pregnancy when sigmoid volvulus has no space to de-rotate spontaneously[16]. Male to female ratio of 3.3:1 was reported in a study[12].

Genetic factors may be important in predisposing to the development of sigmoid volvulus. In present study of 100 cases, 40 were from Baluchistan. Marked tribal differences have also been noted in other parts of the world such as the high incidence among the Beganda tribe in Uganda and the high incidence in blacks than in whites in USA[3]. Most of the patients in present series were inhabitants of rural areas who take high fibre diet and live in the hilly areas. Excessive gas production as a result of certain types of diet might play a role in the development of sigmoid volvulus in people living at high attitudes[17]. In present study the clinical features were comparable to the usual pattern. Abdominal pain was present in 80% of the cases.

Most authors agree that the definitive treatment of sigmoid volvulus is sigmoido-scopy with or without anastomosis. High morbidity and mortality rates are reported following resection and colostomy compared with primary resection and anastomosis[18]. We performed resection and double barrel colostomy in one group, resection and primary anastomosis after on table lavage in other group. Avoidance of a formal colostomy in the author's circumstances is desirable in view of the attitude of their society towards patients with a colostomy and lack of appropriate toilet facilities. Furthermore, colostomy has its own risks of complications and death[19].

Recently immediate resection has become popular and results have been favourable with an acceptable mortality and morbidity[20]. In another study, out of 223 patients with colonic trauma 168 were primary repaired (group-A) and 55 under colostomy (group-B). Intra-abdominal septic complication occurred in 5.9% of group-A and 10.9% of group-B patients[21].

In present study total complications, total infectious complications, abdominal infections and wound complications, all favoured primary anastomosis. Minimum hospital stay in group-A was 7 days and maximum was 12 days in group-B minimum was 12 days and maximum was16 days. These results also comparable to another study in which the primary inpatients stay was mean of 12.7 days with primary repair and 16.1 days for diverted patients not including the stay for colostomy closure.

CONCLUSION

It is concluded from the study that morbidity and hospital stay was significantly lower in patients of group-A (sigmoidectomy and primary anastomosis after on table lavage) as compared to group-B

(sigmoidectomy + double barrel colostomy), so economic burden and morbidity related to colostomy can be prevented.

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Original Article

Clinical Presentation of Dilated Cardiomyopathy in Children

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ABSTRACT

Objective: To describe the presenting symptoms of dilated cardiomyopathy in children.
Study Design: Descriptive Case series.
Place and Duration of Study: This Study was conducted at the Department of Pediatrics, Bolan Medical Complex Hospital, Quetta during a period of 1 year.
Patients and Methods: Following patients were included in this study; that had tachycardia, respiratory distress, and heart failure. Following patients were excluded from this study; hypertrophic cardiomyopathy, restrictive cardiomyopathy, coronary artery anomalies, congenital heart disease, Rheumatic carditis and RHD. 50 Patients were included and their clinical variables, laboratory parameters and echocardiograms were analyzed.
Results: Out of 50 patients, 5 died, all these were 10 years or older. The following symptoms were found to be clinically significant. Respiratory distress $p<0.05$, poor feeding $p<0.05$. The signs were clinically significant. Arrhythmia $p<0.05$, Fever $p<0.05$, Tachycardia $p<0.05$, Tachypnea $p<0.05$, Hepatosplenomegaly $p< 0.05$, gallop rhythm $p<0.05$. Other significant findings were: X-ray chest, increased cardio thoracic ratio $p<0.05$. On echocardiography increased dimension >115 and ejection fraction <20% $p<0.05$, ST segment changes and T wave abnormality $p<0.05$.
Conclusion: High index of suspicion followed by appropriate investigation can lead to correct diagnosis.
Key words: Dilated cardiomyopathy, Echocardiography, Electrocardiography, Tachycardia

INTRODUCTION

Dilated cardiomyopathy in childhood is a diverse disorder with outcomes that depend on cause and age at presentation, as well as heart failure status.[1] The incidence of DCM is 0.56 cases per 100 000 per year, 10-fold lower than in adults. Boys have a higher DCM incidence than girls related to X-linked genetic causes and neuromuscular disorders. Black children have higher rates of DCM and different causes of DCM than do white children.[2] The majority of children who are diagnosed with dilated cardiomyopathy come to early medical attention because of severe symptoms.[3] Congestive heart failure was the initial symptom in almost 90% of patients, sudden death was the first manifestation of dilated cardiomyopathy in nearly 5%, and a further 13% died during their initial hospitalization.[4] In children with dilated cardiomyopathy, lymphocytic myocarditis is found more frequently and more commonly reflects a viral origin.[5] Other potential causes, such as familial dilated cardiomyopathy, a metabolic disease and parental consanguinity (as a marker for a recessively inherited condition), were each documented in 8.8% to 14.7% of study subjects. Familial cardiomyopathy and mitochondrial diseases may well have been under recognized, because not all subjects and families were systematically screened.[6] Echocardiography is an important tool to diagnose and differentiate dilated cardiomyopathy from other causes of cardiac failure.[7] Studies from 1975-1990 reported 70% survival at 2 years and 52% survival at 11.5 years of follow-up.[8,9] However, a publication from Texas that included patients diagnosed from 1990-2004, has reported a survival of only 40% at a mean follow up 6.2 years.[10]

PATIENTS AND METHODS

This study was carried out at Bolan Medical Complex Hospital Quetta, for a period of one year. During this time, 50 patients were clinically diagnosed dilated using non-probability convenience sampling. Patients under the age of 12 years who presented with respiratory distress, tachpnea, tachycardia, shock, increased capillary refill(>2 Sec), heart failure, ejection fraction of the left ventricle<45% on echocardiography, fractional shortening < 25% on echocardiography and/or left-ventricular end-diastolic diameter > 117% of the predicted value corrected for age and body surface area were included. Patients with congenital heart disease, pericardial disease, supraventricular tachycardia, systemic disease associated with dilated cardiomyopathy, hypertrophic cardiomyopathy, restrictive cardiomyopathy, rheumatic heart disease, coronary artery anomalies, cor pulmonale, and

Kawasaki disease were excluded. All patients who presented with the symptoms mentioned in inclusion criteria were subjected to detailed history, physical examination and Proforma was filled. Those who had any features mentioned in the exclusion criteria were dropped. All this data in the record file was subjected to analysis on SPSS version 10 and subsequently reported. P value was calculated for quantitative variables, Confidence interval for qualitative variables.

RESULTS

During one year the total number of patients admitted in our unit was 1240. Out of these the patients with cardiac disease were 20.48%. Out of these dilated cardiomyopathy was diagnosed in 19.68% of patients. The relative risk was 0.2 %(clinically insignificant). The period prevalence was 4.3 cases per 1000 population. The male to female ratio was 1:1.4 (95% CI 0.30-0.58) and female constituted 56% of the total no of patients. Almost 70% patients in the 1-5 years age group. The mean was 5.74± 0.59, median was 3.75 and mode was 2. The standard deviation is 4.18; variance 1748, range is minimum 1 and maximum 12. Almost 80%of the patients presented within the first week of their illness, and only 6% presented in the third week(95% CI 1-4 wks) with the remaining presenting in the second week(Chi sq 39.600, df 13, asymp sig.000). 60% presented in grade 2 severity according to New York Heart Association (NYHA) classification (95% CI 49-64%), with 14 % presenting in grade 3 (95% CI 33-44%), and 6%(95% CI 5-8%) in grade 4 and 20% (95% CI 15-22%) in grade 1 respectively. The chi sq is 31.600, df 3, and asymp sig .000. The frequency of symptoms at presentation is given in table No.1.

The percentage of signs in DCM is given in table 2. Chest X-ray were taken in all patients, the most common finding was cardiomegaly, increase vascular marking were present in 50% of the patients (95% CI 44-52%) (Chi sq 0.000, df 1, asymp sig 1.000), co-existent pneumonia was present in 38% (95% CI 37-40%), while pleural effusion was found in only 10% (95% CI 8-12%).

The echocardiographic findings are given in table 3 along with percentages and CI. Followed by ECG findings and percentages in table 4.

Total leucocyte count was normal in 48% cases(95% CI 4000-11000), it was increased in 52%(95% CI 11000-18000), while it increased above 20,000/cm only in 26% of patients (20500-50000).64% 0f patients having Hb% below 10g/dl(95% CI 5-8),24% were significantly anemic with Hb% below 4 gm/dl(95% CI 2-5%) while the rest had normal Hb. Serum Electrolytes were done in all cases with hyperkalemia present in 36%(95% CI 5.0-6.5 mEq/dl) and hypokalemia in 30%(95% CI 2.5-4.5 mEq/dl),while the rest had normal K levels. 10% of the patients expired, the rest were discharged.

Table No.1: Frequency and percentage of symptoms at presentation

Symptoms	Frequency	Percentage
Cough	32	64.0
Respiratory distress	30	60.0
Poor feeding	25	50.0
Irritability	20	40.0
Exercise intolerance	10	20.0
Abdominal pain	8	16.0
Poor weight gain	5	10.0

Table No.2: Percentage of signs in DCM

Sign	Frequency	Percentage
Tachypnoea	50	100.0
Tachycardia	50	100.0
Gallop rhythm	43	86.0
Increased liver size	42	85.0
Chest indrawing	20	40.0
Pallor	15	30.0
Murmur	15	30.0
Pulmonary edema	15	30.0
Decreased capillary refill	10	20.0
Orthopnea	10	20.0
Increased JVP	8	16.0
Vomiting	5	10.0
Irregular pulse	5	10.0

Table No.3: Echocardiographic findings with frequency and CI

Findings	Frequency	CI
Chamber dimensions increased	100%	95%-105%
Ejection fraction decreased	100%	95%-105%
Regional wall abnormality	54%	55%-61%
Mitral regurgitation	30%	37-44%
Tricuspid abnormality	20%	18-24%
Mural thrombus	4%	1-4%

Table No. 4: ECG Findings along percentages and CI

Findings	Percentage	CI
T wave abnormalities	70%	65%-74%
ST segment abnormalities	64%	62%-69%
P wave abnormalities	16%	
Left bundle branch block	10%	7%-12%
Atrial fibrillation	6%	4%-7%

DISCUSSION

The prevalence of DCM in Bolan Medical Complex Hospital, Quetta was found to be 19.68% while at

AKUH it was 13% of all cardiac disease.[11] The latter study extended over 7 years period, similarly Kothari from New Delhi founded 145 children over a period of 9 years.[12] This percentage is higher significantly and calls for the need for better understanding and early diagnosis through conducting further studies .

Our study had a female preponderance that is 56% females, 44% males and male to female ratio was 1:1.5. Shabina Ariff reported male predominance male to female ratio 1:0.6. Similarly Kothari from India reported a male predominance 1.8:1; however Elnoor has reported a female predominance, with male to female ratio 1:3.5, Nonogueria from Portugal studies 34 children with cardiomyopathy with male to female ratio 1:4. Now whether these reports from different geographical areas are coincidental or represent unknown factors is not known.

Our study found that age group most strongly affected 1-5 years age groups. This is consistent with other studies. Agarwall et al from Muscat showed that 83% of children were below 2 years.[13] Similarly Taliercio et al also showed the preponderance of infants and younger children.[14] Regional data shows similar results. Dalal in India in hospital based study showed 20 children with dilated cardiomyopathy that presented most frequently between 2-5 years. A Finish study had identical results with all patients presenting below 2 years of age.

In our study 94% of the patients presented with in the first 2 weeks of onset of illness. This is not consistent with National Data. Liaqat Ali in his land mark study showed that 33% patients presented in first 6 months.[15] But this was a study of adult patients. Kothari showed that the mean duration illness at presentation was 5.8 months, this was found to be statistically insignificant ($p > 0.05$)

The severity of symptoms were judged by New York Heart association classification, while we found only 30% of patients in class ¾, Kothari demonstrated 38% patients. Most of the patients in our study presented in class I and II. This was found statistically insignificant ($p>0.05$)

The following symptoms were found to be statistically significant. Respiratory distress ($p<0.05$), poor feeding ($p<0.05$), cough ($p<0.05$). The following signs were found to be statistically significant: Arrhythmia, fever, Hepatomegaly, tachycardia, tachpnea, gallop rhythm($p<0.05$). Cardio thoracic ratio more than 55% was found to be statistically significant (<0.05).

The following finding on Echocardiography were found to be statistically significant ($p<0.05$). Decreased left ventricular ejection fraction, increase chamber dimension and regional wall abnormality.On ECG ST Changes and T wave abnormality, left ventricular hypertrophy were found to be statistically significant (>0.05).

This study has high mortality rate that is 10%, it would be pertinent at this point to list the factors found on univariate analysis to be statistically significant.

The higher age of diagnosis higher cardiothoracic ratio > 60% and higher ratio of LVED/PW thickness were associated with higher mortality rate. Similarly patients with Hemiplegia mural thrombus, very low ejection fraction of less than 20% arrhythmia, hyperkalemia.

The outcome of this study was better than other studies conducted nationally and internationally e.g. Shabina Ariff reported 28% mortality, while studies conducted in America, Australia, Japan, Finland, Africa, India have reported higher mortality rates as high as 60%.

This difference was probably due to lack of follow up of our patients. Our consideration was single admission and its outcome that was either discharge or death, perhaps many of the children died latter or referred to other tertiary care centers. While compared to the meager resources at our disposal, the mortality is still surprising low. For example Shabina Ariff reported a mortality of 28% at AKUH that is the most sophisticated specialized center in our country and this was during a course of single admission.

A Kagi T from Hospital for sick children Toronto reported a similar outcome; despite intensive medical therapy DCM in children is associated with survival rate of 41% at one year and 20% at 3 years after diagnosis. In the same vein Ghani VK and Colleagues from Ahmed Abad India showed that despite vigorous therapy course was rapidly downhill and prognosis poor, similarly data from Italy showed that only 38.2% children survived at the end of single admission, while mortality was 29%. The Finish study concluded that children with DCM had a mortality of 50% and after 5 years only 20% were alive, it also showed that male patients less than 1 years of age had poor outcome compared to female of the same age group (p0.09)

On the other hand our study showed that all five deaths were among male patients and they were all more than 10 years of age. Shabina Ariff also showed that the mortality in male is two and half time more than females. Hence in the two Pakistani studies male gender had the significant impact on the outcome whether this is actually the case is controversial as results from different studies are conflicting. Another interesting feature of this study is that highest mortality was seen in children 10 years or above.

This is consistent with National and international data e.g. Shabina Ariff showed a mortality of 50% in the older age group, similarly Agarwall et all showed that the outcome was poor in older age group; in contrast Taliercio et al showed that children under the age of 2 years had a higher fatality rates of 90% over 2 years. Griffin on the other had showed a poor outcome for children more than 2 years of age.[16] Dalal in India did not observe any difference in outcome and age.

In our setup it could be due to lack of differentiation of cardiomyopathy as a case of respiratory distress, low threshold for referral for young children with presumed pneumonia, Who classification for pneumonia that has resulted in ambiguity among primary physicians alike regarding cardiac etiologies causing respiratory insufficiency.

Alternatively this could be due to different causes of cardiomyopathy in different age groups, relatively immature cardiac system and myocardial metabolism of the infant, limited adoptive mechanism stress that could lead to severe yet reversible myocardial dysfunction perhaps the regenerative capacity of infant myocytes enhanced hypertrophic tendency in response to wall stress and less after load secondary complaint peripheral artery . Many have postulated that children less than two years of age who are diagnosed as having DCM may actually have a slowly resolving myocarditis for resolving this grey area. Further studies are needed focusing on specific age groups, their etiology and outcome to accurately point out true risk age group. Our study did not encounter any positive family history in all 50 patients included. Arrhythmias and mural thrombosis which were found in a very small percentage of patients were associated with Hemiplegia and death, since the size of sample is too small , whether a temporal relation exist cannot be commented upon. In conclusion it would be safe to say that we lack data regarding etiology, risk factors, and outcome on DCM in our part of the world.

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Original Article

Weapon of Offence Used in Bodily Medico Legal Injuries in a Rural Area

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ABSTRACT

Objective: The primary objective was to study about different weapon of offence, used in inflicting bodily medico legal injuries in a rural area of Khyber Pakhtoonkhuwa.

Materials and Methods: the study is a record based research, 55 cases were selected, which were consecutively recorded from the previously registered MLC cases in a rural area, data of types of weapon used in offences along with preliminaries data was recorded from the record and analyzed.

Results: in 55 cases the weapon of offence used were blunt weapon, sharp heavy edged, sharp light edged, Fire arm and road traffic accidents' there were total 37 (67.3%) cases of blunt weapon, of which 31(64.6%) were of male and 6 (85.7%) of female, only 1 (2.1%) of male were injured with sharp heavy edged weapon, while non of female was hurted with such weapon, 3 (6.25%) of male and 1 (14.3%) of female were injured by sharp light edged weapon, total of 5.5% were hit by fire arm, and 18.2% cases were of RTA.

Conclusions: our study reflect the true picture of rural society where the female population suffered less as compared to male, due to their conservativeness, weapon was used 48 (87.3) times against male population and 7 (12.7) time against female which prove that it is true that, in the society of pathans in KPK province female and children are spared in the enmity disputes.

Keywords: Wound, Injury, Hurt, Assault, Battery, Weapon

INTRODUCTION

Before defining the term weapon, it is necessary to define certain other things ,which will not only be made to understand themselves, but they will also help us to create some idea about the weapon which have compulsory role in their infliction .wound, means a solution or disruption of the anatomical continuity of any tissue of the body.[1] Injury, is defined as any harm whatever illegally caused to any person in the body, mind, reputation or property, and injuries caused by application of physical violence or force to the body are known as mechanical injuries.[1] Hurt; in law means, causing of pain, harm, disease, infirmity, injury or impairing , disabling or dismembering any organ of the body or part thereof without causing death, and they are classified on the bases of part of the body involved and manner of infliction.[2]

The wound, bodily injuries and hurt are caused by the application of force directly or indirectly along with other contributory factor e.g. the specific effect of the force, area over which the force act and the time taken over which the Kinetic energy is transferred.[3,4]

The attempt to apply force or to offer threat to the body of another one is termed in law as **Assault** while the Battery is the term used when the force is actually applied to the body of another one e.g. punching some one or plucking of cloths1.[1]

Weapon by definition is any instrument or object which when used is likely to cause injury, wound or hurt which may or may not lead to death, but if it causes the death or likely to cause the death of the victim than it is turned as dangerous weapon.[5] The weapon of offence is one which is used when the offence is committed, in committing crimes different things or weapon are used, they may be punches, shoes, sticks, knives, needles, firearms, transporting machines, heat or chemicals or fire, electricity, radiations and even water. All these things can be said the weapon of daily utility, but they are termed weapon of offence when offence is committed by use of any of them. The common dangerous weapon of offence among blunt weapon are sticks, stones etc among sharp weapon are light weapons with sharp cutting edge e.g. knife and razors etc, and heavy weapons with sharp cutting edge e.g. hatchet, axe etc, among pointed weapons are daggers, ice picks etc, and firearms may be smooth bored or rifled.

It is possible to infer the type of weapon used in the assault or crime from an examination of wound, injury pattern and findings in cloths. The hard blunt object can cause abrasions, contusions, lacerations and fractures either singly or in combinations depending on the surface of the object, severity of blow and the part of the body struck. The surface of the weapon of offence coming in contact with the body may some time bear the pattern and give a clue to the weapon used e.g. chain, hammer

etc. some time the injury caused by blunt force or object may resemble incised wound of sharp weapon, but careful examination with magnifying lens will reveal the true nature of laceration caused by blunt weapon, similarly the wound caused by sharp cutting weapon have clean cut edges and one caused by jagged edges of metal or glass will resemble this but on examination it will have irregular shape and bruised edges. The wound caused by heavy weapon with sharp edges will have chop wounds and the edges of it will show bruising and marked destruction of under lying tissue, the dimension of such wound will correspond with the cross section of penetrating blade of the weapon. The pointed weapons cause specific wounds called penetrating or perforating wounds the weapon give specific shape to it, and if the wound is caused by fall on sharp pointed object, the broken pieces of it may be detected by lens in the depth of wound.[6–8] The fire arm wound also have there characteristic pattern by which the weapon can be identified weather it is smooth bored or rifled, so the injury pattern is playing important role in the identity of weapon of offence, self inflicted wounds and defense wounds.

It is the duty of the medical examiner to identify the weapon of offence, some time the weapon is brought by police along with victim or later during investigation, so he should ascertain, if the injuries could have been caused by the kind of weapon and in the manner as alleged by police or victim. The kind of weapon used can be judged from an examination of weapon for its appearance, weight, dimension and tip etc with special reference to the wound e.g. size, shape, margins, edges and direction etc. the weapon must also be examined for certain relevant things e.g. stains, the wound for broken pieces, cloths for tear or hole and blackening and its correspondence or correlations.

The medical officer, if is convinced that the injuries are such as could not have been caused by the kind of weapon and in the manner suggested by police or the victim, he should record it so as to avoid unnecessary cross examination at the time of evidence and to withstand justice. The weapon should be described and labeled in such a way that, it is identifiable during evidence and it should be covered with private seal, singed and the signature of the constable should be taken who receive it.[9,11]

MATERIALS AND METHODS

A medico-legal center of a Tehsil Headquarter level of Oghi of district Mansehra was selected. It was a record research, the record of retrospectively recorded cases was taken, researched and record was formed in a Performa. The total time interval of the recorded cases in profarmas was 4 months from February to June 1991. The research was done on cases recorded consecutively, A questionnaire was developed to record the preliminaries, findings and opinion about injuries and the weapon of offence, the previous record was taken and from a recorded point in time, the onward record was searched of the selected population sample of victims and data of the recoded informations were made from the medico legal register, such registers are always maintained at such centers for the memory of MLO and court or judicial matters. The collected data was subjected to analysis and the results were interpreted.

RESULTS

From the record of the said MLC,s, 55 recorded cases were selected, 48 (87.3%)were males and 7 (12.7 %) females, the mean age of male was 36.92±14.003 and that of female was 43,29±10.111 while the frequency of males getting injured was at higher rate. (Table-1)

Occupation of most of the victim was forming making 23 (47.9%) of males and manual male worker were 7 (12.7%), salaried class 7 (12.7%) in males and 0% in females. (Table-2)

Table-1: Gender and Mean±SD of age in years

Gender	Number	Percent	Mean ± SD
Male	48	87.3	36.92 ± 14.003
Female	7	12.7	43.29 ± 10.111
Total	55	100.0	37.73 ± 13.661

Table-2: Occupation of victims

Occupation	Male	Female	Total
Farmer	23 (47.9%)	0	23 (41.8%)
Manual Worker	7 (14.6%)	0	7 (12.7%)
Vocational	1 (2.1%)	0	1 (1.8%)
Professional	1 (2.1%)	0	1 (1.8%)
Salaried	7 (14.6%)	0	7 (12.7%)
Business	5 (10.4%)	0	5 (9.1%)
Others	4 (8.3%)	7 (100%)	11 (20.0%)
Total	48	7	55

Table-3: Weapons used

Type of Weapon	Male No. (%)	Female No. (%)	Total No. (%)
Blunt	31 (64.6)	6 (85.7)	37 (67.3)
Sharp Edged Heavy	1 (2.1)	0	1 (1.8)
Sharp Edged Light	3 (6.2)	1 (14.3)	4 (7.3)
Firearm	3 (6.2)	0	3 (5.5)
RTA	10 (20.8)	0	10 (18.2)
Total	48	7	55

In case of males the blunt weapon was used in 31 (64.6%) cases while in case of females in 6 (85.7%) cases and total 37 (67.3%). The heavy sharp edged weapon was used in 1.8% cases and that was male,

while Sharp edged light weapon was used in 4 (7.3%) of all cases. The results of use of fire arm were 3 (5.5%) of all cases, the incidence of RTA was 10(18.2%). (Table-3)

DISCUSSION

In our study the total sample of population was 55 cases and as compared with other national level studies our results were matching, as the society sample under study is male dominated and females mostly remain apart from the daily involvement of life and are less exposed to disputes. The male victims were 87.3% while the female victims were 12.7%, this was compared to the study of an urban area of Lahore done in king Edward medical college in which male were 85.44% and female 14.56%.[12] The mean age of males was36.92 ± 14.oo3 while that of females was 43.29 ± 10.111 as compared with an other study at Lahore which had 62.91% of people of age 30years, the occupation of most of them was forming and manual work., these results are reflecting the true situation of the society., and were compared to the study of Tajammal N, *et al*[12], their result showed that in her study the injuries were 26.76% due to Fire Arm, 17.85% due to Road Traffic Accidents and 10.80% due to sharp edged weapon. The weapon of offence used in our study were blunt 67.3%, sharp heavy edged 1.8%, sharp light edged 7.3%, Fire Arm 5.5% and Road Traffic accidents 18.2%.

CONCLUSION

In our study the common type of weapon of offence used was blunt and the female gender was affected less than males.

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