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EDITORIAL

'CHANGE' – THE PERMANENT LAW OF THE UNIVERSE

Journal of Medical Sciences of Khyber Medical College was founded in September 1990 when its first ever issue was published. The faculty and editorial board at the time has to be commended for realizing the need of having a scientific journal and for their futuristic vision. Since its beginning, JMS has been supporting local research in the field of medicine. The first ever editorial board was headed by Prof. Manzoor Ahmad Khan, the then Principal of Khyber Medical College. It is true that academic activities precede practice and sound knowledge of medical sciences produces sound practitioners. JMS has been pioneering academic activities to the highest standard over the past seventeen years. It has encouraged local researchers to develop practices of high ethical and scientific standards and bring them in writing so that these are then followed by the new generation of doctors. Researchers, both locally and globally, have an inherent wish that their work be recognized by their peers. JMS has been providing this opportunity to them.

While it has been an excellent and reliable instrument to help publish local research work, JMS has seen its lows and highs in its seventeen year journey. It kept on serving without having a proper office and a permanent source of funding. The editorial board has been working on voluntary basis, which is why on few occasions, some of its issues could not be published. Inspite of financial and logistic difficulties, JMS did continue its journey.

Prof. Manzoor A. Khan handed over the candle to Prof. Abdullah Jan, who was followed by Dr. Khadimullah Kakakhel as a chief editor. This time, JMS was recognized by Pakistan Medical and Dental Council. Just as the journal was leaping forward, came another crisis. The Government of NWFP imposed Institution Based Practice (IBP). Under IBP rules, doctors employed in the public institutions were allowed to see patients privately in the employing institutions only. They were not allowed to practice medicine any where else. This rule was against the usual norms. The result was that many of our experienced colleagues resigned from public service, Dr. Khadimullah Kakakhel being one of them. In the turmoil of IBP and the Chief Editor resigning, JMS once again suffered heavily. The editorial board had to be reconstituted. This time it was headed by Dr. Nadeem Khawar. The quality and standard of contents and printing of the journal improved tremendously during this period.

Looking back, I see that each time the editorial board got changed, it brought some improvement in the journal. With the establishment of Khyber Medical University (KMU), the stakes have gone higher. We are now not only governed by PM&DC rules, but the Higher Education Commission (HEC) rules are also applicable to us. To be able to comply with the HEC rules, JMS has to be upgraded and its editorial board refreshed and broadened. The new editorial board knows it mandate and would strive hard to achieve its goals in the shortest possible time. We know that editorial board alone cannot achieve these goals unless the faculty members keep on feeding the journal with good quality research papers.

It is not only the JMS but the whole medical profession would see a change in the landscape in the near future. The honourable Vice Chancellor of KMU, Prof. Mohammad Daud Khan, has issued the objectives of KMU, popularly referred to as 'Ten Commandments'. In the light of these objectives, the art and science of medicine would never be the same. The changes, that the honourable Vice Chancellor is keen to see, would bring the learning and practice of medicine to the level of international standards, ultimately resulting in excellent services to individual patient in particular and the society in general.

Dr. Noor ul Iman
FRCPI

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FREQUENCY OF HELICOBACTER PYLORI IN PATIENTS WITH UPPER G.I SYMPTOMS

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ABSTRACT

Objective: Our study aimed to determine the frequency of H pylori infection in our local population.

Material and Methods: 100 sequential patients undergoing upper gastrointestinal endoscopy were tested for the presence of H pylori infection by the urease test. All patients were tested for the presence of H pylori regardless of endoscopic findings.

Results: Of 100 patients, 39 were male and 61 were female. Patients age ranged from 13 years to 85 years, mean age being 39.9 years. Positive endoscopic findings were detected in 32% cases. 65% cases (42 female, 23 male) tested positive for H pylori infection. Of those who tested positive, 20 patients (30.7%) had significant upper GI pathology detected. Of patients who were negative for H pylori infection, 12 (34.28%) had significant upper GI pathology detected. Of a total of 61 female patients undergoing endoscopy, 68.8% tested positive for infection with H pylori, whereas 58.9% of the male patients test positive. Of 100 patients, 47 were aged 40 or above of which 55.3% were H pylori positive; 53 patients were below 40 years of age and of them, 75.3% were H pylori positive.

Conclusion: We conclude that significant proportion of Pakistani population harbours H. Pylori and due consideration should be given to H. Pylori status of a person presenting with diseases with strong link with this organism.

Key Words: H. Pylori, Endoscopy.

INTRODUCTION

Helicobacter pylori is now known to be closely associated with chronic gastritis, most peptic ulcers, and gastric adenocarcinoma and lymphoma.[1] It is the most common chronic bacterial infection in humans. It has been demonstrated worldwide and in all age groups. Conservative estimates suggest that 50% of the world's population is affected. Infection is more common and acquired earlier in developing countries compared to industrialized nations. Once acquired, infection persists and may or may not produce gastroduodenal disease. In developed countries, such as the United States, serologic evidence of helicobacter pylori infection is rarely found before age 10, but increases to 10% in those between 18 and 30 years of age, and to 50% in those older than age 60. The epidemiology of helicobacter pylori infection is different in developing nations where the majority of children are infected before the age of 10 years and adult prevalence peaks at more than 80% before age 50.[2,3] The risk of acquiring helicobacter pylori infection is related to socioeconomic status and living conditions early in life. Factors such as density of housing, overcrowding, number of siblings, sharing a bed, and lack of running water have all been linked to a higher acquisition of infection. Within a particular country, a decline in prevalence of infection appears to parallel economic improvement.[4,5]

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MATERIAL AND METHODS

During the period September to November, 2001, patients undergoing upper gastrointestinal endoscopy under the care of Medical C Unit (out-patient department and inpatient), Khyber Teaching Hospital, Peshawar, were tested for the presence of helicobacter pylori infection by the urease test. 100 sequential endoscopies were recorded to determine the incidence of H pylori in patients having upper GI symptoms. Symptoms for referral included nausea, vomiting, heartburn, reflux, belching, flatulence, haematemesis and malaena, dysphagia and epigastric pain or discomfort. All patients were tested for the presence of H pylori regardless of endoscopic findings.

RESULTS

Of 100 patients, 39 were male and 61 were female (Fig. 1). Patient age ranged from 13 years to 85 years, mean age being 39.9 years. Positive endoscopic findings were detected in 32% cases, and included hiatus hernia (4%), gastritis (8%), duodenitis (2%), duodenal ulcer (13%), gastric ulcer (1%), esophageal

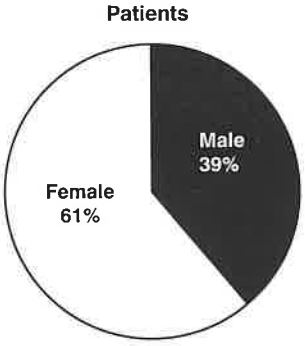

Fig. 1: Frequency of Helicobacter Pylori In Patients With Upper G.I Symptoms

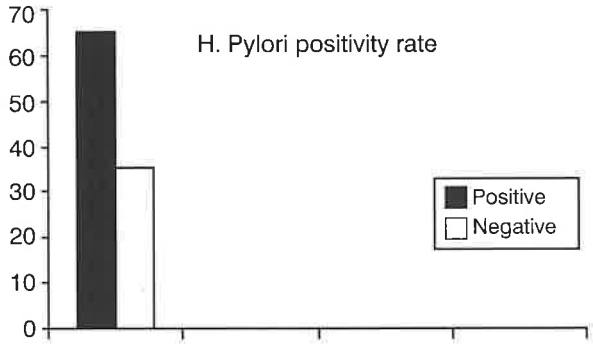

Fig. 2: Frequency Of Helicobacter Pylori In Patients With Upper G.I Symptoms

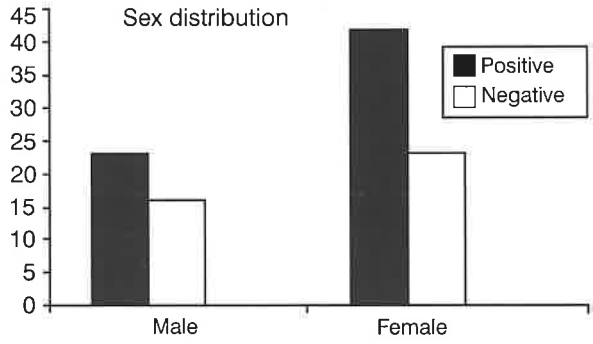

Fig. 3: Frequency Of Helicobacter Pylori In Patients With Upper G.I Symptoms

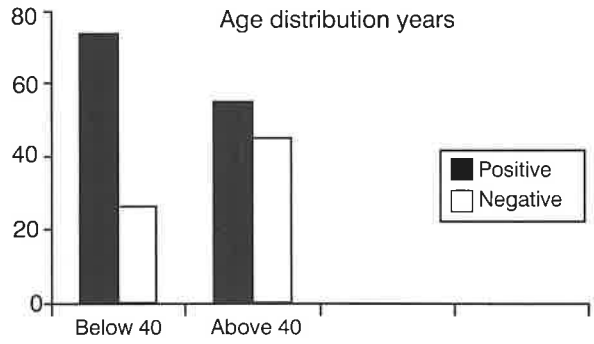

Fig. 4: Frequency Of Helicobacter Pylori In Patients With Upper G.I Symptoms

carcinoma (2%) and gastric carcinoma (2%). 65% cases (42 female, 23 male) tested positive for H pylori infection (Fig. 2). Of those who tested positive, 20 patients (30.7%) had significant upper GI pathology detected. Of patients who were negative for H pylori infection, 12 (34.28%) had significant upper GI pathology as determined by endoscopy. Of a total of 61 female patients undergoing endoscopy, 68.8% tested positive for infection with H pylori, whereas 58.9% of the male patients tested positive (Fig. 3). Of 100 patients, 47 were aged 40 or above (Fig. 4) of which 55.3% were H pylori positive; 53 patients were below 40 years of age and of them, 73.5% were H pylori positive.

DISCUSSION

We aimed to determine the incidence of helicobacter pylori infection in our local Pakistani population. Our results were in keeping with the general data available in literature. In our study, 65% of cases were positive for H pylori infection. The incidence was slightly higher in females than males in our study. Also, the incidence in a younger age group (below 40 years) was much higher than the older group (above 40 years), i.e. 73.5% vs 55.3%. This trend is in keeping with the general trend observed in developingcountries, where evidence now indicates that mostinfections are acquired during childhood. Therefore, the frequency of H pylori infection in any age group in any locality reflects that particular cohort's rate ofbacterial acquisition during childhood years.[2,5]

Ndubaba et al from Nigeria[6] reported an incidence of 73% with a peak in the fourth decade. Baako from Ghana[7] reported H pylori in 75.4% of a total of 130 patients with upper GI symptoms with a peak in the fifth decade. Their study also found 74.4% of patients with normal upper endoscopy to be H pylori positive and the presence of duodenal ulcer in 18.8% of H pylori negative patients. Perez-Perez from Thailand[8] reported incidence of 17.5% in children, 55% in the third decade and 75% in the 40-49 year age group. Megraud et al from Algeria[9] have recorded an incidence of 43% in children and 92% in the 40-49 yr age group. Al-Moagel et al in their study from Saudi Arabia[10] reported the evidence of H pylori infection in more than 70% of patients above 20 years of age. In a study from Chile, Russell et al[11] quoted the incidence as more than 70% in teenagers studied. On our Pakistani scene, our results are again comparable to previous studies. F Qureshi et al in their study from Jamshoro[12] reported H pylori in 90% cases whereas A Mohsin et al from Lahore[13] found infection in 43.6% of patients presenting for endoscopy. Z Niaz in his study from Lahore[14] reported infection rate of 76.6% and Z Aman from Peshawar[15] reported 85.1% both in cases presenting with perforated duodenal ulcers. R Hasan and Z Abbas in their study from Karachi[16] reported an incidence of H pylori infection in 68% of normal endoscopies vs 78% in cases with significant endoscopic findings.

CONCLUSION

We conclude that significant proportion of Pakistani population harbours H. Pylori and due consideration should be given to H. Pylori status of a person presenting with diseases with strong link with this organism.

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BREAST DISEASE: CAUSES FOR DELAYS IN PRESENTATION

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ABSTRACT

Background: It has been observed that patients with breast disease may delay consulting a doctor. The results are disastrous for patients ultimately diagnosed with malignant breast disease. This study is an observation of the factors which affect the time interval between symptom recognition in breast disease and medical consultation.

Material and Methods: All patients with breast disease presenting to the outpatient department of our unit between November 2003 and November 2005 and ultimately admitted were included in the study. They were divided into two groups based on whether they presented before or after 6 months of symptom recognition. They were interviewed about factors which had brought them to the hospital. Factors responsible for delays in presentation were also inquired about.

Results: Of the 133 patients with breast lumps, 51 (38.5%), presented within, and 82 (61.7%), beyond 6 months of noticing the swelling. Various factors which might have played a role in the delay to seek advice included poverty (52.4%), belonging to remote areas (44.9%), wrong beliefs and fears (67%), lack of education (58.5%) and shyness (18.3%).

Conclusions: Factors responsible for delays in seeking medical advice among patients with breast disease must be targeted to result in earlier presentation. This is especially important in breast cancer which is a curable disease in the early stages.

Key Words: Breast disease, late presentation.

INTRODUCTION

In Pakistan, the problems in the management of breast disease particularly breast cancer, are compounded by the fact that a significant proportion of these patients present late. This can have disastrous results: economic, mental, social, cosmetic. For patients with breast cancer this may spell the difference between life and death. The reasons behind the delaying behaviour of patients are poorly understood. Poverty and lack of awareness are apparently the cause for late presentation. Probing deeply, there are many other factors responsible for this situation. This study looks into the reasons for this trend.

MATERIAL AND METHODS

This is an observational study on all patients admitted to our unit at Khyber Teaching Hospital, Peshawar between November 2003 and November 2005, with breast lumps requiring surgery. Patients having had breast surgery in the past were excluded. Data was collected on symptoms, dates of symptom recognition and initial medical consultation. Patients with breast malignancies were staged according to TNM classification. The patients were divided into two groups: those presenting within and those presenting beyond six months of symptom recognition. Patients who had delayed seeking advice for 6 months or more were interviewed about the reasons. Factors which had finally prompted the patient to visit a doctor were also inquired about. Early presenters were also interviewed about the reasons which had brought them to the hospital. The patients were interviewed according to a prepared questionnaire. Various factors were deduced from the study which might have influenced the patients decision to seek medical advice.

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RESULTS

Between November 2003 and November 2005, 133 patients with breast lumps were admitted to Surgical A Unit of Khyber Teaching Hospital, Peshawar. Seventy nine (59.4%) of these patients had breast carcinoma, while the remaining 54 (40.6%), had benign breast disease. The spectrum of benign breast disease was composed of 39 cases of fibroadenomas,7 of breast abscess, 2 of fibrocystic change, 4 of phylloides tumours, one of tuberculous mastitis and one of lipoma.

Of the 133 patients with breast lumps, 51 (38.5%), presented within 6 months of noticing the swelling.

Twenty one of these patients, had breast carcinoma of whome 18 had TNM stage II and 3 had TNM stage III disease. Of the 51 early presenters, 32 (62.8%) were 35 years or younger and 33 (64.8%) were married. Thirty nine (76.5%) of these patients had satisfactory socioeconomic conditions. Thirty eight (74.5%) patients belonged to Peshawar or the nearby regions of Charsadda, Mardan, Nowshera and Swabi while 13(25.5%) hailed from far flung areas including Swat, Chitral, Hangu, Parachinar and Afghanistan. Fourteen (27.5%) of these patients had never been to school, 16 (31.4%). had studied up to primary level, 13 (25.5%) had done their matriculation while 8 (15.7%) had done their graduation. Increase in the size of the swelling was cited as the reason for consultation in 12 (23.5%) patients, pain in 11 (21.6%), a combination of enlargement and pain in 17(33.3%), family history of breast disease in 4(7.8%), both a positive family history and enlargement in 5 (9.8%) and ulceration and discharge in 2 (5.9%) patients.

Of the 133 patients admitted for breast disease, 82 (61.7%) patients (56 with breast carcinoma and 26 with benign breast disease), presented beyond 6 months of noticing the lump. Of the 56 patients with breast carcinoma, 2(3.9%) had TNM stage II, 42(82.4%) had TNM stage III and 8(15.9%) had TNM stage IV disease. Of the 82 late presenters, 2 (2.4%) patients presented between 6 months and 1 year, 22 (26.8%) at 1 year, 20 (24.4%) patients at 2 years and 15(18.3%) at 3 years. Twenty three (28.1%) patients presented beyond 3 years, some even taking 15 years. 33 (40.2%) were 35 years or younger and 58 (70.7%) were married. Thirty nine (47.6%) of these patients had satisfactory socioeconomic conditions. Forty six (56.1%) patients belonged to Peshawar or nearby regions while the remaining belonged to far flung areas. Forty eight (58.5%) of these patients had never been to school, 23 (28.1%) had studied up to primary level, 8 (9.8%) had done their matriculation while 3 (3.7%) had done their graduation.

Various reasons were given by the patients for not seeking treatment sooner. Thirty nine (47.6%) patients mentioned initial lack of pain, 12(14.6%) reluctance to be examined by a male doctor, 4(4.9%) were mistreated by doctors, 7(8.5%) patients had been afraid of a biopsy causing malignancy in the lump, 3(3.7%) cited poverty as a reason, 4(4.8%) had feared mastectomy and disfigurement, 4(4.9%) mentioned being unmarried as a reason, 1(1.2%) cited ignorance about malignancy, 3(3.7%) patients had been shy of family members, and 5(6.1%) had sought treatment from spiritual healers.

DISCUSSION

Data on breast cancer survival in Pakistan is non existent. There is a wide variation in breast cancer survival between Western countries,[1] and between social classes.[2] There is a difference in survival between US ethnic groups.[3] Delayed presentation can explain the racial difference in survival rates. Socioeconomic status influences access to physician care and screening services.[4,5] However this alone cannot be held accountable.[6,7,8]

The time interval for symptom recognition to medical consultation is 16 days among American black and 14 days in white women.[9] In Pakistan, this duration is 14 to 16 months.[10] Our study includes all women admitted with benign or malignant breast lumps. Fifty one (38.5%) patients, presented within 6 months, while 82 (61.7%), beyond 6 months of noticing the lump. Only 2 patients, with breast abscess, presented within 2 weeks. In contrast, one presented at 15 years, due to ulceration in a phylloides tumour.

Factors Influencing Time of Consultation:

Various factors interact to influence seeking medical help for breast disease. This can in turn influence breast cancer stage at diagnosis. We studied all these factors:

1. Socioeconomic factors.
2. Access to medical care.
3. Marital status.
4. Cultural factors and beliefs.
5. Attitudes towards surgery.
6. Preference for spiritual healers.
7. Awareness levels.
8. Educational status.
9. Influence of age.
10. Shyness.
11. Awareness among doctors.

Socioeconomic Factors In a study by Ajekibe, delay in seeking medical help was economical in 10.2%[11] Lower socioeconomic status women with breast cancer are less likely the to be diagnosed in early-stages (56.9% vs 62.7%).[12] This might be because of the poor uptake of breast screening in this group.[13] Therefore a higher rate of expected breast cancer deaths (24.6 vs 19.7 per 100,000) is found among them, a large percentage preventable by early detection (22% vs 11%).[13]

In a study by Yusuf et al on 400 Pakistani women with breast disease 32.44% mentioned poverty as the reason for delay in presentation.[14] In our study, although 52.4% of late presenters belonged to the lower socioeconomic group, only 3.7% blamed poverty as the reason. This suggests that there are reasons considered more important to the patient than economical, which may prevent her from seeking an earlier consultation.

Access To Medical Care African Americans have less access to medical care and hence breast screening. In our study, 25.5% of early presenters hailed from areas with less access to medical care, while this figure was 44.9% in late presenters.

Marital Status In the study by Lannin et al, the majority of patients presenting with late stage disease were unmarried thus lacking the support provided by a spouse. In our study, 33 (64.8%) of the early and 58 (70.7%) of the late presenters were married. Four (4.9%) of the latter blamed being single as a reason for delayed consultation.

Cultural Factors And Beliefs Various concepts and attitudes influence cancer screening and prevention behaviour. In our study, of the late presenters, 7(8.5%) patients had postponed seeking advice fearing a biopsy causing malignancy in the lump.

Attitudes Towards Surgery Ajekigbe AT cites fear of mastectomy as the most common reason for delay in consultation. In the study by Yusuf et al, this fear caused delay in 10.99% of patients.[14] In our study, this figure was 4(4.8%).

Preference For Spiritual Healers In the study by Ajekigbe AT, 13.5% patients had gone to spiritual healers and 23.1% to herbalists." In the study by Yusuf et al, 9.11% had consulted a homeopath, 8.58% a Hakim and 7.51% a spiritual healer. In our study, 5(6.1%) had sought treatment from homeopaths, hakims or spiritual healers.

Levels Of Awareness In the study by Ajekigbe AT, 8.5% patients had a believed the lesion to be inflammatory. Yusuf et al, found ignorance about the possibility of a serious condition in the breast in 73.54% of patients. In our study, 39(47.6%) patients among the late presenters were aware of breast cancer but since the lump had been painless they delayed consultation. In contrast the majority of the patients who had presented early had done so due to pain with or without enlargement of the lump. This suggests that patients know about breast cancer, but are not fully aware of the symptoms.

Educational Status In the study by Lannin et al, of the patients with late stage disease, 30% patients had studied beyond high school, 25% had been to high school and 39% had never been to high school. In our study, of the 51 early presenters, 14 (27.5%) were illiterate. This figure was 48 (58.5%) among the late presenters suggesting that education does play a role in being aware of health problems.

Influence Of Age to the study by Lannin et al, in patients with carcinoma breast, age did not influence stage at presentation. In our study, 32 (62.8%) of the early and 40.2% of the late presenters were 35 years or younger. This suggests that younger patients are more likely to seek medical help earlier.

Shyness In the study by Yusuf et al, 16.89% had been shy to disclose their problem. In our study, of the late presenters, 12(14.6%) mentioned reluctance to be examined by a male doctor and 3(3.7%) patients did not want family members to know.

Awareness Among Doctors In the study by Yusuf et al, 4% were wrongly treated by doctors in general practice.[14] to our study this figure was 4.9%.

CONCLUSIONS

Socioeconomic variables in conjunction with cultural beliefs, attitudes and lack of awareness largely explain the reason for the long time interval between symptom recognition and medical consultation. The finding that the reason is not socioeconomic alone, has positive implications for cancer education efforts and public health interventions as they are removable. Recognizing these factors and targeting them would lead to earlier breast cancer diagnosis.

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DIAGNOSIS OF NASOPHARYNGEAL CARCINOMA ON FINE NEEDLE ASPIRATION CYTOLOGY OF CERVICAL LYMPH NODES

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ABSTRACT

Background: This study was carried out to see the sensitivity of Fine needle aspiration cytology (FNAC) in cervical lymph nodes in patients of carcinoma of the nasopharynx.

Material and Methods: This Study was carried at the Department of ENT & Head Neck Surgery of Khyber Teaching Hospital, Peshawar Pakistan from June 2003 to May 2005. Patients between the age of 30 and 70 years were included in the study.

Results: 25 patients having cervical lymphadenopathy were selected and divided into two groups A and B. Group A includes 20 patients which were undiagnosed cases of nasopharyngeal carcinoma. Out of them 17 patients have ENT Symptoms and 03 patients have only Cervical lymphadenopathy. Group B includes 05 patients who were post irradiated cases of Nasopharyngeal Carcinoma having detectable cervical lymphadenopathy. Fine needle aspiration was performed with 21 gauge needle attached with 20 ml syringe and smears were prepared. The cellularity in most of the smears was high 96%. Single scattered malignant cells were present in 92% of cases. The oval shaped vesicular neuclei were present in 92 % of cases. In group B who had undergone radiotherapy showed one to three prominent nucleoli.

Conclusion: FNAC of Cervical lymphnodes is an important diagnostic tool for the diagnosis of NPC, especially in those patients who have no ENT symptoms. It is also helpful in the follow up of post-irradiated patients.

Key Words: Nasopharyngeal Carcinoma, Fine needle aspiration cytology, cervical lymphadenopathy.

INTRODUCTION

The relative frequency of Nasopharyngeal Carcinoma in South East Asia and China is about 8% of all malignancies[1]. It is a leading cancer in Southern China and Hong Kong, the highest concentration being 18% in certain racial areas of this part of the world. On the average the annual incidence in Hong Kong is 23.3 per cent per 100,000 population[2]. Epstein Barr Virus (EBV) is associated with all types of Nasopharyngeal Carcinoma and DNA of the virus is found in every Cancer cell. EBV genomes consistently found in undifferentiated and well differentiated lesions has also been reported in pre - invasive state of Nasopharyngeal Carcinoma[3]. Current method of diagnosis is by biopsy of nasopharynx and histopathological examination.

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Delay in diagnosis may be attributed to some misleading symptoms of neck mass, rhinologic, otologic. Other factors include, late presentation, occult primaries, false negative biopsies (submucosal disease). Fine needle aspiration Cytology (FNAC) is particularly useful in the diagnosis of metastatic malignancy in lymph nodes. It is a simple, quick and inexpensive method. It causes minimal trauma to the patient and carries virtually no risk of complication[4].

The nasopharyngeal Carcinoma (NPC) tend to grow silently until they have become unresectable and often spread to Cervical lymphnodes. The primary lesion in nasopharyngeal carcinoma may be asymptomatic or may produce minor or nonspecific symptoms that are ignored by the patient, such as epistaxis, postnasal drip, impaired hearing and otitis media[5].

The lymph nodes are enlarged in the cervical region. By the time diagnosis is established 70% of patients with a malignant tumour of nasopharynx have enlarged cervical lymph nodes, & 40 % on account of Cervical swelling. The nodes are firm rather than hard, and may be mistaken for tuberculosis. Initial diagnosis of NPC is more commonly from aspiration of metastasis to cervical lymphnodes[6,7]. The purpose of this study was to see the role of FNAC of cervical lymphnodes for the diagnosis of NPC.

Table 1: Age and Sex Distribution

S. No.	Sex	No. of patients	%
1	Male	18	72
2	Female	07	28

n = 25

Table 2: Distribution of the Patients

S. No.	Presentation	Group	No. of pts	Percentage
1	Undiagnosed cases ofNPC	A	20	80
	i. Without ENT Symptom.		03	15
	ii. With ENT Symptoms			
	Ear		06	30
	Nose		08	32
	Throat		03	15
2.	Known cases of TMPC (Post irradiated)	B	05	20

n = 25

MATERIAL AND METHODS

This study was carried out at the department of E.N.T Khyber Teaching Hospital, Peshawar, Pakistan from June 2003 to May 2005. A total number of 25 patients were included in the study 18 male (72%) and 07 female (28%) aged between 30 to 70 years. (Table-1). All of the patients were having cervical lymphadenopathy. The patients were divided into two groups A and B (Table-2). Group A includes 20 patients which were undiagnosed cases of nasopharyngeal Carcinoma, out of them 17 patients have ENT Symptoms and 03 patients have only cervical lymphadenopathy without any ENT symptoms. 06 Patients having ear symptoms including unilateral deafness without pain in ear, impaired hearing, tinnitus and earache. 08 patients having nasal symptoms including intermittent epistaxis, nasal speech, postnasal drip. 03 patients having discomfort in throat. Group B includes 05 patients who were known cases of Nasopharyngeal Carcinoma and were received radiotherapy but having detectable cervical lymphadenopathy, all of them already have lymph node biopsy for the confirmation of metastatic NPC.

Table 3: Cytologicalfindings

S. No.	FNAC Features	No. of patients		Total	Percentage
1.	Architecture	Group A	GroupB		
	Clumps	23	02	25	100
	Sheets	09	03	12	48.0
	Single cells	19	04	23	92.0
2.	Cellularity				
	High	18	06	24	96.0
	Moderate	02	01	03	12.0
	Low	01	02	03	12.0
3.	Abnormal mitosis	19	05	24	96.0
4.	Prominent Nucleoli	16	09	25	100.0
5.	Nucleus				
	Oval	20	03	23	92.0
	Round	02	00	02	08.0
	Spindle	04	03	07	28.0
	Bizarre	00	03	03	12.0
6.	Cytoplasm				
	Abundant	02	01	03	12.0
	Moderate	16	06	22	88.00
	Scanty	05	02	07	28.0
7.	Lymphocytes Intermingling with tumour cells	19	06	24	96.0
	Surrounding Cluster of tumour cells.	03	01	04	16.0

n=25

Fine needle aspiration of cervical lymphnode was performed with 21 gauge needle attached to 20 ml syringe. The lump was stabilized with left hand as the needle entered, suction was applied and maintained, several radial passes within the substance of lymph node was done, then needle was withdrawn, the needle was disconnected and about 10 ml air aspirated into the syringe, the needle was reconnected and the specimen was expelled on the glass slide and then smear was made. These smears were stained with H and E. stain

RESULTS

The cytological findings observed are mentioned in Table-3. The cellularity in most of the smears was high (96%). Tumour cells show clumps in 100% of cases, while sheets in 48.0% and single scattered malignant cells were present in 92% cases, the cytological details of tumour cells were best observed at the edges of clumps which were single layer in thickness and revealing best cytologic preservation and were easily assessed.

The oval shaped vesicular nuclei were present in 92% of cases, spindle shaped nuclei were observed in 28% of cases and bizarre nuclei were seen in 12% of patients. Patients of Group B who had undergone radiotherapy, all of the cases show one to three prominent nucleoli. Cytoplasm was moderate in most of the cases 88%, while 28% of patients showed scanty cytoplasm and 12% of cases showed abundant cytoplasm. Abnormal mitosis was seen in 96% cases. Mature lymphocytes were seen intermingling with tumour cells in 96% cases and in 16% cases they surround the cluster of tumor cells.

DISCUSSION

Histopathology remains the gold standard for diagnosing NPC from the primary site, though it is not without limitations. EBV DNA detection can help when histopathological examination fails to detect the malignancy. In clinically doubtful cases, the presence of EBV DNA detection should raise the index of suspicions leading to a prompt repeat biopsy under general anaesthesia if necessary[8]. The NPC takes one of the three following patterns:-

1) Keratinizing Squamous Cell Carcinoma.
2) Non-keratinizing Squamous Cell Carcinoma.
3) Undifferentiated Carcinoma, that has an abundant non-neoplastic lymphocytic infiltrate and this pattern is commonly called as lymphoepithelioma.[9]

In current study, most of the cases consist of clumps with sheets of tumor cells having oval vesicular nuclei, prominent nucleoli, pale cytoplasm with ill defined borders and frequent abnormal mitosis. In most of cases, the mature lymphocytes were found intermingling with tumor cells. These are the features of undifferentiated Carcinoma, which is the commonest pattern found in this study, these features also correlated with the histological features of primary NPC as well as those of metastatic NPC in a lymph node biopsy. Such types of similarities are also observed by researchers in other parts of the world.[10,11]

The FNAC of lymph nodes has been widely applied in the diagnosis of suspected malignant lesions.[12] It is a safe, simple, rapid and inexpensive diagnostic procedure, which also save the patient to have an unnecessary operation. The preferred treatment of NPC is radiotherapy. It is also noted that lymph node dissection in post irradiated cases has been associated with shortened Survival.

CONCLUSION

This study concludes that FNAC of cervical lymph nodes is an important tool in the diagnosis of NPC, especially in those patients who have no symptoms of ear, nose and throat. FNAC is also helpful in the follow up of post-irradiated patients, because surgical dissection is not indicated in such patients.

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COMBINED ILIOINGUINAL BLOCK AND LOCAL INFILTRATION ANAESTHESIA FOR INGUINAL HERNIA REPAIR

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ABSTRACT

Background: To evaluate the benefit of adding ilioinguinal block to local infiltration anaesthesia for intraoperative analgesia in inguinal hernia repair.

Material and Methods: We performed a singled blinded randomized study on 232 patients. They had inguinal hernia repair using proline Darn under local infiltration anaesthesia, with or without additional ilioinguinal block. Intra operative and three hour post operative pain was accessed using visual analogue pain scale.

Result: Pain during operation was better controlled in patient who had local infiltration anaesthesia with the addition of ilioinguinal block, showing significant P value of .0009. Similarly duration of operation was significantly shorter in these patients with the P value of .005.

Conclusion: Combination of ilioinguinal blockade improves the intraoperative analgesia and shortens the duration of operation.

Key Words: Ilioinguinal block, local infiltration anaesthesia, inguinal hernia, analgesia.

INTRODUCTION

Local anaesthesia for inguinal hernia repair was first proposed by Cushing on the basis of a study initiated by Halstead more than 100 yrs ago[1]. Despite the great renound of it first advocate the technique has not become generally accepted. Many studies[2,3,4] have confirmed the advantage of local anaesthesia over regional or general anaesthesia[5,6]. However in General surgical practice local anaesthesia for inguinal hernia repair is only used in 5-8% of patients[7,8]. The advantages being its simplicity[9], safety[10], cost efficiency[11], prolong post operative analgesia[12,13], early mobilization[14], low morbidity specially concerning lower urinary tract[15,16,17]. This being a purely day case procedure[18] which can be done without the monitoring of the anaesthestist.[19]

Although some studies has shown increase recurrence rate with repair under local anaesthesia[20,21] but in contrast to this several other studies have confirmed it to be equally effective, even in repair of recurrent inguinal hernia[22,23,24].

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Step wise local infiltration anaesthesia has been recommended without addition ilioinguinal blockade[25]. Most of these studies has utilized addition of sedation with moderate to high dose of benzodiazepine[26,27], thus requiring attendance of an anaesthetist. In order to improve intraoperative analgesia without addition of any intra venous opiate or sedation, we use the combination of ilioinguinal blockade plus local infiltration with long & short acting anaesthesia.

The purpose of this study was to investigate the improvement of intraoperative analgesia and reduction in duration of operation by the combination of ilioinguinal blockade with the local infiltration anaesthesia in inguinal hernia repair.

MATERIAL AND METHODS

The study was conducted between 2000 – 2006 at surgical C unit Khyber Teaching Hospital. 232 Patients had elective inguinal hernia repair under un-monitored local infiltration anaesthesia. These patients were distributed into two groups i.e. A and B. Those in group A had ilioinguinal block in addition to the step wise local infiltration anaesthesia. In group B patients had only local infiltration anesthesia at the site of operation. The anaesthetic solution used was a mixture of 10ml each 0.5% bupvicaine and 2% lignocaine diluted in 20ml normal saline.

Following inclusion and exclusion criteria was used:-

Inclusion

- Age between 18-70yrs
- Unilateral hernia repair
- Co-operative patients.
- Male patients

Exclusion

- Large irreducible hernia
- Patient having psychiatric disorder
- Recurrent hernia repair
- Obese patient
- Obstructed hernia

All operations were performed by three experienced surgeons. The anaesthesia was administered on the side table in the main operation theater without attendance of anaesthestist. Pre medication or intraoperative sedation was not used. After skin preparation and draping 1st ilioinguinal block in group A was performed by 7ml of combined anaesthetic solution injected 3cm medial to anterior superior iliac spine. In both groups a step wise infiltration anaesthesia was provided, along with 5ml of additional injection at over pubic tubercle.

Pain during and three hour post operation was assessed by visual analogue pain scale. Duration of operation was also noted. Patients were discharged after four hour and any complication in recovery room noted.

RESULTS

Total 232 Patients had inguinal hernia repair under local anaesthesia.

7 patients couldn't tolerate the procedure under local anaesthesia and were considered failure.

Patients were randomized into two groups Group A 113 pts (mean age 23.6 yrs) and Group B 112 pts (mean age 22.3 yrs).

The site and type of inguinal hernia is shown in table No 1.The right side hernia is more common 128(56.88%) patients than left side 97 (43.11%) patients.

Similarly indirect inguinal hernia is more common in 135(60%) patients compared to direct inguinal hernia 90 (40%) patients.

Pain score during operation (Table 2) was much better in Group A compared to Group B i.e. 68 (60.17%) patients in Group A had pain score between 2-4, compare to 49(43.75%) patients in Group B. The significance by Chy square test showed a P value of.009. Those patients with pain score > 7 did receive intramuscular 75 mg diclofenac.

Similarly 3hrs post operatively pain score (Table 3) in recovery room was comparatively better in Group A i.e 92(81.41%) patients had pain score between 2-4 compare to Group B with 83(74.10%) patients. Those patients with pain score > 7 i.e. 3 (2.67%) patients, only in Group B received 75 mg diclofenac intramuscularly.

Finally the duration of operation (Table 4) was much shorter in Group A i.e. 48(42.47%) patients have

Table 1: Side and type of inguinal hernia

No	RIGHT SIDE 128pts (56.88%)		LEFT SIDE 97pts (43.11%)	
	Direct	Indirect	Direct	Indirect
Group A 113	26	40	19	28
Group B 112	25	37	20	30
Total 225	51	77	39	58

Table 2: Pain score during operation

Pain Score	2-4	5-6	7-8	9-10
Group A =113	**68**(60.17%)	**39**(34.51%)	**6**(5.3%)	**0**
Group B = 112	**49**(43.75%)	**45**(40.17%)	**18**(16.07%)	**0**

Table 3: Pain score 3 hour post operation

Pain Score	2-4	5-6	7-8	9-10
Group A =113	**92**(81.41%)	**21**(18.58%)	**0**	**0**
Group B = 112	**83**(74.10%)	**26**(23.21%)	**3**(2.67%)	**0**

Table 4

Duration of Operation	40-60 min	60-80 min	>80 min
Group A	**48**(42.47%)	**65**(57.52%)	**0**
Group B	**32**(28.53%)	**73**(65.17%)	**7**(6.25%)

their operation done within one hour compare to Group B with 32(28.57%) patients. While 65(57.52%) patient in Group A had operation completed with in 80 minutes compare to Group B with 73(65.17%) patients. The Chy square test showed a significant P value of .005.

DISCUSSION

Inguinal hernia repair under local anaesthesia is a simple and a cost effective procedure[28,29]. It is safely done without anaesthetist's supervision[30] and as a day case. However local anaesthesia for inguinal hernia repair is not widely used, probably due to fear of intra operative pain and restricted handling of the tissues.

In this study we confirmed that unmonitored local anaesthesia in inguinal hernia repair is safe and easy procedure. The anaesthetist input is not needed and has got excellent patients satisfaction. Patients do walk out of the operation table to the recovery room.

We used the combined solution, 10ml each of 2% lignocane and 0.5% bupvicane for anaesthesia. The advantage being lignocane providing rapid and bupvicane results in longer duration of anaesthesia. Although anaesthetic duration can be further prolonged by addition of epinephrine to the mixture. Epinephrine may produce hypertension which can be missed in un-monitored patients.

The therapeutic maximum dose of lignocane is 300mg and for bupvicane is 175mg, the advantage of this mixture is that it decreases the likely hood of exceeding the therapeutic maximum dose of each individual agent.

The result of our study has shown that additional pre operative ilioinguinal block together with local infiltration anaesthesia, improves intraoperative analgesia and secondary to this the duration of the operation is also reduced.

Several studies have even suggested that combination of ilioinguinal block causes long lasting improved post operative analgesia[31,32]. This can also be used safely in children for better post operative analgesia[33].

In our study we did not find any patient undergoing urinary retention, vomiting, and postural hypertension. Due to negligible post operative non surgical morbidity this procedure is done without the cover of anaesthestist, therefore it is very cost effective.

CONCLUSION

The addition of ilioinguinal block to the step wise local infiltration anaesthesia for inguinal hernia repair, improve the intra operative analgesia and also shortens the duration of the operation.

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INPATIENT CONSULTATION SERVICES IN OPHTHALMOLOGY IN A TEACHING HOSPITAL OF NORTH WEST FRONTIER PROVINCE, PAKISTAN

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ABSTRACT

Background: With the expansion of knowledge, medicine is divided into specialities and subspecialties. Human body is one unit and cannot be divided. Many diseases affect different systems and parts of the body at the same time. Moreover a patient may be suffering from more than one disease at one time, each related to a different consultant. Therefore, consultants of different specialities are dependant upon each other for overall management of certain patients. Consultants, other than ophthalmologists, may need the help of ophthalmologists in diagnosis and management of patients. Many systemic diseases have peculiar ocular signs, which are helpful in confirmation of diagnosis. Ophthalmological examination, in certain cases, can totally change the diagnosis and management. This study was performed to analyze the extent of help of an ophthalmologist in management of patients under care of other consultants, and to document the common diseases and specialities that need ophthalmologist help.

Material and Methods: This study was performed at department of ophthalmology Khyber Teaching Hospital Peshawar from June 2006 to December 2006. A standard proforma was designed and all the written requests from different units were included in the study. At the end of study results were analyzed by "SPSS" version 10 software.

Results: Total 86 patients were examined from other units on written requests. Forty nine (58.8%) were females and 37(41.2%) males. Maximum i.e. 46 (54%) "calls" were from medical units, followed by 17(20%) from paediatric units. Diabetes mellitus was the commonest condition (42%), which needed ophthalmologists consultation, followed by hypertension (25%). In 30 (36%) patients a secondary ocular diagnosis added and in 11 (13.2%) patients the diagnosis totally changed.

Conclusion: Ophthalmologists are very helpful in management of selected patients under care of other physicians. Burden of "calls" on ophthalmologists can be reduced by training the trainees from other units in Ophthalmoscopy.

Key Words: Consultation, inpatient consultation, medical calls.

INTRODUCTION

In present era medicine knowledge is expanding very rapidly. It is impossible for a medical doctor to be the master of each aspect of medicine. As a solution to this, medicine is very rightly divided into specialities and subspecialties. But human body is a single unit and its different systems are working integration with each other. There are many diseases which affect different parts of human body. Common examples are diabetes mellitus, hypertension, AIDs etc. Moreover a patient may be suffering from more than one disease at one time, each related to a different consultant. Therefore consultants of different specialities are dependent upon each other in many cases for overall management. The role that inpatient consultation plays in both the general practice as well as in fellowship training programme is not well addressed in the literature. There are studies in psychology[1], paediatrics psychology[2,3] and few other branches of internal medicines, but these are lacking in most of the surgical specialities including ophthalmology.

Ophthalmologist is often consulted by other physicians for fundoscopy, slit lamp examination, extraocular muscle movement and visual fields evaluation. In certain diseases like diabetes mellitus, Ophthalmologists consultation is the part of overall management guideline[4].

This study was performed to analyze the help of ophthalmologists in diagnosis and management of patients under care of other consultants and to document, in order of frequency, the common diseases and specialties that need ophthalmologist opinion.

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MATERIAL AND METHODS

This prospective descriptive study was performed at Department of Ophthalmology, Khyber Teaching Hospital Peshawar from June 2006 to December 2006.

All those inpatients that were referred from other units on "written request" were included in the study. Patients examined on verbal request or those examined by trainees were excluded from the study. All patients were examined on slit lamp (except bed ridden patients). We performed fundoscopy of these patients using 90D lens on slit lamp. In few bed-ridden patients we used Neitz indirect ophthalmoscope with 20D lens or direct ophthalmoscope (Welch Allen) for fundoscopy.

We entered findings of each patient in a standard performa mentioning demographic details, slit lamp signs, fundoscopy findings, primary diagnosis by referring physician and final diagnosis (confirmed, added or changed) by ophthalmologist. At the end of study we compiled and analyzed the whole data using SPSS-version 10 software.

RESULTS

Total 86 "calls" were attended. Age and sex distribution of patients is shown in tables 1 and 2 respectively.

The specialities that needed the help of ophthalmologist are listed in order of frequency in Table 3.

Most common examination requested was "Ophthalmoscopy" in 73 (87.6%) cases followed by slit lamp examination and others in 37 (43 %) cases.

Table 1: Total number of patients and their gender distribution.

Total number of patients	86
Male	37 (41.2%)
Feale	49 (58.8%)

Table 2: Age distribution of the patients.

Age	No. of patients	Percent-age
5 months to 12 years	19	22%
13 years to 40 years	20	23.3%
41 years to 59 years	37	43%
More than 60 years	10	11.6%

Table 3: List of referring units.

Referring Unit	No. of patients	Percent-age
Medical	46	53.6%
Paediatric	17	19.8%
Obs & Gynae	09	10.5%
Dermatology	05	5.8%
Surgery	04	4.7%
Psychiatry	03	3.5%
ENT	01	1.2%

Table 4: List of primary diagnoses by referring physicians.

Primary Diagnosis	No. of patients	Percent-age
Diabetes Mellitus (DM)	27	31.39%
Hypertension (HTN)	13	15.11%
DM + HTN	09	10.46%
Stroke	02	2.32%
Meningitis / Encephalitis	06	6.97%
Failure to Thrive	04	4.65%
Fits	02	2.32%
Others	23	26.74%

On examination of these 86 patients, no abnormal ocular finding was noted in 45 (53%) cases, secondary ocular diagnosis was added to 30 (35%) cases and in 11 (13.2%) cases the diagnosis was totally changed.

Primary diagnosis of patients is listed in order of frequency in table 4 and table 5 shows the list of conditions in which final diagnosis was made by ophthalmologists.

DISCUSSION

"Inpatient consultation" among consultants of different specialities is a common practice in field of medicine for overall management of patients. In this regard following terms are well documented[5].

Consultation: - A physician overseeing the care of a patient (referring physician) refers the patient to a

Table 5: List of conditions in which ophthalmologists totally changed the diagnosis.

Referring Unit	Provisional Diagnosis By Referring Physician	Final diagnosis by ophthalmologist
Dentistry	Road Traffic Accident	Total Ophthalmoplegia
Paeds	Gasteroenteritis	Bilateral Xerophthalmia (vit. A. deficiency.)
Psychiatry	Psychosis	Kayser Fleischer ring (Wilson's disease)
Skin	Facial cellulites	Herpes Zoster Ophthalmicus
Medical	Headache and sever eye ache	Herpes Zoster Ophthalmicus
Paeds	Failure to thrive	Cherry red spot (Tay Sachs disease)
Medical	Fever + Photophobia	Dry eyes (Schogren syndrome)
Paeds	Rickets	Cherry red spot (Tay Sachs disease)
Paeds	Metabolic disorder	Congenital Glaucoma
Paeds	Delayed milestones	Primary optic atrophy

consulting physician regarding evaluation and management of a specific problem because the later has expertise in specific medical area beyond that of the referring physician

Split / Shared consultation: - A consultation may be performed split / shared visit if the consultant reviews the history, confirms physical examination and is directly involved in the medical decision making.

Transfer of care: A transfer of care occurs when a physician requests that another physician take over the responsibility for managing patient's complete care.

Second opinion: A second opinion is a request from patient or family or is a mandate from a third party and is not requested by the physician.

Ophthalmology is listed among top seven specialities with heavy use of consultations[6]. Fundoscopy is the most common examination requested by referring physicians, followed by slit lamp examination and others. In our study 87.6% patients were referred for fundoscopy. Examination of ocular fundus is an important part of physical examinations in medical, paediatric and trauma units. It can help in diagnosing life threatening conditions such as raised intracranial pressure and help in monitoring chronic diseases such as diabetes. Although art of performing this examination is taught at medical schools, it is more and more neglected throughout the years of clinical practice. Roberts et al[7] performed a study in UK and distributed a questionnaire to 41 general practitioners. Sixty six percent respondents did not feel confident with their skills in performing fundus examination, and almost all (97%) believed their fundoscopy skill could be improved. Reviewing the charts of 100 patients treated by those physicians disclosed that only three had a fundus examination reported. Similar results were reported from a survey done in Australia[8]. Internal medicine services request most of consultations. In our study more than half (54%) of the consultation were requested from internal medicine units. In study from USA by Carter K and Miller KM[9] internal medicine services requested 39.7% of consultations. In this study, consultations from Neurology services per se are 7.3%. In our study setup there is no separate neurology service and these patients are admitted in general medicine units. Hence, as for as internal medicine is concerned the results of two studies are almost comparable. On the other hand when we compare consultations from surgical units, those are much less i.e.,4% in our study than 21% of above mentioned study. One of the reasons may be that we lack neurosurgery department in our study setup, who need more ophthalmologists help.

In our study Paediatricians are second common physicians (19.8%) who need ophthalmologists' consultation. Examination of ocular fundus has traditionally been an integral part of physical examination of a child[10]. With increasing workload for hospital doctors, routine fundoscopy may be abandoned. Morad Y et al[11] in Israel, performed a study to assess hospital paediatricians ability to diagnose abnormalities of ocular fundi. According to his study most participants did not feel competent at performing ocular fundus examination, but a short tutorial significantly improved their skill. Ocular fundoscopy in children is difficult because they are scared and not cooperative. Many of these children need general anaesthesia for detailed satisfactory retinal examination. Moreover ophthalmologists use indirect ophthalmoscope instead of traditional direct ophthalmoscope, which gives a panoramic view of fundus in a glance and experienced ophthalmologist can pick the findings, An additional advantage of using indirect ophthalmoscope in children is that ophthalmologist remain away from child and hence later is less scared. In paediatric practice failure to thrive, meningitis and fits are common diseases which are referred to ophthalmologists for consultation.

In our study Diabetes Mellitus is the common disease (42%) where consultation was asked. Proliferative diabetic retinopathy, maculopathy and association of primary open angle glaucoma is patients with Diabetes are blinding complications. In time diagnosis and management of these complications can prevent blindness in these patients. The first diagnosis of the patient who is unaware of having a diabetic condition may be based on an eye examination and diagnosed patients of diabetic mellitus need regular eye examinations. Frequency of examination is determined on basis of several factors including type of DM, duration of the disease, age of the patient, level of patient compliance, concurrent medical status and both nonretinal and retinal ocular findings[19].

It is beyond doubt that ophthalmology inpatient consultation service is very helpful in patient management, where needed. In our study ophthalmologist made diagnosis in 13% of cases and in 36% patient a secondary ophthalmic diagnosis added. In a study from Australia[20] on 506 consultations, 175 (45%) had an ophthalmologist diagnosis made or had change in management as a result of the consultation.

CONCLUSION

Ophthalmological consultation service is a valuable in patient consultation service that makes a significant difference in management of patients from other medical and surgical units within the hospital. Moreover in this service ophthalmologists encounter a tremendous variety of ophthalmologic and systemic diseases, which is a natural source of teaching material for ophthalmic trainees.

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WHICH AGE, SEX AND SEASON BRINGS MORE CHANCES OF INTUSSUSCEPTION FOR CHILDREN-AN ANALYSIS

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ABSTRACT

Background: To know as to which age, sex and season has more cases of intussusception, in children up to the age of 12 years.

Material and Methods: This prospective study spread over a period of 18 months. A total of 71 patients with surgically diagnosed intussusception were studied. The relevant data, both pre-operative and post-operative, of children who were operated for intestinal obstruction and finally turned out to be suffering from intussusception, was entered in a pre-designed proforma and the information so obtained was analyzed according to objectives of the study.

Results: Out of 71 children 55 (77.45%) were male and 16 (22.55%) were female patients. Male to female ratio was 3.4:1. 16(22.53%) were 3 to 7 months old, 55 (77.46%) below 1 year, 16(22.53%) between 1 to 2 years and 13 (18.30%) above 2 years. 9 (12.67%) were recorded in January, 6 (8.45%) in February, 8 (11.26%) in March, 2 (2.81%) in April, 11 (15.49%) in May, 4 (5.63%) in June, 4 (5.63%) in July, 2 (2.81%) in August, 9 (12.67%) in September, 6 (8.45%) in October, 7 (9.85%) in November, 3 (4.22%) in December.,

Conclusions: Intussusception is more common in male than female children and again is more common below the age of 2 years and occurs mostly in January-March, May and September to November months of the year, the first 3 months and month of May coinciding with the period when gastroenteritis is endemic and September – November when respiratory tract infections predominate in children.

Key Word: Surgically-diagnosed Intussusception, Children, Incidence, Age, Sex, Season.

INDTRODUCTION

Intussusception defined as a prolapse of a part of the intestine in to the lumen of an immediately adjoining part[1-3], is the commonest cause of small bowel obstruction in children between 02 months and 5 years of age after which the incidence gradually declines. Intussusception is un-common in children at the age of 05 years or more[4-6]. The peak age of presentation is 04 to 08 months[7], with its predominance in males. The peak incidence occurs in the spring and winter seasons which hints at the time when gastrointestinal infections due to rota virus and adenovirus abound. It is postulated that swollen Peyer's patches in the ileum may stimulate intestinal peristalsis in an attempt to extrude the mass.

At the age of peak incidence of this condition the infant's alimentary tract is also being introduced to a variety of new materials[8] which too may predispose the child to intestinal upsets and infections and consequent predilection for intussusception.

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MATERIAL AND METHODS

This prospective study was conducted at the Department of Paediatric Surgery, Post-Graduate Medical Institute, Lady Reading Hospital, Peshawar, Pakistan and spanned over a period of 18 months. All the children with surgically diagnosed intussusception up-to the age of 12 years were included in the study. A total of 71 children were studied. The data so obtained was entered in a standardized proforma, especially designed for the study and then analysed according to the purpose of the study.

RESULTS

The data received from 71 children is detailed below:

1. **Sex Incidence**

Male	55	77.45%
Female	16	22.55%
Male to Female Ratio	3.4 :1	

2. **Age Incidence**

A. No of patients between 3-7 months	= 16 (22.53%)
B. No of patients below 1 year. (Including A)	= 55 (77.46%)
C. No of patients between 1 and 2 years	= 16 (22. 53%)
D. No of patients above 2 years.	= 13 (18.30%)

3. **Seasonal Incidence**

Month of January	= 9 (12.67%)
Month of February	= 6 (8.45%)
Month of March	= 8 (11.26%)
Month of April	= 2 (2.81%)
Month of May	= 11 (15.49%)
Month of June.	= 4 (5.63%)
Moth of July.	= 4 (5.63%)
Month of August.	= 2 (2.81%)
Month of September.	= 9 (12.67%)
Month of October.	= 6 (8.45%)
Moth of November.	= 7 (9.85%)
Month of December.	= 3 (4.22%)

DISCUSSION

Intussusception is a common paediatric disease. The incidence of this condition has striking sex, age, and seasonal variations. Average per month incidence of the illness is 3.94 in our study in contrast to 2.08 per month as reported by Abdulrehman et al[9]. Perhaps the reason being that the latter study was conducted in the affluent society of Saudi Arabia, having have better medical care facilities in terms of early diagnosis and management with comparatively better living conditions and environment whereas most of our patients hailed from a poor social and financial background, with their attendant disease promoting environment thus providing a possible justification for increased incidence in our study on the grounds that in the early age of first two years of life intussusception reportedly results from infection in the Peyer's patches in the gut. Binnes JE et al[10] have reported a strong association between intussusception and adenovirus infection. But this aspect of the illness was not included in our study. However as discussed below the seasonal prevalence of the illness supports the reported association The male to female ratio as observed by us i.e 3.4:1, is slightly less than 4:1 as reported by Bhisitkul DM. et al[11] but however it does coincide with results reported by Raudkivi P J et:al[12], Liu KW et al[13], Hutchinson IF et al[14]. Similarly Zia-ul-Miraj et al[15] have reported male to female ratio of 2:1 in children over one year of age where as Boudville et al[16] has reported 1.3:1 male to female ratio. Almost all the studies report the disease to be affecting male children more than female children, with no obvious explanation. However keeping in view our social setup in North-West Frontier Province of Pakistan one is tempted to infer that perhaps the male children being more affectionately looked after are brought to the physician as soon as their illness is noted as compared to female children who are usually neglected in medical care. The other possible reason can be that male children being more protected from environ mental infective agents out of male-attached parental care, remain unexposed to various antigenic stimuli and therefore when exposed due to some reasons to any such environment, they contract the incriminated infection, being less immune due to non-exposure earlier, which in turn may lead to the illness.

The average per month incidence of intussusception in male and female children was 2.22 and 1.33 respectively. 55 (77.46%) were below the age of one year and thirteen (18.30%) were above one year. Boudvilles IC et al have noted that 92% were below the age of one year, 51% between 6 and 11 months of age where as in our study 16 (22.53%) were 3-7 months old.

The peak incidence of intussusception occurred in the month of January-March (A total of 25 cases-36.9%) and then September to November (A total of 22 cases :30.9%), these are the months of the year when gastrointestinal and respiratory tract infections respectively predominate and coincide with the start of spring and the last peak at the onset of autumn and winter. Again these are the months during which viral infections of the gastrointestinal and respiratory tract predominated. Increased incidence was also noted in the month of May when the incidence of gastroenteritis is at its peak, causing increased infection of Peyer's patches in small bowel hence providing a potential leading point for intussusception. 42 (59.15%) of the children were between the age of one year to above two years when most of the mothers wean off their children from breast feeding and put them on solid diet other then breast milk. Child in this age group eats a variety of items hence having increased propensity to develop

gastrointestinal upsets / infections and consequent increased tendency to develop intussusception. Boudville IC et all have noticed no seasonality in the incidence of intussusception. The absence of seasonality of intussusception has been used as an argument against its association with natural rotavirus infection, which is highly seasonal[17]. Although rotavirus infection in tropical settings does not display the winter seasonality seen in the temperate climates[18], A slight increase in the year-end cool season has been observed in Myanmar[19]. Singapore has a similar cool season in December however Boudville et al have noted a mid-year peak, with the highest number of intussusception cases occurring in July. YE Chen et al[20] and Justice F et al[21] have like Boudville IC et al, found no annual or seasonal tendencies thus giving results diverging from ours.

CONCLUSIONS

Intussusception is more common in male than female children and again is more common below the age of 2 years and occurs mostly in January-March, May and September to November months of the year, the first 3 months and month of May coinciding with the period when gastroenteritis is endemic and September – November when respiratory tract infections predominate in children.

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PLASMODIUM FALCIPARUM MALARIA WITH BLEEDING DIATHESIS – AN EXPERIENCE IN NWFP

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ABSTRACT

Background: Falciparum Malaria is a syndrome and a disease of protean clinical manifestations including DIC.

Material and Methods: This descriptive study was conducted in Medical department of Khyber teaching hospital Peshawar from January 2004 to August 2005. Fifty patients between the ages of 15 to 70 years, who presented with fever and bleeding manifestations, having positive trophozoites of plasmodium falciparum in blood smear, were included.

Results: Out of 50 patients 27 (54%) were males, while 23 (46%) were females. Male to female ratio was 1.17:1. The age of the study group ranged form 15 to 70 years. Maximum number of patients were in the age group 15-29 years (44%). Fever was noticed in 48 (96%), anemia in 32 (64%) and splenomegaly in 33 (66%). Bleeding diathesis was noticed in 3 (6%) patients with prolonged PT, APTT, thrombocytopenia and raised FDPs, Four patients had thrombocytopenia and positive FDPs in low titre, with 03 patients having prolonged PT and APTT but no clinical evidence of bleeding.

Conclusion: We conclude that any patient with history of fever and bleeding diathesis, falciparum malaria should be considered in the differential diagnosis

Key Words: Plasmodium falciparum, DIC.

Abbreviations: DIC = Disseminated intravascular coagulation, FDPs = Fibrinogen Degradation Products, PT = prothrombine time, APTT = Activated partial thromboplastin time, P = Plasmodium, WHO = World Health Organization, ARDS = Adult respiratory distress syndrome, ADP = Adnosine diphosphate, TF = tissue factor, TNFα = Tissue necrosis factor alpha, tPA = Tissue plasminogen activator, vWf = Von-Will brand factor , PAI-I = Plasminogen activator inhibitor -1

INTRODUCTION

Malaria is a protozoal disease transmitted by the bite of infected Anopheles mosquitoes. It continues to claim an estimated 2 to 3 million lives annually and to account for untold morbidity in the approximately 300 to 500 million people infected annually.[1,2,3]

There are four species of genus plasmodium which infect human being, but two species i.e. P-Vivax and P-Falciparum are found in Pakistan. P-Ovale is almost absent while P- malariae is rare.[4]

P. falciparum causes severe malaria and has a high mortality which is partly due to its increased virulence and partly due to increasing drug resistance.[5]

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Delay in diagnosis and appropriate therapy, self medication and inadequate health services are adding to the misery.[6]

Falciparum malaria has varied manifestations and complications and even fatal consequences. According to WHO, severe falciparum malaria is characterized by one or more of the following features: cerebral malaria, severe anemia (Hb < 5 gm/dl), renal failure, pulmonary oedema, ARDs, convulsions, hypoglycemia, jaundice, acidosis, septicemia, bleeding and clotting disorders due to DIC.[5,6,7,8]

Clinical DIC may present with bleeding manifestations in the form of epistaxis, gum bleeding, hematemesis, hemoptysis, hematuria, malena, cutaneous bleeding (purpura, echymoses, bruises) bruising at injection and venepuncture sites or may present with thrombotic episodes in the form of ischaemia or gangrene of the internal organs or peripheries. The laboratory markers are prolonged prothrombin time (PT) and activated partial

thromboplastine time (APTT), decreased platelet count and positive fibrinogen degradation products (FDPs).

Less than 5% incidence of DIC in P falciparum malaria has been reported, though in severe malaria, the incidence varies from 10% to 25%. Bleeding diathesis may be exacerbated by coexistent uraemia, hepatopathy and drugs like heparin and steroids.Therefore all other causes of DIC should be excluded before making the diagnosis of severe falciparum malaria causing DIC.[7,9,10] Severe falciparum malaria associated with coagulation abnormalities, clinically apparent bleeding or DIC has a high mortality.

Causes of thrombocytopenia include reduced platelet survival, severe peripheral destruction, enhanced splenic sequestration and decreased platelet production. Platelet dysfunction may occur in the form of hyper aggregation and enhanced secretory activity in response to stimulation by adenosine triphosptate released form red cells. It may be due to defective aggregation of platelets in response to ADP, epinephrine and collagen but not to ristocetin.[5,6,7,8,11]

The various procoagulants produced in severe complicated malaria stimulates the coagulation system which generates thrombin. The sources of procoagulants are exposed phosphatidylserine on the cell surface of infected erythorocytes, lysis of activated platelets together with their secretory products, tissue factor (TF) from damaged vascular endothelium, tumor necrosis factor alpha (TNFα) and histamine released during severe malarial infection.[9,12]

In severe falciparum malaria, intrinsic path way of clotting cascade gets activated and natural anticoagulants -protein C, Protein S and anti thrombin III, (AT-III) levels are low.[13,14]

There is increased fibrinolysis causing elevated fibrinogen degradation products (FDPs) due to increased secretion of plasminogen activator inhibitor-I (PAI-I) and decreased secretion of tissue plasminogen activator (tPA).[9,14] The hypercoagulable state may be due to endothelial cell injury and increase in von-willebrand factor (vWf).[14]

In severe falciparum malaria, there is increased secretion of various cytokines like TNFα and interleukin 6. Parasitized red cells and malarial proteins interact with macrophages to induce production of TNFá which has a procoagulant activity TNFα also reduces secretion of tPA and increases PAI-I secretion.[15,16]

The main purpose of our study was to study the frequency of dissiminated intravascular coagulation in plasmodium falciparum infection in our set up.

MATERIAL AND METHODS

This descriptive study was conducted on 50 consecutive patients of both sexes, from 15 to 70 years of age, who presented with fever and bleeding manifestations and having evidence of trophozoite of plasmodium falciparum on peripheral blood smear. The exclusion criteria were patients of less than 15 years of age, patients with strong clinical suspicion of malaria but with no malarial parasites on peripheral smear, patients positive for malarial parasites other than plasmodium falciparum or patients with evidence of clinical and sub-clinical DIC secondary to causes other than P falciparum like obstetrics, severe trauma, malignancies and sepsis etc. All were admitted patients in the four medical units of Khyber teaching hospital Peshawar during January 2004 to August 2005.

After taking the informed consent, a detailed history and meticulous clinical examination was performed. Patients were specifically asked and looked for any bleeding manifestations like epistaxis, gum bleeding, hematuria, hematemesis, malena and bruising. Slides of peripheral blood smear, both thick and thin were prepared and sent to laboratory for study of parasite morphology. Blood complete, platelet count, prothrombin time (PT) activated partial thromboplastin time (APTT) and fibrin degradation products (FDPS) were carried out. The data was tabulated and frequencies/ percentages were calculated.

RESULTS

Total numbers of plasmodium falciparum positive patients were 50 with 27 (54%) males and 23 (46%) females. Sex distribution is shown in Table 1. Male to female ratio was 1.17:1

Table 1: Sex Distribution

Sex	Number of patients	% age
Males	27	54%
Females	23	46%

The age of the patients in the study group ranged from 15 to 70 years, 22 (44%) patients in the age range of 15 to 29 years, 16 (32%) in the age range 30 to 50 years while 12 (24%) were in the age range 50 to 70

Table 2 : Age Distribution

Age range	Number of patients	% age
15 to 29 years	22	44%
30 to 49 years	16	32%
50 to 70 years	12	24%

years. Maximum number of patients were in the age range of 15-29 years (Table 2).

Febrile patients were 48 (96%) while 02 (4%) were afebrile at the time of presentation (who later on developed fever). Pallor (anaemia) was seen in 32 (64%) patients and splenomegaly in 33 (66%) as shown in Table 3.

Table 3: Physical Signs At The Time Of Presentation

Physical signs	Number of patients	% age
Fever	48	96%
Pallor	32	64%
Splenomegaly	33	66%

Bleeding diathesis was noticed in 3 (6%). One patient had hematemesis, malena and gum bleeding, second had epistaxis, subcutaneous bruising and subconjunctival haemorrhages while the third one had malena and bruising at injection sites (table 4) In all 3 cases, the DIC profile was positive with prolonged PT, APTT, thrombocytopenia and raised FDPs. Another group of 04 patients had thrombocytopenia and positive FDPs in low titre, with 03 of them having prolonged PT/APTT but no clinical evidence of bleeding.

Table 4: Bleeding Manifestations (Total No. of Patients = 3)

Bleeding manifestations	Number of patients	% age
Epistaxis	1	2%
Gum Bleeding	1	2%
Haematuria	0	0%
Melena	2	4%
Hemetemesis	1	2%
Bruising (at injection sites and subcutaneous)	2	4%
Sub conjunctival hemorrhages	1	2%

DISCUSSION

Malaria infection is a state in which a human harbours actively multiplying malarial parasites.

Table 5: Laboratory Markers of DIC

Laboratory findings	Number of patients	%age
Raised FDPs	7	14%
Prolonged PT	6	12%
Prolonged APTT	6	12%
Low Platelet count	7	14%

Malaria disease refers to the subset of malaria infection, which has led to pathological disturbances and manifested through specific symptoms and clinical signs. It is a major public health problem in many countries including Pakistan. Falciparum malaria is a potentially fatal disease and has a high mortality. Delay of appropriate therapy may lead to serious and even fatal consequences including bleeding diathesis and DIC.[17,18,19,20]

The reported incidence of DIC in plasmodium falciparum malaria is usually less than 5%[9]. However in severe malaria, the incidence may vary between 10 % to 25%.[9]

Iqbal et al has reported DIC in 7 %, epistaxis in 4%, raised FDPs in 10% and thrombocytopenia in 22%. These values are quite comparable to our study but they reported haematuria in 4%[21] whereas haematuria was not present in any of our patients.

Gandapur et al, in a study carried out in the department of basic medical sciences, Gomal University, Dera Ismail Khan, reported bleeding diathesis in 7% (3% malena, 2% epistaxis, 1% gum bleeding, 1% haematuria).[6]

Jan N. has reported bleeding in 6 (6%) patients with falciparum malaria. Of these 6 (6%) patients, 4(4%) had epistaxis and 2 (2%) had hemetemesis. 2(2%) with epistaxis and 1 (1%) with hemetemesis were also having bruises on the body.[22]

In another study comprising of 79 patients with fever and plasmodium falciparum positive malaria at Khyber Teaching Hospital Peshawar, 4 patients had bleeding diathesis (hematemesis, malena, bruising and epistaxis).[5] These results are quite comparable with our study in which bleeding diathesis was noticed in 3 (6%).

Hazra BR et al studied 60 patients with plasmodium falciparum positive malaria, with 2 patients (3.33%) having purpura and DIC.[10] Mutrhy GL et al also reported bleeding manifestations due to DIC in 4.43% patients.[7] Lopez-Velez R et al from Spain and Weber G et al from Israel has also reported similar results.[8,23] Thrombocytopenia is commonly seen in

malaria, viral and bacterial infection[24] and is suggested to be a predictor of Falciparun malaria in a febrile patient with 80.11% sensitivity and 81.36% speicificity.[25] The frequency of bleeding diathesis in falcipram malaria in our patients is comparable with studies as reported nationally and internationally.

CONCLUSION

Our study included a small sample but has highlighted one of the most important and serious complication of Falciparum malaria. The possibility of DIC should be considered in plasmodium falciparum positive patients presenting with bleeding diathesis. Early diagnosis and prompt anti-malarial treatment may prevent serious and fatal consequences. It is firther suggested that Falciparum malaria should be considered in any patient presenting with bleeding manifestation and fever.

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CLINICAL AUDIT OF GLAUCOMA PATIENTS ADMITTED IN KHYBER TEACHING HOSPITAL PESHAWAR JUNE 2002–MAY 2006

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ABSTRACT

Background: To determine the demographic pattern, types of glaucoma and to evaluate the different types of surgical procedures performed in terms of efficacy and safety.

Material and Methods: The medical records of admitted pts. for glaucoma during June 2002 to May 2005 (4 years) were studied in detail to see type of glaucoma; Management and their outcome. The main objective was intraocular pressure at the time of admission and discharge. Demographic pattern and therapeutic efficacy was determined.

Results: Out of 16425 patients hospitalized for various eye diseases, 775/(4.7%) patients with 1042 eyes suffered from various types of glaucoma 542 (69.93%) of patients were having primary glaucoma while 256 (31.07%) eyes were secondary types. Primary glaucoma is classified as primary angle closure glaucoma 38.5% primary open glaucoma 27.35%, congenital glaucoma 7.6% and absolute glaucoma 1.82%. Among secondary type, traumatic glaucoma was 6.42% lens induced glaucoma 5.37% steroid induced 4.35% neovascular glaucoma 3.45% pseudoexfoliatry type 2.5% and uveitic 2.01%. The numbers of male patients were more than female. The mean age at the time of admission was 42.6 years.

Trabeculectomy was the main surgical operation (76.83%) Other surgical interventions were paracentasis with peripheral iridectomy, cyslocryopexy, lens extraction and pupulloplasty. Trabeculectomy was the most successful surgery in 84.41% for primary type of glaucoma. For secondary glaucoma paracentasis for hyphema related glaucoma, cyclorcyopexy, with or without cataract extraction for steroid induced glaucoma. Main post operative complications were shallow anterior chamber 12.65%, hyphema 10.27%, and uveitis 5.6%.

Conclusion: Primary glaucoma is the leading cause of hospitalization followed by secondary glaucoma Trabeculectomy with or without antifibrotic agent is still the operation of choice and successful in 90% of cases. For secondary glaucoma, cause is treated and the various surgical offered are successful in 95% of cases.

Key Words: Glaucoma, Trabeculectomy, blindness.

Abbreviation: A/C = Anterior chamber, ECCE = Extra capsular cataract extraction, IOP = Intraocular pressure, ICCE = Intra capsular cataract extraction, IOL = Intraocular lens, LIG = Lens induced glaucoma, MM = Mitomycine, NVG = Neovascular glaucoma, P/C = Posterior chamber, PI = Peripheral iridectomy, SIG = Steroid induced glaucoma, Trab. = Trabeculectomy.

INTRODUCTION

Glaucoma is a serious blinding disease of global importance. According to WHO 1990 Figures, glaucoma is the third leading cause of blindness in the world after cataract and is responsible for 5 million blind people in the world over. This figure is estimated to double in 2010-2015. World figure for those affected by glaucoma is 22.5 million and those affected by glaucoma is 22.5 million and those suspected to have glaucoma 105 million are even alarming.[1]

The figures for Pakistan based on the national health survey of Pakistan (1990-94) indicate the prevalence of blindness nationally and is responsible for 3.9% of total blind in Pakistan [2].

Socioeconomic burden of glaucoma on society and health care resources has been studied in various countries and comprise three elements; direct, indirect and intangible costs. The direct expenses are borne by the health care system. Indirect costs are mainly production losses and subsidizing expenses to the invalid. Intanangible costs related to pain and suffering and reduced

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quality of life are difficult to measure. In the UK, 1990 measurable costs of glaucoma were £ 133.5 millions while in USA more than one billion dollar per year[3].

In Pakistan all these are due to low level of awareness, lack of effective primary and secondary based eye care or health system and poor socioeconomic status.

The current management strategies until lately were aimed at reduction of intraocular pressure by topical eye drops containing beta- adrenergic antagonist, cholinergic agonists, adrenergic agonists or carbonic anhydrase inhibitor and prostaglandins analogues or in combination with systemic carbonic anhydrase inhibitors and hyperosmotics.

Failure of medical therapy is followed by laser trabeculoplasty or surgical interventions. The main surgical intervention in our set up is trebeculectomy with or without antimetabolites. Glaucoma valve implant is recent addition to it.

Objective

A) To determine the relative frequency of type of glaucoma

B) To study different management plans

C) To see safety and efficacy of surgical treatment in hospitalized patient.

MATERIAL AND METHODS

All the patients admitted to eye wards from June 2002 to may 2005 were reviewed. The history charts of glaucoma patients were chosen .all the relevant data were analyzed. This includes age, sex, visual acuity with and without correction. Reference to anterior segment examination i.e. corneal odema krukenberg spindle ,anterior chamber depth, iris atrophy and neovascularization, glaucomaflecken, lens opacities, pseudoexfoliation, peripheral anterior synechiae were noted .Fundus examination included disc cupping, neovascularization ,atrophy and hemorrhage, Gonioscopic examination/ findings were recorded .Intra ocular pressure measurement with applanation tonometer taken at the time of admission and discharge were noted. Visual field record of goldmann /Humphrey was reevaluated.

Operative notes were studied The main surgical technique was trabculectomy .Other procedure were iridectomy, cyclocryopexy, pupilloplasty, extra capsuler cataract extraction.The technique were classified as successful to the IOP was maintained without the addition of anti glaucoma medication.

RESULTS

During four years of this study a total of 16425 patients were admitted to ophthalmology department

Table-1: Types of glaucoma

Types	No. of Patients	% age	No. of eyes	% age
Primary glaucoma	542	69.93	786	75.43
Secondary glaucoma	233	20.07	256	24.37
Total	775	100	1042	100

Table-2: Types of primary glaucoma and management

Types	No. of patients	%	No. of eyes	% age	Treatment
ACG	298	54.98%	402	51.14%	Trab=315 PI=87
OAG	175	32.29%	285	36.26%	Trab=145 With mm=48 Combined cat.Ext=111 Conservative=29
Cong. G	50	9.23%	80	10.18%	Trab=80 With mm/fu=47
Absolute G	19	3.50%	19	2.42%	Cyslocryopexy=18 Conservative=4
Total	542	100.00%	786	100%	

for various disease. Among those 1042 eyes of 775 (4.7%) were affected by glaucoma. (Table-1) Male patients were 468 and female 307. The mean age at the time of admission was 42.6 years.

Primary glaucoma and its types was the most common type of glaucoma as 786 (75.43%) eyes suffered compare to secondary glaucoma. (Table-1). Primary angle closure glaucoma was the leading glaucoma as 402 eyes of 298 (54.98%) patients suffered from it. Open angle glaucoma was present in 285 (36.26%) eyes of 175 patients. This was followed by congenital glaucoma present in 80 (10.81%) eyes of 50 patients. The last type of glaucoma was absolute glaucoma in 19 (2.42%) eyes of 19 patients (Table-2).

Trabeculectomy was the most common surgical procedure performed. Other procedures were laser/ surgical iridectomy, combined cataract extraction with

Table-3: Types of secondary glaucoma and management

Types	No. of patients	%	No. of eyes	% age	Treatment
Traumatic	67	28.75%	67	26.17%	Conservative=38 Paracentasis=13 Trab=11 ECCE with P/C IOL=15
LIG	56	24.06%	56	21.88%	ECCE=20 ECCE with P/C IOL=30 ICCE=6
SIG	35	15.02%	49	19.14%	Trab=36 ECCE with Trab=13
Pseudo Exfoliation	18	7.72%	27	10.55%	Trab=17 Combined Cat. Ext=10
NVG	36	15.44%	36	14.06%	Cyclocryopexy=34 Trab with mm=2
Uveitis related	21	9.01%	21	8.20%	Synechiolysis with PI & Pupilloplasty=12 ECCE with PC=6 Conservation =3
Total	233	100.00%	256	100%	

Table-4: Intra ocular pressure control and trabeculectomy

Type of glaucoma	No. of Trabeculectomies	No. of IOP controlled	Percentage
PACG	315	283	89.84%
POAG	256	215	83.98%
Primary Conj glaucoma	80	43	53.75%
S/G	49	45	91.84%
PX Psaudoexfolication	27	27	100%
Traumatic angle recess G	11	10	90.91%
Total 798	738	623	84.41%

intra ocular lens implantation and cyclocryopexy.

Secondary glaucoma was noted in 233 (20.07%) patients out of 256 (24.57%) eyes hospitalized for treatment. Traumatic glaucoma was the leading secondary glaucoma accounting for 67 (26.17%) eyes of total glaucoma. The cause of glaucoma was hyphema, lens matter and inflammation. This was followed by lens induced or phacomorphic glaucoma in 57 (21.88%) eyes, steroid induced glaucoma in 35 (19.14%) eyes pseudoexfoexfoliation glaucoma in 18 (10.55%) eyes, Neovascular glaucoma in 36 (14.06%) eyes and uveitic glaucoma in 21 (8.20%) eyes (Table-3).

Trabeculectomy with or without mitomyicn was the major surgical procedure performed. Other procedures were paracentasis, anterior chamber wash/evacuation, exeracapsular cataract extraction with intraocular lens cyclocryopexy, combined cataract extraction and pupilloplasty.

Intraocular pressure control following surgical procedure was done by Trabeculectomy with or without mitomyicn: A total of 798 trabeculectomies were done.

Overall success rate was 84.41%. Trabeculectomy with mitomyicn was mainly performed in young patients or in eyes having some type previous surgical.

Other operative procedures: Peripheral iridectomy (surgical/laser) was 100%successuful. This procedure was mainly prophylactic. Cyclocryopexy done in 49 patients, with success rate of 65.3 %. Main indications were neovascular, absolute and refractory glaucoma. Synechiolysis with peripheral

Table-5: Intra ocular pressure control and other procedure

Type of surgery	No. of Eyes	No. of IOP controlled	Percentage
PI	87	87	100
Cyclocryopexy	49	32	65.3
ECCE	20	19	95
ECCE WITH P/C IOL	42	40	95.23
Pupilloplasty with syne	12	10	83.33
Paracentasis	13	13	100
ICCE with PI	6	5	83.33
Total	229	206	89.96%

Table-6: Complication in trabeculectomy

Complications	No. of eyes	Percentage
Shallow A/C	95	12.87%
Hyphema	77	10.43%
Choridal detachment	16	2.16%
Ant. Uveitis	42	5.69%
Malignant G	18	2.43%
Endophthalmitis	9	1.21%
Blebitis	1	0.13%

Table-7: Complication following other procedure than trabeculectomy

Type of glaucoma	No. of trabeculectomy	Eyes with complications	Percentage
PI Hyphema	87	18	20.16%
Cyclocryopexy Anterior uveitis	49	6	12.24%
ECCE a. Ant. Uveitis b. Vit. Loss c. Expulsivehge	20	 03 01 02	 15% 15% 5% 10%
ECCE with P/C IOL a. Ant. Uveitis b. Iridodialysis c. Hyphema	51	 16 02 03	 31.37% 3.92% 5.88%
Synechiolysis Ant.Uvitis	12	02	16.66%
Paracentasis Ant. Uveitis	13	3	23.07%
ICCE with PI Vitreous loss	06	05	83.33%

iridectomy done for pupillary block glaucoma, Extra capsular cataract extraction for lens induced or photolytic glaucoma while intravascular cataract extraction was accidental or done for subluxated lens (Table-5).

Following Trabeculectomy: Shallow anterior chamber and hyphema was two major complications as 12.87% and 10.43 respectively. Anterior uveitis was seen in 5.69% while malignant glaucoma in 2.43% cases .Choridal detachment in 2.16% while endopthalmitis and blebitis in 1.21% and 0.13% (Table-6).

Following other procedures: Again hyphema was seen in 20% cases while other complication were uveitic, vitreous loss, iridodialysis and expulsive hemorrhage in two cases (Table-6).

DISCUSSION

Glaucoma is the leading cause of irreversible blindness. It is rated as second cause of blindness. Primary one is the common type of presenting glaucoma with its two main variety. Various studies show that among glaucomas, primary comprises 57-90% while secondary type from 10-25%. The study in Thailand shows the prevalence if primary open glaucoma was 67%, primary angle closure glaucoma 21% and secondary glaucoma 12%[4] while study in urban south Africa shows prevalence of open angle glaucoma 2.9% compare to primary angle closure glaucomas 0.5%[5]. These survey shows that prevalence of open angle glaucoma is more. While other studies like Bhomey S and Chaudry Z et all shows that ratio of primary angle closure glaucoma to open angle glaucoma is 63:37. This study was done in a major eye hospital of India.[6]

In subcontinent another study labeled as West Bengal glaucoma sty show that ratio of primary angle glaucoma to primary open angle glaucoma is 1:10[7]. Our study shows that primary angle closure glaucoma was the leading cause of admission, as primary angle closure glaucoma comprises 38.5% of total glaucoma patients admitted followed by primary open angle glaucoma as 27.35%. This is due to sudden painful loss of vision a feature of angle closure glaucoma. Analyzing all these studies it confirms that in hospital studies angle closure is more than open angle glaucoma. While in outreach survey the reverse is true.

The IOP control that is below 21 mmHg is one of the key parameter. Various surgical interventions were done. The most common surgical procedure offered was Trabeculectomy.

Trabeculectomy: This operation was performed by cains[8] and modified by Wastson[9]. Palmer and other used antifibrotic agent i.e. mitomyicn and fluorouracil to enhance filtration surgery[10,11].

The success rate 100% in pseudo exfoliation glaucoma ,97% in traumatic angle recession glaucoma 91%, in steroid induced glaucoma 98.8%, in primary angle closure glaucoma, 83.1%, in POAG while 53.75% in primary congenital glaucoma.

These results are somewhat comparable to other studies. Those are thomy and bhar Trabeculectomy studies where success rate was 95.4%[12] Zaidi reported a success rate of 80.7%[13]. Mills reported 444 trabeculectomies with success rate of 87.8%[14].

Inada did 427 trabeculectomies with success rate of 74%[15]. Watson and Grierson did 424 trabeculectomies with success rate 98%. Wilson did 304 trabeculectomies with 75% control[17].

Peripheral iridectomy:- Laser or surgical peri-pjeral iridectomy is the main stay in every trabecu-lectomy operation. Alone peripheral iridectomy done in 87 cases with 100% success. It was mainly prophylactic. It gives protective effect from attack and eliminates pupillary block glaucoma. If peripheral iridectomy is not dome the probability of an attack in the second eye is higher than 50%[18]. In our study it was successful in 100% cases. Although a study from Singapore shows that 58% of such eyes required additional methods of management[19] The difference is due to their peripheral iridectomy in acute cases while in our study it was mainly in fellow eye as prophylactic. Main indications of Cyclocryopexy were neovascular and absolute glaucoma. The success rate was 65.3%. Even without intraocular pressure control the pain relief was good. Benson and Nelson study shows intraocular pressure control form 0 to 66.7% in different type of glaucoma[20]. Due to phthisis of eyes and high complication rate this procedure losing its importance.

Cataract extractions were done in lens induced glaucoma i.e. phacolytic and phacomorphic where the success rate was 85% to 95%. Paracentasis and pupilloplasty in few cases with success rate of 83.33%. Combined cataract extraction was done in glaucomatous eyes with advance lens opacities. The three-marked complication of Trabeculectomy were shallow anterior chamber in 12.87%, Hyphema in 10.43% and anterior uveitis in 5.72%. Other less complications were cordial detachment ,malignant glaucoma , endopthalmits and bleabitis. Hyphema, anterior uveitis was the main complication in other procedures. Epulsive hemorrhage in two cases where in one case eye was preserved but visual loss in both eyes. The shallow anterior chamber reported in other studies are, By Mc pherson et al as 11.6%[21] and by mills 9.2%[14]. The complication after trabeculectomy reported by Mc pherson by Chou TY et al as hypotony 8.8%, hyphema 7.5% cystoids macular edema 8.8%, choridal detachment 7.5., malignant glaucoma 1.3%, and filamentry keratitis 2.5%[22] A study done in Lady Reading hospital Peshawar shows that shallow anterior chamber was 19.7%[23]. In our study this complication was managed successfully by pressure dressing, drainage for choridal detachment and repair of wound leak. The incidence of postoperative hyphema reported in other studies as 15.953%. As Rigway [24] reported 15%, Potney[25] 30 % and Zidi[13] 53%. In our study all hypheama resolved within a week of time.

Demographic Characteristics of the study

Demographics	No of patients	775
	No of eyes	1042
1.	Age (years)	
	Mean=	42.6
	Range=	months-75 years
2.	Gender	
	Male	468
	Female	307
3.	Operated eyes	981
	Right	165
	Left	130
	Bilateral	293
4.	Status of fellow eye	
	Glaucoma	223
	Cataract	105
	Retinopathy	86
5.	Duration of symptoms	
	Days	519
	Months	190
	Years	333
6.	Pre treatment IOP	
	Mean	44.5mm Hg
	Range	28-65 mm Hg
7.	Post Op IOP	
	Less than or 21 mm Hg=	829
	More than 21 mm Hg=	213
8.	Best corrected VA	
	PI +	55
	CF-6/60=	210
	Better than or 6/36 =	730
	Children can't assessed =	47
9.	Systemic association	
	DM =	70
	Hypertention =	103
	Thyrotoxicosis =	5

CONCLUSION

Primary glaucoma is the commonest type. Trabeculectomy with or without antrifibrotic agent is still operation of choice as it controls intra ocular pressure effectively. For secondary glaucoma if the cause is removed or treated, intra ocular presser will be control in majority of cases. No simple test is available to identify glaucoma patients particularly open angle glaucoma but improving the training of staff in optic disc, intra ocular pressure and visual field examination can increase detection rate. Availability of laser for prophylactic peripheral iridectomy can prevent blindness in very large number of our country in primary angle leisure glaucoma. Affordable cataract services, good control of blood pressure, diabetes and avoiding eye injuries can prevent secondary glaucoma.

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ASSESSMENT OF FREQUENCY AND THE RISK FACTORS OF OBESITY BASED ON BODY MASS INDEX IN 1031 HEALTHY ADULTS FROM NORTH WEST FRONTIER PROVINCE OF PAKISTAN

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ABSTRACT

Background: Obesity is a growing health problem both in the developed and developing world. No study has been reported on the frequency of obesity in North West Frontier Province. In this study we found out the frequency and the risk factors for obesity based on body mass index (BMI) in 1031 adults healthy volunteers.

Material and Methods: This study was carried out at Hayatabad Medical Complex (HMC) and Welfare Clinics in Peshawar City, from November 2005 till April 2006 (6 months). A convenient sample of 1031 healthy volunteers accompanying their patient to the Out Patient Department (OPD), Wards at HMC and at the welfare clinics in the city were recruited. A structured interview questionnaire was administered to all participants and their anthropometric measurements taken in a standardized way.

Results: The mean BMI for the whole sample was 26.9 ± 7.3. The mean BMI was 31.1 ± 10.4 and 25.4 ± 5.2 in females and males respectively. The combined frequency of overweight and obese was 65.8% and 84.6% in males and females respectively ($p<0.001$). Increasing age ($p<0.001$) in both sexes, being married ($p<0.001$) and ownership/use of motorized vehicles ($p<0.001$) were positively associated with increase in BMI. 77.3% of the graduates and 73.2% of illiterates were obese or overweight ($p<0.001$). 99.2% of the housewives and 69.7% of jobless people were obese or overweight ($p<0.001$). A statistically significant association of BMI with awareness was seen among Pakistanis ($p=0.002$). High Blood pressure was positively associated with higher BMI value ($p<0.001$).

Conclusion: There is a very high frequency of obesity in our community particularly among females as compared to males and there is positive association of obesity with occupation, educational status, presence of vehicles at home, ethnicity, and married marital status. There is no association of obesity with smoking in our study.

Key Words: Obesity, Body Mass Index, Risk factors.

INTRODUCTION

Obsity is one of the major public health problem and the most common nutritional disorders.[1,2,3] Both peripheral and abdominal obesity are associated with non-communicable chronic diseases such as type II diabetes, cardiovascular and cerebrovascular diseases, digestive disorders, and cancer.[4,5] In addition, obesity is also a major independent risk factor for the development of hypertension, type II diabetes, and dyslipidemia.[6] According to the World Health Organization (WHO) Consultation on Obesity, the incidence of obesity has been increasing rapidly since 1990. The prevalence of obesity is also increasing in many developed countries[7] and in many developing countries.[8,9] The prevalence of obesity in adults is 10% to 25% in most countries of Western Europe where obesity rates in the United States have risen sharply over the past 2 decades.[10,11] By 1999-2000, 64% of adults aged > 20 years were classified as overweight and 30% were classified as obese. In Middle East, such as Bahrain, Kuwait, and Jordan, prevalence of obeseity is as high as 35%[12], 42%[13], and 49.7%[14] respectively. The prevalence varies not only among regions and countries but also among races and ethnic groups. Obesity appears to lessen life expectancy markedly, especially among younger adults.[15]

A commonly used surrogate assessment of obesity is the body mass index (BMI). This was first described by Quetelet in 1869.[16] In a young adult, the desirable range of BMI is 20-25 kg/m^2,[17] as this is associated with the lowest mortality. For Asians the desired BMI is 18-23 kg/m.[2,18,19]

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The National Health Survey of Pakistan (1990-94)[20] shows the highest prevalence of obesity in Pakistan to be in urban females of 45-64 year age-group (40% with BMI>25). However, this survey represents one of the very few studies available on obesity amongst healthy population in Pakistan and none have been conducted so far in the North West Frontier Province. Therefore we lack adequate and up-to-date data on the demographic pattern and associated risk factors for adults in NWFP, without which a targeted policy for action against this issue is impossible.

OBJECTIVES

1. To estimate the frequency of obesity based on body mass index.
2. To determine the demographic pattern of obesity based on Body Mass Index.
3. To determine the risk factors for obesity in the same sample.

MATERIAL AND METHODS

The study was conducted in the outpatient department (OPD) and wards of Hayatabad Medical Complex, Peshawar as well as Welfare Clinics in the city. The study population consisted of healthy adults (>18 years) accompanying patients to these places, and comprised of individuals belonging to Peshawar district as well as rest of the province and therefore included both rural and urban. This was a descriptive cross-sectional study in terms of data collection and analysis.

Total of 1600 individuals were requested to participate, of which 1031 agreed (64% participation rate). The volunteers had no apparent medical or surgical problem. A verbal informed consent was obtained for assessment. Exclusion criteria were age less than 18 years old, pregnancy, having a current medical or surgical problem and not willing to be assessed.

Participants were interviewed by doctors; their height, weight, waist and hip circumference, and blood pressure were assessed as mentioned in the protocol. The interview questionnaire included questions about demographics, educational status, ethnicity, occupation, smoking history, use of vehicle and awareness about being obese and its health risks. Those who did not know about association of obesity with heart disease, stroke, diabetes and hypertension were classified as having inadequate awareness. Physical activity was indirectly assessed by occupation.

The height and weight were measured with Z T Health Scale 120 (Iqbal and Company) calibrated before each session. Height was measured to the nearest 0.5 cm, without shoes, in light garments, back straight and eyes looking straight ahead. Weight was rounded off to the nearest 0.5 kg. BMI was determined with the standard formula (Weight in kg / height in meters squared). The cut off limit for normal BMI was the recommended standard for Asians i.e. 23 kg/m^2. Overweight were classified as having BMI 23 – 25 kg/m^2 and mild obese as having BMI 25-30 kg/m^2 .while severe obese as having BMI > 30 kg/m^2. Arterial blood pressure (BP) was measured at the end of interview by the help of a standard mercury sphygmomanometer with the subject in sitting position. Individuals having a systolic BP of 140mmHg or more and/or diastolic BP of 90mmHg or higher, were defined as hypertensive. Subjects who had knowledge of obesity and its association with hypertension, diabetes and stroke were classified as adequately aware and the rest were grouped as inadequately aware.

Inter-observer studies were carried out to standardize the procedure amongst data collectors. A pilot study on 50 subjects was carried out before the actual study and adjustments in physical arrangements were made. Some changes were also made in the interview questionnaire. Interview forms were coded and double-entered into SPSS/PC version 12.0 (SPSS Inc., Chicago, IL). The files were merged and corrected for errors. All associations were analyzed using Chi-Square method.

Formal ethical approval was obtained from the hospital's Ethical Committee. Verbal consent was obtained from the individuals after giving them all the explanation regarding what was involved in the study. All participants were educated about diseases associated with obesity and were offered written advice on weight management when necessary. All participants were provided a written record of their height, weight, current BMI, ideal BMI and amount of weight to be gained or lost in order to achieve the ideal BMI. Overweight and obese participants were given detailed advice on exercise and dietary adjustments required for reducing weight and blood glucose testing was advised to screen for the unknown diabetics. Individuals with BMI > 30 were also advised drug therapy with explanation of side effects.

Because of the convenience sampling technique, the findings of this study cannot be generalized to all the population of NWFP, though all the subjects belong to different districts of the province. The female sample was considerably small (25%), explaining a low uptake of health care services by females because of the very male dominated culture of this province.

Two separate well lit rooms, for male and female subjects, were allotted for the purpose of the study at

Table 1: General Characteristics of the patients

	Men	Women	Total
Age (years)	34.27±13.2	40.30±13.2	35.75±13.45
Height (m)	1.69±0.07	1.54±11.38	1.65±0.10
Weight (kg)	72.94±15.15	73.35±19.92	73.04±16.44
BMI (kg/m²)	25.41±5.19	31.34±10.39	26.87±7.29
WHR	0.91±0.08	0.94±0.09	0.92±0.08
WC (in)	35.25±5.33	40.25±9.90	36.47±7.07
Systolic BP (mmHg)	123.93±15.97	126.50±18.35	124.56±16.61
Diastolic BP (mmHg)	78.95±11.32	80.97±13.00	79.44±11.78
Ethnicity (%)			
Pakistani	79.9	63.6	75.9
Afghan	20.1	36.4	24.1
Education (%)			
None	25.7	67.2	35.9
Primary	14.5	8.3	13.0
Secondary	22.2	10.3	19.3
H. Secondary	11.6	3.6	9.6
Graduate	26.0	10.7	22.2
Occupation (%)			
None	14.4	37.9	20.2
Manual worker	25.8	2.0	20.0
Office worker	17.4	2.8	13.8
Professional	33.5	2.8	26.0
Student	8.9	3.6	7.6
House wife	—	51.0	12.5
Smoking hx (%)			
Active smokers	17.6	—	13.3
Non-smokers	82.4	100	86.7
Vehicle usage (%)			
None	48.7	73.9	54.9
Cycle	13.2	0.8	10.2
Motorcycle	11.6	2.0	9.2
Car 26.5	23.3	25.7	
Awareness (%)			
Inadequate	75.2	81.8	76.8
Good	24.8	18.2	23.2

Data are means ± SD unless noted otherwise

WHR = Waist Hip Ratio, WC = Waist Circumference, BP = Blood Pressure.

the hospital outpatient department and similar arrangements were made at the welfare clinics in the city. Arrangements for height and weight measurements were made using Z T health scale. One subject was interviewed in each room at any single time to ensure privacy.

RESULTS

The general characteristics of the sample cohort are described in Table 1. The mean age for males was 34.2 ± 13.2 years and 40.3 ± 13.2 years for females.

The mean BMI for the whole sample was 26.9 ± 7.3. Females had a higher BMI relative to males 31.1 ± 10.4 versus 25.4 ± 5.2. Women had higher BMI than men in all age groups, the association being highly significant ($p<0.001$). (See Table 2).

Amongst the males, 17.4% were overweight, 48.4% were obese (BMI> 25), 29.4% were normal and 4.9% were underweight. Amongst the females, 9.1% were overweight, 75.5% were obese (BMI>25), 13.4% were normal and 2% were underweight. Increasing age ($p<0.001$) in both sexes (peaking in the 39-48 age-group), being married ($p<0.001$) and ownership/ use of motorized vehicles ($p<0.001$) were positively associated with increasing BMI in our sample (See Figure 1). BMI showed a parabolic association with educational status, with higher values among the graduates and illiterates ($p<0.001$) and lower values among school/college students (undergraduate) (See Figure 2). Educational status was shown to be strongly associated with awareness about risks of obesity ($p<0.001$).

BMI showed a positive association with occupation, with lower BMI among the students and manual workers. ($p<0.001$) (See Table 3). A statistically significant association of BMI with awareness was seen ($p=0.029$) in our study. However, upon further analysis based on ethnic origin, BMI was only strongly associated with awareness among Pakistanis ($p=0.002$) and was not significant in case of Afghans ($p=0.08$) (See Table 4). High blood pressure was positively associated with higher BMI value ($p<0.001$) (See Table 5).

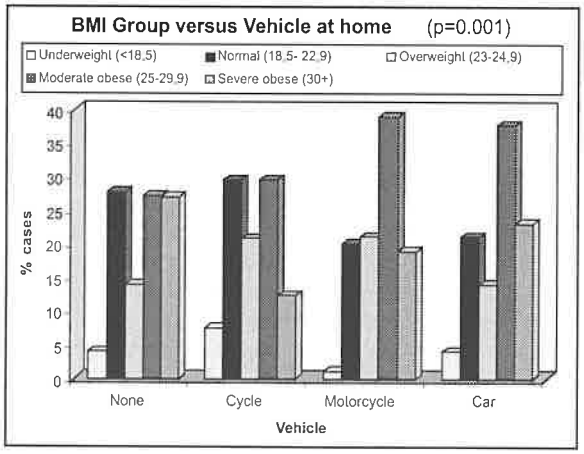
DISCUSSION

In developed countries, obesity is an increasingly common condition. In Europe, it has been estimated that 10–20% of all men and 15–25% of women are obese.[18-20] The prevalence of obesity has more than doubled in the UK between 1980 and 1993 and this trend has been uniform for both men and women of all age groups.[22] In United States, 34% of the adult population is overweight (BMI 25-29.9), and another 27 percent is obese (BMI > 30). The prevalence of obesity has increased by more than 75 percent since

Table 2: BMI Versus Age-Group By Gender

		Age Group (in years), n (%)					
BMI Group	Weight	18 – 28 n=55	29 – 38 n=56	39 – 48 n=64	49 – 58 n=49	59 – 68 n=23	69 + n=6
BMI Group (Female)	Underweight (<18.5)	2(3.6)	1(1.8)	0	1(2)	0	1(16.7)
	Normal (18.5- 22.9)	16(29.1)	5(8.9)	3(4.7)	6(12.2)	3(13)	1(16.7)
	Overweight (23-24.9)	10(18.2)	5(8.9)	3(4.7)	2(4.1)	2(8.7)	1(16.7)
	Moderate obese (25-29.9)	14(25.5)	9(16.1)	21(32.8)	16(32.7)	9(39.1)	2 (33.3)
	Severe obese (30+)	13(23.6)	36(64.3)	37(57.8)	24(49)	9(39.1)	1(16.7)
		(n=340)	(n=185)	(n=126)	(n=73)	(n=37)	(n=17)
BMI Group (Male)	Underweight (<18.5)	29(8.5)	4(2.2)	3(2.4)	0	2(5.4)	0
	Normal (18.5- 22.9)	147(43.2)	37(20)	18(14.3)	12(16.4)	12(32.4)	3(17.6)
	Overweight (23-24.9)	69(20.3)	32(17.3)	15(11.9)	11(15.1)	4(10.8)	4(23.5)
	Moderate obese (25-29.9)	68(20)	80(43.2)	54(42.9)	31(42.5)	10(27)	8(47.1)
	Severe obese (30+)	27(7.9)	32(17.3)	36(28.6)	19(26)	9(24.3)	2(11.8)

Figure 1 - BMI versus Vehicle at home



1980. In India, the prevalence of obesity was 21.5% (BMI >"25).[23] In South Korea, the prevalence of overweight (BMI 25-29.9) has steadily increased (1.3% annually), whereas obesity (BMI >"30) showed a lower prevalence and only a slight increase (0.1%-0.2% annually.[24] In Turkey, the prevalence of obesity (BMI >"30) was 23.5%: 29.4% in women and 16.5% in men. The combined prevalence of both overweight (BMI 25-30) and obesity (BMI>30) was 60.3%.[25]

In our study, the mean BMI was 26.9 ± 7.3, the frequency of obesity (BMI>25) was 61.9%. The combined frequency of obesity & overweight (BMI 23-25) population was 75.2%. This frequency is higher than reported previously. The frequency of higher BMI in our study may be because of a lower cutoff limit of BMI. We selected BMI 18-23 as normal, 23-25 overweight while in all other previously reported studies, the BMI was 25-30 and >30 for overweight and obesity respectively. Secondly, the sample was more representative of urban population compared to rural. Lastly we have different eating & dietary habits.

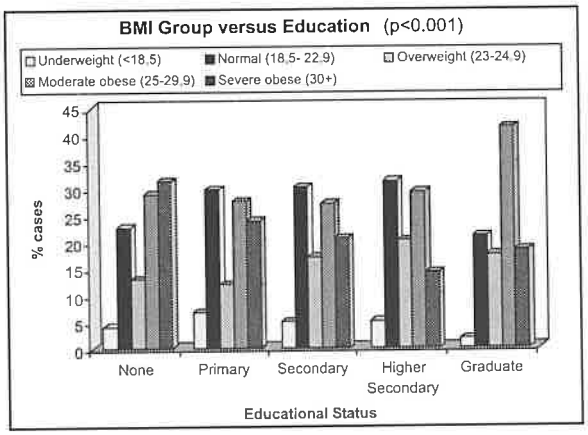
In Karachi, the prevalence of obesity (BMI >"25) in 25-44 year olds in rural areas was 9% for men and 14% for women; in urban areas, prevalence was 22% and 37% for men and women, respectively. For 45-64 year olds, prevalence was 11% for men and 19% for women in rural areas, and 23% and 40% in urban areas for men and women, respectively.[26] In our study females had a higher BMI relative to males 31.1 ± 10.4 versus 25.4 ± 5.2 (P<0.001). The high frequency of obesity in female is probably due to more sedentary life, less likely to do heavy manual work, lack of employment outside the house and less sporting activities as compared to males. Electricity, tap water and modern transportation (buses and cars) have become available on a large scale, and agriculture is becoming highly mechanized. These changes have been accompanied by an abundance of food. Many women in NWFP observe Purda and stay at home. Traditionally, the locals of this province consider obesity to be a sign of good health, status and beauty, an attitude that may contribute to the current situation. Early marriage and increasing parity as reported previously, are very common amongst the Pathans and Afghans.

In India, there was continuous increase in the prevalence of obesity with age. In Turkey, age was strongly associated with obesity.[25] Same has been reported by several other studies.[27,28,29,30] In our study, there was a similar continuous rise in BMI (P<0.001) peaking in the 39-48 age-group, and then declining steadily in females. The association between obesity and age can be explained, in part, by a decrease in the degree of physical activity with age in men and women.[31] In women, pregnancy-related circumstances must be considered as BMI has been shown to increase with the number of pregnancies. Women are also prone to weight gain during menopause. The loss of the menstrual cycle affects calorie intake and slightly lowers metabolic consumption, although most weight gain has been attributed to a reduction in physical activity. In older age-groups there was a decline in the frequency of overweight and obese. This decline was probably related to different diseases in the elderly,

Table 3: BMI Versus Occupation (p<0.001)

	Occupation n (%)					
BMI Group	None (n=208)	Manual worker (n=206)	Office worker (n=142)	Professional (n=268)	Student (n=78)	House wife (n=129)
Underweight (<18.5)	7 (3.4)	13 (6.3)	6 (4.2)	9 (3.4)	8 (10.3)	0
Normal (18.5- 22.9)	56 (26.9)	55 (26.7)	32 (22.5)	66 (24.6)	41 (52.6)	13 (10.1)
Overweight (23-24.9)	25 (12)	37 (18)	23 (16.2)	49 (18.3)	15 (19.2)	9 (7)
Moderate obese (25-29.9)	68 (32.7)	50 (24.3)	56 (39.4)	104 (38.8)	11 (14.1)	33 (25.6)
Severe obese (30+)	52 (25)	51 (24.8)	25 (17.6)	40 (14.9)	3 (3.8)	74 (57.4)

Figure 2 - BMI versus Educational Status



malnutrition or a sample error as the visitors or the attendants were mostly young ones.

A positive association has been noted between obesity and marital status. Our results were similar to previous results where the frequency of overweight and obese in married persons was 76.5% compared to 51.4% in unmarried. ($p< 0.001$). Laurier et al., in a comparative survey in France, the United Kingdom, and the United States, have reported that married men or those living as part of a couple are twice as likely to be obese than those living alone.[32] Other researchers using multivariate analysis have reported that the prevalence of obesity in widowed persons is higher than that in single and married ones.[33]

The prevalence varies not only among regions and countries but also among races and ethnic groups.[34] There was statistically significant difference in percentage of overweight and obese among Pakistani (70.1%) and Afghani (71%) ($p=0.026$). Our results are in contrast to a study conducted on children in UK[35], where significant differences were evident in body fatness according to gender ($p<0.01$) and ethnicity ($p<0.01$). Boys were leaner than girls and black children were leaner than white and Asian children (both $p<0.01$). The causes for this may be due to similar environmental factors, the same Pushtoon tribes living across the Durand Line (Border between Pakistan & Afghanistan) and a small Afghan sample. Perhaps ethnicity plays a little role as compared to environmental factors in the causation of obesity.

Occupation had a strong association with obesity ($p<0.001$) with low BMI among manual workers (64% overweight and obese) due to high consumption of energy and among students (37% overweight and obese) perhaps they were younger. The highest BMI was among housewives (90% overweight and obese), followed by office worker and professionals. In Turkey, women engaged in domestic duties were more often obese than employed women. Performing domestic duties without fixed hours or remuneration, and having a constant access to food, may have contributed to obesity in these women. Our results are similar to other previous studies.

There was no difference in obesity among smoker and non smokers ($P=0.384$) in our study. Similar findings have been seen in other studies,[35,36] although smokers in India constitute a greater percentage of the obese group.[37] In Turkey; smokers were thinner than nonsmokers. Smoking cessation usually leads to weight gain and changes in adipose cell metabolism, in particular increases in adipose tissue lipoprotein lipase activity.[38,39] Also, this trend might be due to the effect of cigarettes on depressing the appetite.

There was statistically significant association of presence of vehicle at home. The frequency of obesity was higher among those who had a car or a motor cycle at home as compared to those who had a bicycle ($p=0.05$). In China, the odds of being obese were 80% higher ($p < 0.05$) for men and women in households who owned a motorized vehicle compared with those who did not own a vehicle.[40]

Table 4: BMI versus Awareness by Ethnicity

BMI Group	Awareness of risks n (%)			
	Pakistani (p=0.002)		Afghani (p=0.08)	
	Inadequate (n=579)	Good (n=204)	Inadequate (n=213)	Good (n=35)
Underweight (<18.5)	35 (6)	5 (2.5)	3 (1.4)	0
Normal (18.5- 22.9)	153 (26.4)	41 (20.1)	53 (24.9)	16 (45.7)
Overweight (23-24.9)	72 (12.4)	40 (19.6)	43 (20.2)	3 (8.6)
Moderate obese (25-29.9)	175 (30.2)	78 (38.2)	59 (27.7)	10 (28.6)
Severe obese (30+)	144 (24.9)	40 (19.6)	55 (25.8)	6 (17.1)

Table 5: BMI versus Blood Pressure (p<0.001)

BMI Group	BP Group n (%)	
	Normo-tensive (n=738)	Hyper-tensive (n=293)
Underweight (<18.5)	39 (5.3)	4 (1.4)
Normal (18.5- 22.9)	229 (31)	34 (11.6)
Overweight (23-24.9)	122 (16.5)	36 (12.3)
Moderate obese (25-29.9)	210 (28.5)	112 (38.2)
Severe obese (30+)	138 (18.7)	107 (36.5)

Most (76.8%) of our sample cohort was unaware of being obese and the hazards of obesity. In Karachi, awareness was 90%.[41] There was a statistically significant (although weak) difference of obesity among those who were aware of being obese and aware of the hazards of obesity (p=0.029) in our study. However, further analysis of the sample based on ethnicity showed that BMI was strongly associated with awareness only amongst Pakistanis (p=0.002), while it was not significantly associated with awareness in case of Afghans (p=0.08). This may be due to sample error since the Afghan sample was much smaller.

An inverse association of obesity has been reported with education by others.[42,43,44] In contrast, our study showed that obesity was high among illiterate and graduate (parabolic curve). This may be due to increase in the household income among the graduates which has shown to be associated with obesity in the developing countries. This is in sharp contrast to the developed countries where there is decrease in the prevalence of obesity with an increase in household income.[45] In the presence of limited awareness increase in income will lead to over expenditure on high caloric foods, this might be cause in our setting.

Our study also showed a significant association of higher BMI with hypertensive subjects compared to Normotensive subjects (p<0.001). The results are similar to a study conducted in Turkey.[46]

CONCLUSION & RECOMMENDATIONS

There is a very high frequency of obesity in our community particularly among females as compared to males. There is progressive increase in obesity 20-55 years. The curve starts much early and steeper in female as compared to males. There is positive association of obesity with occupation, educational status, presence of vehicles at home, and married marital status, ethnicity. There is no association of obesity with smoking.

There is a need for an effective public health program with the goal of securing balanced nutrition and increasing physical activity for the community. A much larger study in the community is needed to assess the prevalence and risk factors of obesity in this community.

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RECURRENCE IN PRIMARY PTERYGIUM EXCISION WITH AMNIOTIC MEMBRANE GRAFTS

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ABSTRACT

Background: Recurrence in primary pterygium excision with amniotic membrane grafts were studied.

Material and Methods: Patients presenting to the outpatients clinic of ophthalmology department in Khyber teaching hospital with primary pterygium were included in this study. 22 (41%) cases were treated as inpatients and 32 cases (59%) as outpatient. They were all having primary pterygium. Cases were randomly selected on the basis of inclusion and exclusion criteria and details were recorded on a pre developed proforma. All patients underwent surgical excision of the pterygium. The pterygia were excised to bare sclera and the conjunctival defects closed with amniotic membrane grafts using 10/0 nylon suture. Each patient was followed for a period of six months. The primary outcome was to measure pterygium recurrence. The recurrence is defined as the 2mm or more regrowth of the fibro vascular tissue over the cornea.

Results: Out of the 54 cases by six months post op four (7.40%) developed corneal recurrence. No association was found between pterygium recurrence and pterygium size, amniotic membrane graft dimension, patient age or patient sex .

Conclusion: The amniotic membrane is an effective and safe procedure for the treatment of primary pterygium. Absorbing excessive stem and progenitor cells may be one of the mechanisms of reducing the recurrence rate using amniotic membrane.

Key Words: Pterygium, Amniotic membrane, Recurrence.

INTRODUCTION

Pterygium appears as a fleshy vascular mass that occurs in the interpalpebral fissure. The typical pterygium is triangular in shape and is made up of a cap, head and body. It is more frequently located nasally rather than temporally.[1] The cause of pterygium is not known but those who work outside in the sun and wind are more prone to develop pterygium probably from conjunctival irritation.[2]

The first use of amniotic membrane transplantation (AMT) in ophthalmology was by De Rotth in 1940 who reported partial success in the treatment of conjunctival epithelial defects after symblepharon[3] (scarring and adhesions between palpebral and bulbar conjunctiva). Sorsby and Symons in 1946 found that patients with caustic burns of the conjunctiva with corneal involvement could be treated successfully using amniotic membrane.[4] Little else regarding AMT appeared in the ophthalmic literature until 1995 when Kim and Tseng used AMT for ocular surface reconstruction of severely damaged corneas in a rabbit model.[5] Since that experimental study, AMT has been used for persistent corneal epithelial defects, corneal ulcers,[6,7] leaking filtering blebs after glaucoma surgery,[8] pterygium surgery[9] conjunctival surface reconstruction,[10] bullous keratopathy,[11] chemical or thermal burns,[12] ocular surface reconstruction with or without limbal stem cell grafting,[13] and in patients with ocular cicatricial pemphigoid or Stevens-Johnson syndrome.[14]

In general the results of surgery, whatsoever method is applied are best in old patients with thin atrophic and stationary pterygia. Recurrences are quite common in young patients and in patients with active inflamed and rapidly growing pterygia, even with surgery and adjunctive treatment.

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MATERIAL AND METHODS

A total of 54 patients operated for primary pterygium with amniotic membrane graft in the department of ophthalmology KTH Peshawar. The total duration of study was from Sep.2006 to July 2007. Diagnosis of pterygia was made by clinical examination, cases selected randomly on the basis of inclusion criteria (Age between 15 and 60 years, when pterygium is nasal side and is 3mm or more in size,

when it interferes with vision by occluding visual axis or inducing astigmatism, when it is cosmetically disfiguring) and exclusion criteria (One Eyed, glaucoma, ocular surface abnormalities, lid abnormalities, ocular or adnexal infections, recurrent pterygium, age below 15 years and above 60 years).

A brief history was taken on a pre developed proforma in which special enquiry was made about the chief complaints, duration of growth, and any previous medical or surgical treatment. The state of the growth was asked whether it was stationary, slow growing or rapidly growing. All the procedure performed by same surgeon with six months followed up of the cases. All the operations were done under microscope using topical and local subconjunctival anesthesia. The pterygia were excised to bare sclera and the conjunctival defects were closed with amniotic membrane grafts using 10/0 nylone suture. At the end of the surgery local antibiotic drops and ointment were put in the eye and the eye was patched for 24 hours. No significant intraoperative complications were noted. Every patient followed up for one month, three months and six months.

RESULTS

Over all there was recurrence in four (7.4%) cases, Out of four recurrence cases two was from male patients and two from female patients. No recurrence diference noted regarding gender of the patients.

Out of 54 cases 32 (59 %) were male and 22 (41%) were female. They were divided into three groups. In group-I, 15 to 30 years age patients included. In this group 15 cases operated out of which recurrence was noted in 03 patients (20%). In group-II, 31 to 45 years age patients included, a total of nine cases operated and no recurrence noted in this age group. In group-III, 46 to 60 years age group patients included, 30 cases operated in this age group, only one recurrence (3.33%) noted.

Out of 54 patients 24 (45%) were house persons, 11 (20%) patients were teachers, seven (13%) patients were farmers, six (11%) patients were students and six (11%) patients were shopkeepers.

Out of total recurrence of four patients two of them were students and one was farmer and one was house person. Occupation wise students are at greater risk of recurrence. One of the main reason of recurrence in students are, because they are young and their pterygia are usually progressive.

20 patients have bilateral pterygia while 20 patients have right and 14 patients have left pterygia.

In 34 (63%) cases unilateral pterygium excised with amniotic membrane graft while in 20 (37%) cases both eyes operated. Out of 20 bilateral pterygia, 13 (65%) patients were male and seven (35%) were female. Out of 34 unilateral pterygia 19 (56%) were male and 15 (44%) were female.

There was no major complication such as perforation, scleral melt or endophthalmitis. Three patients has got graft retraction before 15 days, one patient has graft retraction on 2nd day for which regrafting done. One patient developed conjunctival cyst, for which he was operated again.

DISCUSSION

Pterygium is now no more thought of as a cancerous growth but rather a protective mechanism.[15] It grows on to the cornea because of a chronic dellen initiated by tear film inadequacy.

Pterygium excision is often considered a trivial procedure, but without any adjunctive therapy, the recurrence rate after surgery may be as high as 69% especially in hot, dry and sunny atmospher.[16]

While the definitive management of a pterygium is surgical, the ideal adjunctive procedure is still to be determined. In my study the overall recurrence rate is 7.4% which shows a significant decrease in recurrence if pterygium excised with amniotic membrane grafts. Amniotic membrane grafts looks promising and seems like it is here to stay in the management of pterygium and other ocular surface disorders, with continued technological advancements in tissue processing, newer preserved forms such as the low-heat dehydrated AM are being made commercially available. Suture less applications with fibrin glue have been aimed at making the procedure easier and more comfortable for the patient.

The following studies used amniotic membrane transplantation for conjunctival surface reconstruction following removal of primary or recurrent pterygium. For primary pterygium, Prabhasawat[17] first compared a prospective study using amniotic membrane graft (n=54) to a retrospective study using conjunctival auto graft (n=122) in both primary and recurrent pterygium. They noted that the recurrence rate is 10.9% using amniotic membrane graft, which is still higher than2.6% of conjunctival graft. Nevertheless, both results of amniotic membrane grafts and conjunctival auto grafts are significantly better than the primary closer (n=20), which resulted in 45% high recurrence rate for primary pterygium. Subsequently, Solomon.[18] reported that by incorporating a larger removal of subconjunctival fibrosis tissue and injection of long acting steroids, amniotic membrane grafts achieved a lower recurrence rate of 3.0%, compatible with 2.6% of conjunctival auto grafts published by Prabhasawat.[19]

In my study the most common recurrence was noted in young patients, old patients had a lower recurrence rate. No significant intraoperative or postoperative complications were encountered and there were no sight-threatening complications.

Technically the procedure is straightforward and requires no extra surgical skills or equipment and does not require postoperative or intraoperative use of potentially toxic medications for an essentially benign condition. Human amniotic membrane is believed to be nonimmu-nogenic. Antibodies or cell mediated immune response to amniotic membrane have not been demonstrated, suggesting low antigenicity. Therefore, the use of systemic immunosuppressives in AMT is not required. In contrast, chorion provokes neovascular-ization and typical rejection phenomenon. The amnion surface epithelial cells do not express HLA A, B, C, or DR or beta2 microglobulin.[20]

Amniotic membrane has been successfully used in a number of procedures for restoration of the ocular surface. As its mechanism of action becomes more fully understood, its application will become more refined, with more appropriate usage of this valuable technique. The full potential of this technique is not known, thus randomised prospective studies are needed.

The temporary amniotic membrane patch is an effective and safe procedure for the treatment of primary pterygium. Absorbing excessive stem and progenitor cells may be one of the mechanisms of reducing the recurrence rate using AM.

While studies with larger numbers and longer follow up are required, we feel that this report provides encouraging results regarding the safety and efficacy of amniotic membrane grafts in the management of recurrent pterygium.

CONCLUSION

Amniotic membrane has been used for many years for ocular surface defects. In this study, amniotic membrane transplantation was used for primary pterygium excision. Considerable lower rate of recurrence noted. Functional and cosmetic results were good.

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FOGARTY BALLOON CATHETER ABLATION OF POSTERIOR URETHRAL VALVES IN NEONATES

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ABSTRACT

Background: Neonates with posterior urethral valves in developing countries, where costly endoscopic instruments are usually not available, are a special problem. The objective of this study was to evaluate the efficacy of fogarty balloon catheter ablation of posterior urethral valves as an alternative to endoscopic valve fulgaration.

Material and Methods: From January 2006 to December 2006, we received 07 neonates with Posterior Urethral Valves which were subjected to this technique. Their age range was between 5-26 days, while the weight range varied between 2.5 Kg to 3.5 Kg. Valves were ablated by using size 6F Fogarty catheter in the main operation theater under general anesthesia.

Results: Technique was successful in all the 7 neonates which was evident by a good stream of urine. Two patients had Grade III, while two patients had Grade IV vesicoureterric reflux before ablation. In patients with Grade IV reflux, reflux downgraded to Grade III on MCUG done 3 months after ablation. Patients with Grade III reflux were lost to follow up.

Conclusion: Ablation of posterior urethral valves with Fogarty balloon catheter in neonates is simple, economical and effective way to treat these patients. Endoscopic valve fulgaration in neonates is hazardous and this technique is a good alternative, especially in developing countries.

Key Words: Fogarty balloon catheter ablation, Posterior urethral valves.

INTRODUCTION

Posterior urethral valves (PUV) are the commonest cause of lower urinary tract obstruction in male infants[1,2]. The exact incidence of the condition is disputed but reported to be between 1 in 8000[3] to 1 in 25000 live births[4]. The severity of PUV varies from mild to lethal. Usually the obstruction caused by PUV is so severe that most children present within first few months of life but cases has also been reported in adults[5,6,7].

Primary endoscopic valve ablation is the standard method to treat PUV in majority of the cases[8]. In developing countries costly endoscopic instruments may or may not be available due to economic restraints. In such situations Fogarty balloon ablation of PUV is an effective alternative[9]. As pediatric cystoscope and resectoscope for neonates is not available in our set up, so we conducted this study to see the efficacy of this procedure.

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MATERIAL AND METHODS

Between January 2006 to December 2006, 7 neonates were received which had PUV. Patient were admitted and their age and weight were recorded (Table I). Physical examination showed distended bladder in all patients. Ultrasonography of the abdomen revealed hydronephrosis, hydroureter and distended bladder in these patients. Their bladder were drained by inserting 6F foley's catheter.

After stabalization, correction of fluid, electrolytes and acid base balance alongwith control of infection by parenteral antibiotics, MCUG was performed. All patients had dilated posterior urethra secondary to PUV (Fig 1). 4 patients had reflux, out of these 4, 2 had grade III and 2 had Grade IV reflux. In three patients there was no reflux (Fig 2).

After confirmation of the PUV on MCUG, patients were taken to operation theater and under general anesthesia a size 6F Fogarty catheter was inserted into the bladder and its baloon inflated with 1 cc of sterile water. Gentle traction was then applied over the catheter till its baloon rested against the bladder neck. At this moment its baloon was deflated and catheter withdrawn for 1cm, so that deflated baloon now lied in the dilated posterior urethra. The baloon was re- inflated with 1 ml of sterile water and the

Fig. 1: MCUG showing PUV with left vesicoureteric reflux

Table 1: Age, weight and follow up of the patients with posterior urethral valves

S. No.	Age (Days)	Weight (Kg)	Follow Up
1.	15	2.5	No reflux, doing well
2.	26	3.5	Grade III reflux, lost to follow up
3.	5	3	No reflux, doing well
4.	9	2.8	Grade III reflux, lost to follow up
5.	20	3.2	Grade IV reflux, down graded to Grade III
6.	12	2.5	No reflux, doing well
7.	17	3	Grade IV reflux, down-graded to Grade III

catheter was drawn slowly to rest the baloon on the posterior urethral valves. A sharp pull made on the catheter then ruptured the valves. The baloon was deflated and catheter withdrawn completely. Small amount of blood came through urethra after removal of Fogarty catheter showing a successful ablation. Bladder was then filled by instilling normal saline through a feeding tube. Manual pressure over bladder after removal of this feeding tube showed good stream of urine confirming that valves are no more

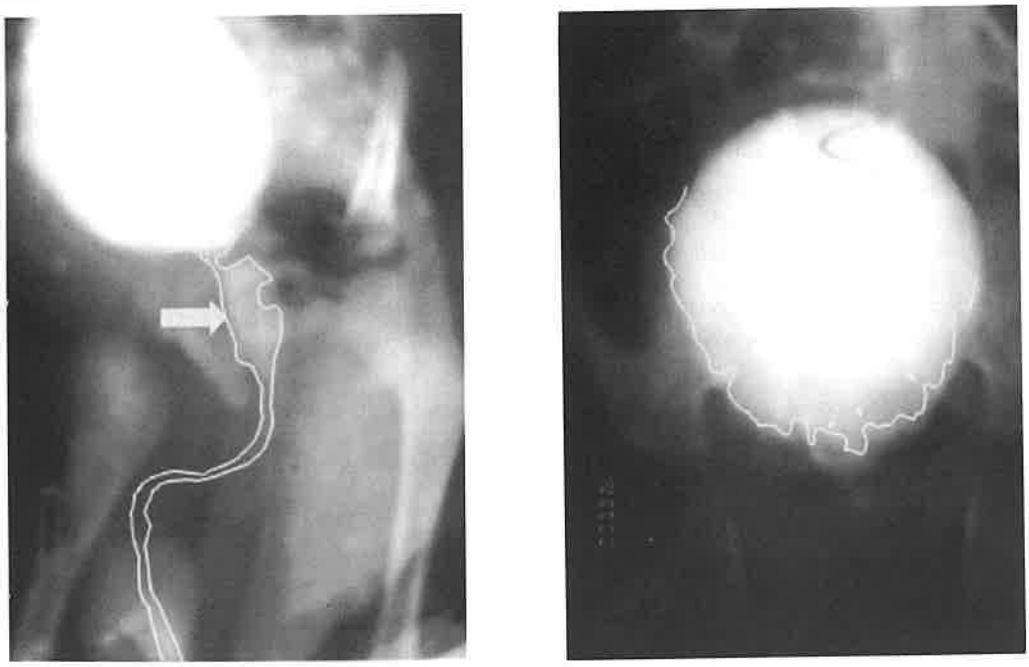

Fig. 2: MCUG showing PUV with no reflux

Fig. 3: Good urinary stream after ablation

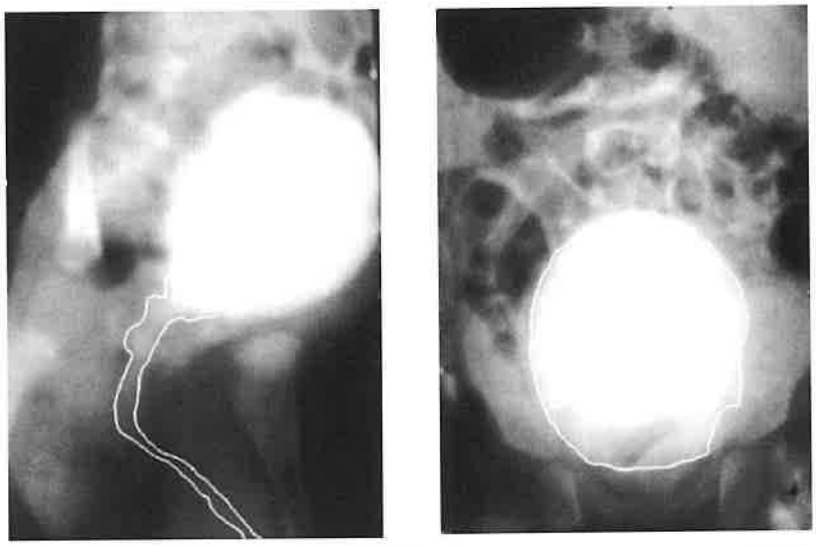

Fig. 4: Post – ablation MCUG at two weeks

obstructing the flow of urine (Fig 3). Patients were catheterized, kept on parenteral antibiotics for 3 days. Catheter was removed on the 3rd day and after passing urine patients were sent home.

RESULTS

Valves were successfully ablated in all the 7 patients which showed good stream of urine without any symptoms. Ablation was also recorded by doing post-ablation MCUG done 2 weeks after the procedure (Fig 4).

2 patients who had grade IV reflux, the reflux downgraded to grade III as shown by MCUG done at 3 months after ablation. Two patients who had Grade III reflux were lost to follow up but their MCUG done 2 weeks after the procedure revealed that the valves are ablated. Rest of the 5 patients are still in follow up to see the long term results of this procedure.

DISCUSSION

Because of heightened awareness among the clinicians regarding posterior urethral valves, patients are usually referred in the neonatal period. Endoscopic valve ablation is the standard method to treat the vast majority of PUV in children[8,9]. Other methods used for valve ablation include resection through a perineal urethrotomy[10], use of a diathermy hook electrode via cystoscope[11], direct fulgaration with a 3F insulated urethral catheter[12] and improved diathermy by Whitaker hook[13]. Vesicostomy followed by delayed valve resection[14] and percutaneous antegrade ablation[15] have also been described. Valve ablation using neodymium- YAG laser[16,17,18,19] is the latest method being used.

Stricture rate after urethral manipulation is reported to range from 8% to 25%[20], to as high as 50% when treatment was instituted in boys under 1 year of age[21].

Churchill et al suggested measures to minimize the risk of stricture formation which include the use of appropriately sized instruments together with small non- reactive urethral catheters[22]. Even in experienced hands using small modern instruments, the irritation of urethra by instrument may cause rapid edema with subsequent stricture formation[23].

Urinary incontinence after endoscopic valve ablation can be as high as 30%[24]. This incontinence has been attributed to dilatation of the posterior urethra, the non-compliant valve bladder or due to valve ablation itself[25].

Ablation of posterior urethral valves by Fogarty baloon catheter was introduced by Diamond and Ransley in 1986[26]. After diagnosis of posterior urethral valves and stabilization of the patients, 9 of 10 neonates underwent successful baloon ablation of posterior urethral valves.

Researchers have ablated the posterior urethral valves with and without general anesthesia. Some researchers ablated the valves under radiological control while others did it without radiological control by inflation/deflation technique.

We performed the ablation of posterior urethral valves in main operation theater, under general anesthesia and without radiological control. Performance of this procedure in the main operation theater under general anesthesia was to avail the facility of a sterilized environment. People are doing this procedure in the radiology department without general anesthesia but in our set up it was difficult due to different working conditions.

Valves were successfully ablated in all the 7 neonates. Patients passed good stream of urine after ablation and there were no symptoms. In two patients

with grade IV reflux, the reflux downgraded to grade III as shown by MCUG done at 3 months after ablation. Although we lost two patients of Grade III reflux to follow up but their MCUG done at 2 weeks after ablation showed no valves.

As we do not have the facilities of endoscopic fulgaration of posterior urethral valves in neonates so we used to offer vesicostomy in these patients. Vesicostomy not only caused skin excoriation but also affected the social acceptability of the child because of urine smell.

The use of this technique obviated vesicostomy and all its attendant complications. This is a small series of patients treated with this method but the results are very satisfactory. 5 patients are still in follow up and their long term results are to be seen.

CONCLUSIONS

Fogarty baloon ablation of posterior urethral valves in neonates is a simple, economic and effective alternate to endoscopic valve fulgaration in centers where endoscopic facility is not available, especially in developing countries.

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