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EDITORIAL : Medical ethics

A few months ago a very eminent member of medical profession pronounced the imminent death of ethics in medical professionals. He proclaimed that medical ethics was suffering from multiorgan failure. While not disputing his authority, I tend not to agree with him entirely. We have no intention of dilating on whether ethics should be taught to medical students, it is agreed upon since the day of Hamurabi.

I would only discuss with you two aspects of break-down of ethical norms amongst senior members of medical profession, particularly specialists, namely:-

1. Relationship with patients
2. Relationship with colleagues.

Relationship with patients: Although most of us still exhibit good manner, how many of us actually discuss the details of the disease with the patient, or obtain an informed consent while preparing the patient for operation. Do we not many a times order unnecessary investigations and medications which do not subserve any useful function, just to make our laboratory colleague or a pharmaceutical colleague happy? Do we not sometimes perform operations which could easily he avoided or may be downright unnecessary?

How many of us bother about expenses incurred by the patient; do we compensate them the extra expenditure for which we are responsible, or which has been undertaken only at our behest.

RELATIONSHIP WITH COLLEAGUES:

Professional jealousy: Are we not a little bit more jealous of each other as compared to, other professions, say lawyers? The degree of one-up-manship, self-advertisement and at the same time degrading others, magnifying their complications and hiding our own mishaps is quite frequent.

Dichotomy: On the other hand, secret deals of commission between doctors, resulting in unnecessary hospitalization and even operations; for example there is no appendicitis but I remove the appendix because Mr. X asked me to do it. This is not a figment of my imagination, it happens more times than you will believe.

What is needed: The duty of the physician is to effect care and failing this, to alleviate pain and improve quality of life. This should be achieved by putting minimum necessary financial burden on the patient by avoiding unnecessary investigations and ministrations.

We should be less envious of our colleagues; by that I don't mean that we should overlook gross mistakes, what is needed is judicious criticism, where needed.

Would you not agree that if these measures are followed we can avoid the barrage of abuses heaped upon us in newspaper columns and restore the status of doctors in the public eye?

In conclusion I would say it is high time that we improve our relationship with patients, by giving them proper and affordable treatment and improve relationship with our colleagues by shirking self aggrandizement and bickering of others and avoiding under hand deals, thus restoring the confidence of the public at large.

AZHAR HUSSAIN

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This is to acknowledge, with thanks, the receipt of issue No. 3 Vol. 2, 1997 and No. 4, Vol. 3 of "Jounral of Surgery Pakistan" International, which you have kindly forwarded to us.

We are pleased to inform you that the above journal will be one of the sources of the Index Medicus for the Eastern Mediterranean Region starting with August Newsletter, a copy of the issue will be sent to you upon its publication.

We kindly appreciate receiving all forthcoming issues on a regular basis.

With kind regards

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SPECIAL COMMUNICATION

HIV / AIDS IN SURGICAL PATIENTS

A.K. SHARMA

ABSTRACT:
The number of cases of HIV infection and AIDS are increasing every year. A fraction of patients with surgical problems might be sero-positive against HIV or frank sufferer of AIDS, expose the surgical team to this gruesome virus. Hence, surgical team must be aware of this problem, in our community and adopt sufficient precautions to avoid accidental infection by HIV virus.

KEY WORDS: HIV/AIDS

INTRODUCTION:

The infection caused by Human Immunodeficiency Virus (HIV) could lead to Acquired Immunodeficiency Syndrome (AIDS). Today HIV infection and AIDS have become a major public health problem all over the globe. Though detected in USA in 1981, the first case of AIDS was detected in Nepal only in 1988. By 1995, 319 cases were found to be positive for HIV and 48 cases of AIDS were reported, 28 of whom died. By 30th April 1998, 1050 cases were found to be sero-positive for HIV and 205 cases had developed AIDS (Table-I)

Table I Cases of HIV infection and AIDS in Nepal

Year	HIV +	AIDS
1983	-	-
1988	-	1
1995	319	48
1998 (30th April)	1050	205

Persons infected by HIV or AIDS will have enormous effect on the national economy. A person infected by HIV will develop AIDS in 5-15 years period, ending in death due to opportunist infections or Kaposi's sarcoma. The infected persons will have feeling of disgrace due to fear of death within 2 years, social discard,loneliness, feeling of guilt, disgrace, regret, depression and suicidal tendency.

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SEQUENCE OF EVENTS FOLLOWING HIV EXPOSURE:

The HIV virus is spherical in shape and contains two strands of genomic RNA and enzyme transcriptase. The viral RNA undergoes reverse transcription leading to the formation of proviral DNA which turns into new virus to be released into circulation after the death of the T-lymphocytes. On entry into human body, the virus enters into a lymphocyte. The T-lymphocyte have special receptor (CD4), which allows the RNA to enter the cell. The CD4 cells work as helper or inducer whereas CD8 cells work as suppressors in the production of immune body. This RNA is transcribed into DNA by the help of enzyme reverse transcriptase. This DNA integrates the RNA of the host (genome). The virus multiplies and kills the cells releasing new viruses into circulation to attack new T-lymphocytes, B-lymphocyte, monocytes or even other cells of the body. The lymphocytes of the host are gradually depleted from normal (950/cmm) to 400 or even 200/cmm. At this stage, the production of immune bodies comes to standstill and the host is prone to develop infection by opportunistic organisms (pneumocystis carini, cryptococcus, cytomegalovirus, toxoplasma etc).

The basic difference between other viral infections (e.g. small pox, polio etc) and HIV infection is that in case of former infections, the virus stimulates immune system of the host that gets rid of the infective organism. With the infection of HIV virus, the immune producing cells (T-lymphocytes, B-lymphocytes, Monocytes) are destroyed; making the infected individual infective for rest of his/her

life and susceptible to the infection by opportunistic organisms. It must be very clear that once an individual is infected by HIV (or AIDS) he/she will remain infective throughout his/her life.

Today, HIV infection and AIDS have become a global problem. The problem has become still more challenging because till todate no vaccine has been developed against it and no drug or treatment is available to eradicate the HIV virus. Hence the only way to control HIV/AIDS is to prevent the entry of the organism into the human body.

MODE OF TRANSMISSION:

The HIV virus is in highest concentration in the blood, serum, pus, semen, vaginal secretion, tears, saliva and other body fluids. The virus will enter healthy individuals through a breach in the skin or mucous membrane, during sexual contacts or needle pricks, through the placenta or milk. (Table-II)

Table-II: Mode of transmission of HIV/AIDS

Route of transmission	Percentage
Sexual (Homo, Hetro)	80-90%
Blood transfusion	3-15%
Drug users (injectable)	5-10%
Equipments, needle pricks	Less than 0.1%
Perinatal, milk	Less than 0.1%

THE DIAGNOSIS OF HIV INFECTION/AIDS :

Body produces antibody following the entry of the HIV virus into the system. The antibody could be detected in the serum by the following tests.

1. ENZYME-LINKED IMMUNOSORBENT ASSAY (ELISA Test) - this detects antibody against HIV virus.
2. WESTERN BLOT - Detects specific antibody against specific HIV antigen.
3. IMMUNO FLUORESCENCE ANTIBODY ASSAY (IFA) will detect specific antibody against specific HIV antigen.

Besides this, the virus could be detected by culture of the infected material (lymphocytes). The virus could be detected in the testes, spleen, thymus and brain etc. Examination of the peripheral blood may reveal pancytopenia, low hemoglobin, low leucocyte count, and thrombocytopenia.

CLINICAL FEATURES OF THE HIV INFECTION AND AIDS:

1. History of exposure - Abnormal sexual activities, blood or plasma transfusion, organ transplant, drug addiction, family history of HIV infection/AIDS, patients on cytotoxic agents.
2. Asymptomatic: The patient may remain asymptomatic for a variable period of time.
3. Proctocolitis, anal warts: the patient may suffer from diarrohea, anemia. He/she may develop candidiasis of the tongue and oesophagus. Recurrent attacks of diarrohea and unexplained loss of weight may be the only symptom.
4. Glandular fever: The patient may run pyrexia of unknown origin. He may complain of myalgia, lethargy, sore throat and lymphadenopathy.
5. Bronchitis or bronchopneumonia following opportunist infection by pneumocystis carini, candidiasis, Herpes zoster, toxoplasmosis and encepalopathy.
6. Unexplained loss of weight. Prolonged illness without definite findings and recurrent attacks of herpes zoster.
7. Kaposi's sarcoma, arising anywhere in the body.

MANAGEMENT OF PATIENT WITH HIV INFECTION / AIDS:

The objectives of treatment are following:

- Establishing the diagnosis.
- Good nursing care of the patient/maintain nutrition.
- Proper counselling to reduce mental stress and strain.
- Saving the community from infection.
- Treat infection by opportunist organism.

Unfortunately, till today, no vaccine has been developed against AIDS and no drug is available to eradicate the HIV virus form the body. But every infected person deserves help, sympathy and kind care.

No person with HIV infection or AIDS should be refused health care for the fear of contacting the infection because the virus is not transmitted by simple contact e.g. shifting or turning the patients, basic nursing care must be provided. However, the surgical team must adopt measures to prevent contact of the body fluids eg. saliva, tear, blood, pus etc. (from the patients) to surgical team or health workers. All the body fluids and equipments should be handled with great care, dipping into sodium hypochloride solution for 30 minutes, before disposing them. Avoid splashing the body fluid over raw area of any member of the surgical team with a breach in the skin or mucous membrane. Protect eyes, body and feet by using protective devices. Always use double gloves and avoid needles prick or cutting by sharp instruments during surgical procedures. The blood, pus or other body fluids should be autoclaved before disposing them.

Like normal individuals, HIV infected persons or patients suffering from AIDS are also liable to suffer from surgical conditions prevalent in the community, besides host of conditions related to AIDS. The surgeons dealing with these cases must understand that people suffering from

HIV infection or AIDS tolerate surgical procedure very badly. The high risk group are:-

1. Anorectal conditions e.g. venereal wart, condylomata, rectal or perianal infection, colorectal carcinoma, recurrent attacks of diarrohea.
2. Lymphadenopathy with pryexia of unknown origin. Unexplained loss of weight may be associated with AIDS.
3. Kaposi's sacroma.
4. Patients suffering from hemophilia, who have received Christmas factor VIII.
5. Patients who had been on chemotherapy.

PRECAUTIONS TO BE ADOPTED BY THE SURGICAL TEAM DURING HANDLING OF PATIENTS SUFFERING FROM HIV INFECTION OR AIDS.

1. The team must have proper knowledge about HIV/AIDS. It is desirable to have separate ward, O.T. and staff for infected patients.
2. Screening of the high-risk group. It may not be possible because of social or political stigma.
3. Protect the staff by Hepatitis B vaccine.
4. Adopt universal aseptic precautions:-
5. Personnel with open wounds should be excluded.
6. Double gloves, disposable aprons, mask, cap, eye glasses, boots.
7. Printed protocol for handling patients with HIV infection / AIDS
8. No touch technique, use staplers, perfect haemostasis, avoid sharp cutting pointing instruments.

Technique to be adopted in the Operation Theatre:

1. Minimal personnel should be allowed to enter into theatre.
2. Minimal equipments.
3. Only disposable items should be used.
4. All the contaminated articles should be properly disposed of:

a) Reusable items should be autoclaved (virus is destroyed by heat).
b) Infected materials and disposable items should be dipped in hypochloride solution before being sent for inceneration.

If contaminated accidentally:

1. Clean under running water.
2. HIV status of the patient must be tested.
3. Hepatitis B vaccination must be started.
4. Baseline for HIV positivity should be carried out; repeat every 12 weeks.

If found Positive:

Avoid performing active surgery with the objective of protecting patients against infection by HIV virus.

CONCLUSION:

1. HIV infection/AIDS is a growing challenge.
2. Establish a fixed protocol for theatre, wards.
3. Adopt universal precautions.
4. Prevention is the only method to control it. Mass education of community in this regard is important.

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LAPAROSCOPIC MANAGEMENT OF CHOLECYSTO-ENTERIC FISTULA-REPORT OF NINETEEN CASES

H. KABIR CHOWDHURY

ABSTRACT:
Eighteen cases of cholecystoduodenal fistula and one case of cholecystocolic fistula were encountered during a period of 5 years while performing 3750 cases of laparoscopic cholecystectomies till June 1998 by the author. Apart from that, another 6 cases initially thought to be fistulae, but after completion of dissection and division of the tract, fistulae were not found. All the fistulae were either in the infundibulum or in the mid body level except the cholecystocolic fistula which was in the fundus. Dissection technique was to go around the fistulae tract and gradually skeletonizing the fistula and narrow it down as much as possible without separating. A catgut tie was then applied on the duodenal side and a clip on the gall bladder side, and the fistula divided. Afterwards two to three invaginating dexon stitches were applied to the duodenal wall, gall bladder dissection was then completed.

In all the cases a nasogastric tube and a drain were used for 24 hours and antibiotic continued for 5 days. Seven cases required conversion mostly early in the series. It can be concluded that most of the cholecystoduodenal fistulae can be managed laparoscopically by gentle dissection technique.

KEY WORDS: Laparoscopy, Cholecystoenteric fistula.

INTRODUCTION:
Cholecystoduodenal fistula is not a very common complication of gallstone disease. In this part of the world where patients live with symptomatic gallstones for long time incidence of cholecystoenteric fistula is probably higher. When encountered in laparoscopic surgery, this condition can be repaired laparoscopically in most of the situations depending on the surgeons' experience with advanced laparoscopic surgery[1-4]. The symptoms of cholecystoenteric fistula are non-specific unless gall stone ileus is encountered. Almost all the cases are diagnosed during surgery. Either a stapling device is used to divide the fistula or intracorporeal suturing and tying technique is used, the latter is less expensive.

PATIENTS AND METHOD:
The case notes of all the 3750 cases of laparoscopic cholecystectomies performed over a five year periods till June 1998 were reviewed. Eighteen cases (14 female and 4 male) had cholecystoduodenal fistulae and one male had cholecystocolic fistula. Six cases thought to be fistulae on initial examination were found to have adhesions only because on completion of dissection, no fistulous tract was found.

All the nineteen cases were diagnosed as symptomatic gall stone disease. Preoperative ultrasonography suggested chronic calculus cholecystitis with thick walled gall bladder without any significant lumen visible. Laboratory findings were normal in all cases. Oral cholecystogram was not done in any of these cases. Slow, gentle dissection with a sharp hook and scissors was used to skeletonize the fistula tract and dissection was completed once the tract was freed from adhesions all around. A chromic catgut suture was then passed inside the abdomen and the intracorporeal tying was done on the gut side and clip was placed on the gall bladder side. Fistula tract was then divided as close as possible to the gall bladder side. In

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first four cases invagination of the duodenal defect was done with two stitches. In rest of the cases tied fistula tract was no more invaginated. A nasogastric tube was kept for twenty four hours. A drain was fixed in all cases, which was removed after 24 hours. Stapling device was not used in any of these cases. All patients were discharged within 48 hours. Patients returned to normal activities within 10 days.

RESULTS:

Average age of the patients was 52 years. During surgery all the cases showed considerable amount of adhesion. Duodenal fistulae were in the infudibulum area in 14 cases and in the mid body level in the rest of the cases. The colic fistula was in the fundus area.

All these cases had uneventful post-operative period. None of them reported any post-operative complication. Seven cases required conversion early in the series, mostly due to lack of experience on the part of the author. Hospital stay was 24 hours more in these patients. Antibiotic was used for five days. There was no difference in the recovery time in comparison to uncomplicated cases of laparoscopic cholecystectomy.

DISCUSSION:

In most of the published reports, surgeons use stapling device to separate the fistula[1]. In this series sapling was not used mostly to reduce cost. Tying with catgut only seemed to be sufficient, which saves time and cost of surgery. Carlei et al reported 5 cases of cholecystoduodenal fistulae, where laparoscopic management was satisfactory without any complications[5]. It can be concluded that cholecystoenteric fistula does not require conversion in majority of the cases. With experience and training in advanced laparoscopic surgery a cholecystoenteric fistula can be operated safely laparoscopically and can offer all the advantage of laparoscopic surgery.

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A CLINICOPATHOLOGICAL STUDY OF 108 CASES OF URINARY BLADDER CANCER AT CHANDKA MEDICAL COLLEGE & HOSPITAL LARKANA

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SHANKAR LAL RATHI, HARSH CHAND

ABSTRACT:

This prospective study was conducted at the Department of Pathology in collaboration with the Department of Urology, Chandka Medical College (CMC) Larkana. Of 108 cases, 82 (75.93%) were males and 26 (24.07%) females, with male to female ratio of 3.15:1. The mean age of patients was 56 years and the peak age group was 51-60 years. Transitional cell carcinoma (TCC) was the leading histological variant, diagnosed in 100 (92.6%), cases followed by squamous cell carcinoma in six (5.55%) and adenocarcinoma in two (1.85%) cases. Most of the TCCs were of advanced histological grades (III and IV) with evidence of muscular invasion in many of them (47%). The most common surgical procedure performed was cystoscopic biopsy in 68(62.98%) patients followed by transurethral resection of bladder tumour (TURBT) in 34 (31.48%) cases. The most frequently involved parts of the urinary bladder were the lateral walls, right 50 (46.29%) and left 26 (24.07%) cases. The size of the tumours ranged from 1.5 to 10.5 cm in diameter with an average size of 4.81 cm. Two most common presenting complaints were haematuria (84.25%) and retention of urine (28.7%). Our patients were about a decade younger than their western counterparts and their tumours were in more advanced stages at the time of diagnoses.

KEY WORDS: Urinary bladder, Cancer, Clinicopathological Study

INTRODUCTION:

Cancer of urinary bladder is a common disease world wide. It is the fifth most common malignancy in males in general population[1,2]. The tumour is unique in its progression from a superficial to a metastatic state and thus its management requires cooperation between urologist, oncologist and radio therapist[3]. Factors that affect the treatment of bladder cancer are multiple and include many clinical and pathological parameters such as extent of tumour, histological grade, morphology of tumour and ureteral obstruction[4,5] .

PURPOSE OF STUDY

The purpose of present study was to evaluate bladder cancer according to its clinicopathological presentation in patients coming to CMC from upper Sindh.

PATIENTS AND METHOD

This study was carried out in the Histopathology Department with collaboration of Department of Urology over a period of five years, from January 1993 to December 1997. All biopsies of urinary bladder cancer which were received during the stipulated period were fixed in 10% formalin and were processed routinely for and stained with haematoxylin and eosin (H&E). Histological diagnosis and grading of the tumours were made on light microscopic examination.

RESULTS

Of 108 patients, 82 (75.93%) were males and 26(24.07%) females. Male: female ratio being 3.1:1(Table-I).

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Ages of patients ranged from 12 to 80 years with average of 56.01 years. Most of the patients (83%) were in fourth to sixth decades of their lives with peak age in the fifth decade(Table-II).

The four most common presenting complaints were, haematuria (84.25%), urinary retention (28.7%), burning micturition (18.51%) and lower abdominal pain (17.59%). The most common surgical procedure was cystoscopic biopsy performed in 68 (62.98%) patients, followed by transurethral resection of bladder tumour (TURBT) in 34(31.48%) patients.

The most frequently involved parts of bladder were right and left lateral walls, The former is more common (46.29%) than the latter (24.07%). Multifocal tumour was detected in 15(13.88%) cases (Table-III).

Table-I: Distribution according to age, sex and histological type

Histological type	Male	Female	Mean age Years (range)	No
Transitional cell carcinoma	77	23	65.69 (12-80)	100
Squamous cell carcinoma	04	02	52.0 (30-70)	06
Adenocarcinoma	01	01	34.5 (19-52)	02
	82	**26**	**56.01 (12-80)**	**108**

Table-II: Distribution according to age groups.

Tumor	Age group (years)							
	11-20	21-30	31-40	41-50	51-60	61-70	71+	No
Transitional cell carcinoma	01	04	10	17	38	22	08	100
Squamous cell carcinoma	–	01		01	02	02		06
Adenocarcinoma	01			01				02
Total	02	05	10	19	40	24	08	108
(%)	1.85	4.62	9.25	17.59	37.01	22.22	7.40	100

Table-III: Involvement of various sites * of bladder.

Site	No	%
Right lateral wall	50	46.29
Left lateral wall	26	24.07
Base	22	20.38
Ureteric opening(s)	09	8.33
Neck	06	5.55
Trigone	05	4.62
Anterior wall	03	2.77
Posterior wall	02	1.85
Dome	02	1.85

** Multiple sites were shared by multi focal and some large single tumours*

The size of the tumours ranged from 1.5 cm to 10.5 cm, with average size of 4.81 cm. The leading histological type of bladder cancer was transitional cell carcinoma diagnosed in 100(92.6%) cases, followed by squamous cell carcinoma in 06(5.55%) and adenocarcinoma in 02(1.85%) cases (Table-I). Thirty nine percent of TCC were in histological grade III and 29% were in grade IV. Evidence of muscular invasion was detected in 47% cases of TCC. Prostatic tissue, which was seen in only 08 biopsies, was found to be infiltrated by tumour in 05 cases. Sixty three percent of TCC were arranged in papillary processes and remaining 37% in sheets and groups of neoplastic cells.

DISCUSSION

Male to female ratio is variable in different studies, ranging from 9:1 to 2.41:[1,4-6,9]. However the ratio in our study (3.15:1) was somewhat closer to that of American (3.32:1)[10], British (2.81:1)[1] and Australian (3.36:1)[5] studies. The mean age of our patients (56.01 years)[1] was about a decade less than that of a British series (67 years)[1]. One possible reason for this age discrepancy could be the exposure of people of this region to some specific type of carcinogen from early years of life.

Haematuria was the most common clinical presentation of our patients. As was in series by Badalament et al, 2 who have suggested that patients with gross or microscopic haematuria must he investigated for cancer of urinary bladder. Multiplicity of tumour and involvement of ureteric orifice/s are bad prognostic features[4,5]. In the present study multifocal tumour was detected in 15% and ureteric closure in 08% of cases. TCC was the single most common tumour of urinary bladder in our study. This figure is comparable to that of Lahore[6] and Australian[5] series. However in a Saudi series[7], squamous cell carcinoma and adenocarcinoma are reported in higher frequencies as compared to those of our study. This is attributed to higher prevalence of schistosomiasis in that region[7].

Most of the tumours in our study were of higher histological grades as compared to those in western studies[1,11]. The possible reason for this discrepancy could be delayed presentation of our patients to physician due to lack of education, ignorance and financial constraints. Invasion of bladder musculature and that of prostatic tissue by tumour, alters the prognosis and mode of treatment in cases of TCCs[4,5,12-14]. In the present study as many as 47% TCCs invaded the muscular coat of bladder. The frequency is much higher than that expected in USA(15-25)[12].

We summarize that the urinary bladder cancer in our study is in more advanced stage at the time of diagnosis as compared to that reported in the West and our patients

were about a decade younger than their western counterparts. As the prognosis of early stage bladder cancer is better than that of an advanced disease after curative resection[4,5], it is recommended that the tumour should be detected earlier. For this purpose patients with urinary tract complaints, particularly haematuria should be screened by cystoscopic examination at early as possible. Proper education in this regard will help in achieving the goal.

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TRANSDUODENAL EXPLORATION OF COMMON BILE DUCT IN CHOLEDOCHOLITHIASIS

FAISAL G. BHOPAL, SHAHID SOHAIL, MUHAMMAD IQBAL

ABSTRACT:
A prospective study of 20 patients with obstructive jaundice due to stones in common bile duct, who underwent transduodenal exploration of common bile duct, sphincteroplasty and extraction of stones was carried out at Rawalpindi General Hospital. Mean age of the patients was 52 years (range 35-75 years). There were 18 female and 2 male patients. Mean duration of symptoms of biliary disease was 6.8 years (range 1 - 22 years). One patient died on 12th post-operative day. All patients were symptom free in follow-up. Transduodenal sphincteroplasty is a safe procedure and is not associated with serious risk of post-operative cholangitis, pancreatitis or duodenal leak.

KEY WORDS: Transduodenal sphincteroplasty, Obstructive jaundice, Choledocholithiasis

INTRODUCTION:

The incidence of common bile duct stones in patients undergoing cholecystectomy for cholecystitis is 6-12%[1] . Overall incidence of residual stones after positive duct exploration is 5-10%[2] . Repeat surgery is associated with high mortality and morbidity[3] .

Gall stone disease of long standing origin eventually leads to changes in the sphincter of Oddi and may result in the dilatation of common bile duct (CBD) with or without the formation of ductal stones[4] . Choledocholithiasis usually results from passage of gall stones in common bile duct. Bile duct calculi ultimately become symptomatic in majority of patients. Common presentations are biliary colic, jaundice or pancreatitis. These presentations and complications call for surgical intervention on common bile duct.

Treatment of common bile duct stones is based on a wide variety of non operative and surgical procedures. Four commonly used approaches in the management of choledocholithiasis are(1) choledochotomy and T-tube drainage, (2) choledochoduodenostomy, (3) transudodenal sphincteroplasty and (4) endoscopic extraction.

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The procedure routinely performed in our set up is choledochotomy and T-tube drainage, which has its own complications like cholangitis, bile leak, spontaneous dislodgement of T-tube. The incidence of residual stones is 10% after positive ductal exploration and 5% after negative exploration. The residual stones are dealt with repeat surgery, choledochoscopy through the tract or ERCP. Latter two procedure are not easily available in Pakistan.

The need at present is to adopt a procedure which will avoid repeat surgery, hence avoiding high mortality and morbidity and also the handicap of non availability of costly instruments. Transduodenal sphincteroplasty designed by Sir. Austin Jones is a way of dealing with the above mentioned problems. The advantages of procedure is that it avoids T-tubes and help the passage of retained ductal stone[5] .

PURPOSE OF STUDY

The purpose of study is to evaluate the efficacy, morbidity and mortality of the procedure when used as a routine for the management of CBD stones.

PATIENTS AND METHODS

A prospective study was carried out on twenty patients, who were admitted in the Surgical Unit I, Rawalpindi General Hospital, between Jan, 1993 and Feb, 1996. All patients who presented with obstructive jaundice due to

stones in the common bile duct, diagnosed on ultrasonography/ERCP and pattern of jaundice declared as obstructive jaundice on liver function test, irrespective of age and sex were included in the study. Patients with congenital anomaly or duodenal diverticula at the lower end of the common bile duct and patients unfit for general anaesthesia were excluded. Patients suffering from acute pancreatitis were operated after they settled on conservative management.

Duration of illness, history of biliary colic, fever with or without rigors, yellow discoloration of sclera with its duration, loss of appetite and loss of weight, colour of stool and urine, irritation of skin were recorded on a data sheet. Presence of jaundice, liver and gall bladder enlargement etc. were noted.

Investigations included ultrasonographic evaluation of gall bladder and common bile duct. Blood complete picture, blood sugar, urea, liver function tests, serum amylase and Hepatitis B surface antigen were carried out in all cases. ERCP was only done in cases where there was a doubtful shadow at the lower end of common bile duct.

An informed consent was taken. Correction of prothrombin time with Vit K and adequate rehydration with intravenous fluids were undertaken. Nasogastric tube was inserted in all patients. Urinary catheter was put in preoperatively to monitor urinary output. CVP line was put in elderly patients only. Antibiotics were given to all patients as prophylaxis with the induction of anaesthesia and continued after the operation for 72 hours. (Gentamicin 80mg I/V 8 hourly and 2nd or a 3rd generation cephalosporin).

All patients underwent routine cholecystectomy; kocherization of duodenum was performed by incising the peritoneum lateral to the second part of the duodenum. Biliary radicles were carefully isolated. Anatomy in each patient was clearly identified before making any decision to perform the procedure. A No.8 feeding tube was passed through the cystic duct into the common bile duct and then into the duodenum. Duodenum was opened longitudinally. Sphincterotomy was done over the tube through the papilla. A stay suture was applied at position 10`0 clock. Idea was to save the pancreatic duct which is located medially exactly opposite to this position. The first pair of mosquito clamp was applied on either side of the suture. A 3mm bite was taken, which included duodenal as well as the common ductal wall. Then the tissue between two clamps was divided on 8 fr tube which has already been passed. This brings the pancreatic duct into vision, which is located at 5 O'clock, 3-5 mm proximal to the tip of papilla. The clamps then were over sewn with 2/0 polyglactin (vicryl). When the pancreatic duct became visible, each subsequent pair of the clamp was placed directly anterior, to avoid damaging the common bile duct. Serial clamping and division and oversewing was continued upward and each suture was tied as the clamp was removed and used as a retractor. The stoma was checked from below with Bakers dilators. This procedure was continued until the desired size of the stoma was equal to the supra duodenal portion of the common bile duct. At this stage Bakers dilators were used to see whether there was any sense of constriction. In our study 1-1.5 cm of stoma was enough to relieve the constriction of the lower end of papilla, as entire sphincter mechanism has been divided. The apex stitch is mandatory to avoid a leak, because this part of operation goes outside the duodenal wall. The duodenum was closed transversely in single layer using 2/0 polyglactin. Only in two cases the closure was vertical. No drain was put in. Abdomen was closed in single layer using polypropylene. Skin was closed with silk using interrupted suture. Wound was examined after 48 hours. N.G tube was removed after 24 hours or when aspirate was less than 50 ml in 24 hours.

Patients were evaluated clinically, biochemically and using radio-isotope. Within 24 hours serum amylase was checked to evaluate the evidence of hyperamylasemia or frank pancreatitis. Liver function tests were performed during the same hospitalization. HIDA scan was performed within 1-2 weeks post operatively to document the biliary decompression.

RESULTS:

The patients' age ranged from 35 to 75 years, with a mean age of 52 years (Table-I)

Table-I: Age Distribution

Age of Patients (Years)	Number
31-40	06
41-50	05
51-60	02
61-70	06
71-80	01
TOTAL	20

Two patients were male and 18 were females with a male to female ratio of 1:9. Duration of symptoms ranged from 1 year to 22 years, with mean duration of illness 6-7 years. Two patients were diabetic, 3 patients were hypertensive, while 2 patients had ischemic heart disease and 2 patients were suffering from CCF.

Serum bilirubin ranged from 2 mg to 11 mg / 100 mg (normal upto 1mg) with mean serum bilirubin of 4.5 mg. Hepatitis B surface antigen was positive in 3 patients. Serum alkaline phosphatase ranged 290-1000 U/L (normal 55 - 295 U/L). Size of common bile duct ranged

from12 mm to 20 mm in diameter.(normal range upto 10 mm). In 15 patients common bile duct stones were multiple, while 5 patients had single stone.

Post-operatively, serum amylase was marginally high in 15 patients and was normal in five. HIDA scan showed complete decompression in all patients. Three patients were discharged on 5th post-operative day, 4 patients on 6th, 2 patients on 7th, 2 patients on 8th, one patient on 9th, 5 patients on 10th and 2 patients on 11th post-operative day. One patient died on 20th post-operative day.

DISCUSSION

Transduodenal sphincteroplasty is a method of producing a wide-open anastomosis between distal end of the common bile duct and side of the duodenum, a terminal choldocho-duodenostomy[2]. Supraduodenal exploration of the common bile duct is said to be associated with significant risk of ductal injury and late stricture formation or both[6]. Technically it may be more difficult to explore the duct, when the size of the common bile duct is normal or near normal. Transduodenal exploration of the common bile duct after sphincteroplasty is an alternative method of exploring the common bile duct, which avoids choledochotomy and T-tube insertion. Supraduodenal choledochotomy is a standard and time-tested method of exploring the common bile duct. This approach is safe and stones can be cleared in 95% of cases[6]. However problems can arise by blind instrumentation of the common bile duct for removal of the common bile duct stones. This manouvre can result in injury to common bile duct[7]. This is more likely to happen when the size of the common bile duct is normal/near normal. Injuries can include longitudinal ductal tear or posterior wall perforation[8]. Extensive dissection of duct to visualise the anatomy can devascularize the duct specially if the duct is small and can cause late stricture formation[9]. Choledochotomy needs T-tube insertion which can further compromise the size of the duct.T-tube being a foreign body can incite infection of the biliary tract. It can dislodge and fall off prematurely.

It has been noted that transudodenal sphincteroplasty without choledochotomy avoids blind instrumentation of distal bile duct, obviates the use of T-tube and facilitates the passage of retained common ductal stones[10]. Sphincteroplasty has another advantage that it can be performed in the presence of undilated duct, not an uncommon finding in the ducts packed with stones[2]. These advantages suggest that transduodenal approach may be a preferred method of exploring common bile duct in patients with dilated, normal, as well as small ducts and at the same time providing internal biliary drainage of retained or recurrent stones11, the incidence of which is quite high and is associated with mortality of 4 %[12].

In this series no patient developed wound infection, duodenal leak, post-operative pancreatitis, bleeding, intra-abdominal sepsis or sustained common bile duct injury. The perioperative morbidity was nil. Cholangitis developed in one patient three months after the operation and was successfully treated with antibiotics.

Reflux cholangitis is not a complication associated with transduodenal sphincteroplasty, provided stenosis of the stoma does not develop. In a series of 1255 cases over a period of twenty years, since 1946 to 1968, the incidence of cholangitis is very rare[13]. Obstruction is an essential component of cholangitis, as obstruction results in back pressure, which in turn results in super-added infection and ultimately, cholangitis[2]. Reflux occurs in 40% cases but is not associated with clinical evidence of cholangitis unless stenosis of stoma develops[14]. In our series the case of cholangitis was due to a small impacted stone in the common bile duct which was diagnosed on ultrasonography. This is to be noted that the post-operative EHIDA scan done two weeks after the operation was normal in this patient. The cholangitis resolved with antibiotics and as the stone passed the patient was relieved. Hyperamylasemia in our patients touched only the upper limit of normal range and may be attributed to the kocherization of the duodenum.

Most important reported complication of the transduodenal sphincteroplasty is acute pancreatitis. In a series of 241 cases of sphincteroplasty, there were only 3 cases of post-operative pancreatitis. These patients had incomplete or partial sphincteroplasty. Incomplete or partial sphincteroplasty should be avoided[15]. Sphincteroplasty does not have a higher incidence of post-operative pancreatitis than other methods of biliary duct exploration[14]. Moody[16] recommends gentle handling of the pancreas. Out of his series of 28 cases, two patients were presumed to have post-operative pancreatitis, which proved to be self-limiting and resolved spontaneously. In our series there was not a single case of post-operative pancreatitis.

Duodenal leak, as a complication of the procedure, did not occur in our series and recovery was uneventful. All the patients remained afebrile in immediate post-operative period and no patient developed signs of intra-abdominal sepsis. Perioperative morbidity rate remained 0% compared to Roman and Ritchy6 and Baker17, which was 28.6%, 21.4% respectively.

There was one death during the hospital stay; the patient was a 75 years old women with congestive heart failure, which was controlled preoperatively. She developed acute renal failure from which she recovered over a period of two weeks. During third week she developed left ventricular failure due to acute myocardial infarction and died.

Our mortality rate of 5% is comparable to study carried out by Baker et al17. Their motality rate was 5.4%. Other series have much lower mortality rates. Jones et al18,19 reported three deaths with overall mortality rate of 1.24%. Partington[20] reported a series of 87 patients with overall mortality of 2.29%. Stefanini et al21 performed 712 sphincteroplasties with mortality rate of 1.1%. Vassilaks22 didn't have any mortality in his 32 patients.

In supraduodenal approach ampullary region is explored blindly as the axis of the catheter and instrument insertion is perpendicular to the course of the common bile duct. Attempts to negotiate this right angle supraduodenally can result in tears and perforations, which can result in late stricture formation[23] and narrowing of the mid portion of the common bile duct due to secondary healing[24]. Transduodenal sphincteroplasty widens the narrowest portion of the common bile duct by ensuring the mucosa to mucosa suture between the opened out bile duct and thus reduces the risks of stenosis[25,26,27]. An enlarged distal opening of the common bile duct gives a direct approach to surgeons to the site of stone, allows intraoperative removal of stones and gives the opening for the exit of the potentially retained and residual stones which in the absence of this procedure will require another operation, further increasing the morbidity and mortality. Another important technical point which favours transduodenal sphincteroplasty is that axis of instrument insertion in this approach is parallel to the course of common bile duct, which reduces the risks of the ductal injury. As T-tube is not required in this approach, this avoids late stricture formation, reduces morbidity and avoids post-operative T-tube cholangiogram. The incidence of retained calculi after positive supraduodenal ductal exploration is very high, which itself strongly favours drainage procedure.

Other options in the management of choledocholithiasis are choledochoduodenostomy and endoscopic sphincterotomy with stone extraction. It is said that choledochoduodenostomy is more useful in elderly patients, as it is easy to perform[27]. Transduodenal approach has an advantage that it provides the dependent drainage and allows the inspection of the papilla and facilitates the removal of stones. Support is given to the concept that side to side anastomosis of choledochoduodenostomy on sound physiological principles must be less satisfactory than end to side anastomosis of transduodenal sphinteroplasty. Most surgeons, like Austin Jones[28,29] believe that choledochoduodenostomy be performed only if duct is grossly dilated. Sphincteroplasty has the advantage that it can be performed in both dilated and undilated ducts.

Endoscopic extraction has an advantage that no anaesthesia is required. While endoscopic sphincterotomy may be regarded as less interventional than surgery, it is not without significant morbidity and mortality. Early complications include haemorrhage, pancreatitis, cholangitis, perforation and rarely basket impaction. Incidence of haemorrhage, cholangitis, pancreatitis, perforation are 3.9%, 1.6%, 0.9%, and 0.5% respectively. Overall mortality rate is 1-2%22. Long term complications include stenosis and recurrence of stones. This technique is relatively new and it is hoped that with time, expertise will improve and rate of complication will reduce. Despite the above named complications this technique has become the treatment of first choice all over the world. Unfortunately this technique is not freely available in Pakistan. Therefore transduodenal sphincteroplasty can be used as a safe and effective alternative to supraduodenal choledochotomy till the time more efficient, safer and effective techniques like endoscopic extraction are freely available to our population.

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OBITUARY

Dr. Aon Mohammad Khan

Dr. Aon Mohammad Khan was a distinguished and renouned surgeon of Multan. An outstanding student at Lucknow Medical College, bagging medals in all subjects from first to final year, he passed out as the best Graduate. The thesis from his M. S. in Anatomy was "Differentiation between human and animal bones and determination of age and sex of a person from bones", which has been quoted in Medical books.

A strict disciplinarian, who was meticulously dressed, he held the posts of Professor of Anatomy at his alma mater, then Resident Surgeon and Civil Surgeon Agra. At the end of Second World War he proceeded to London, did his FRCS in the first attempt, impressing the examiners with his brilliance.

In August 1947, when refugees started pouring into Pakistan, he moved to Multan on the bidding of Red Cross, with his wife and four young children to look after thousands of refugees. The Red Cross established a makeshift operating theater and wards in a fourteen-room building. While he performed surgeries in the most difficult conditions, his wife and older children assisted him as nurse and auxiliaries voluntarily. The building was allotted to him ultimately and he extended it to hospital and established a most well equipped private hospital. Most of his children and grand children are now medical graduates.

Dr. Khan was associated with the establishment of College of Physicians and Surgeons Pakistan. He also reorganized the Pakistan Medical Association, of which he was President from 1960-62. He was awarded "Sitara-a-Khidmat" for his untiring services in the field of Surgery. In 1996, the Royal College of Surgeons awarded him gold cufflinks and certificate appreciating his active service to Surgery for 51 years.

Having done what God had sent him for, the legend passed peacefully away on 4th December 1998 at the ripe age of 88 years. May his soul rest in peace.

Naim-uz-Zafar Khan

THE ROLE OF ONE-STAGE SURGERY IN ACUTE LARGE BOWEL OBSTRUCTION

S.H.WAQAR, FARAH HUSSAIN, ABDUL MAJEED BALOCH

ABSTRACT:
A study was carried out in Surgical-Unit II, Jinnah Postgraduate Medical Centre Karachi from July 1994 to June 1997. A total of 29 patients of large bowel obstruction were selected for this study, who underwent emergency one-stage procedure (resection and primary anastomosis) for colonic obstructive lesions by our surgical team. All but one patient did well with no evidence of anastomotic leak. There were three wound infections and one abdominal wound dehiscence. There was only one death in the immediate post-operative period. The average hospital stay was 19.3 days. The commonest pathology was adenocarcinoma of colon

KEY WORDS: Large bowel obstruction, Resection, Primary anastomosis.

INTRODUCTION:

There is general agreement that treatment for an obstructive lesion on the right side of the colon should be emergency one-stage surgery with primary anastomosis. However, the treatment of left-sided large bowel emergencies still remains controversial. Age, advanced malignant disease, physiological status, systemic sepsis, the adverse effect of faecal loading and peritonitis contribute to the high morbidity and mortality rates[1] in this situation.

Dudley et al in 1980[2] and Rachiffe and Dudley in 1983[3] described the technique of resection, on-table lavage and primary anastomosis. This technique was later employed by other authors with satisfactory results[4,5,6,7,8]. Proficiency with these two techniques is increasing and the aim of the present study is to report our own experience with one-stage surgery.

PATIENTS AND METHOD

The study spanned over a 3 year period from July 1994 to June 1997 and included all surgical patients who underwent emergency operation for colonic obstructive lesions by our surgical team at Surgical Unit-II, Jinnah Postgraduate Medical Centre, Karachi. A patient would qualify for the study if the following three criteria were met: (1) a clinical history of absolute constipation and evidence of abdominal distension on physical examination; (2) radiographic evidence of large bowel obstruction; and (3) operative confirmation of an obstructive lesion. Data was collected on a standard proforma and statistically evaluated on the basis of clinical assessment, diagnosis, operation performed and post-operative complications and follow-up to detect the appropriate surgical procedure in our setup to reduce the mortality and morbidity involved.

All patients received fluid replacement as the initial resuscitation and urine output was monitored closely to render the patient fit before surgery. Pre-operatively, we also performed either sigmoidoscopy or colonoscopy whenever possible to confirm the site and nature of the obstruction. Usually this was successful because the colon distal to the lesion would be clean as a result of the obstruction. Barium enema study was also done in some patients where condition permitted. Prophylactic antibiotics, including cephalexin and metronidazole, were administered at the time of anaesthetic induction and continued post-operatively unless there was spillage of intestinal content intra-operatively; in such cases, intravenous antibiotics were given for at least 5 days.

Right hemicolectomy was performed in 6 cases (21%), transverse colectomy in 2 (7%), left hemicolectomy in 5

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(17%), resection and anastomosis of volvulus in 2 (7%) and anterior resection and anastomosis in 10 cases (34%). In one case limited right hemicolectomy (3%) and in 3 cases extended right hemicolectomy (10%) was performed depending upon the extent of the lesion. Intra-operative colonic decompression was done by open method and one-stage surgery was performed similar to the original surgical techniques. Beside the large bowel, the small bowel was also routinely decompressed by the retrograde method of milking the contents back to the stomach. A nasogastric tube was routinely inserted pre-operatively or intra-operatively for decompression and avoidance of aspiration. The pertioneal sepsis was pelvic in six (21%) and diffuse in two (7%) of 29 patients. All these patients were managed by resection, anastomosis and peritoneal toilet.

RESULTS

There were 18 males and 11 females. The mean age was 55 (range 40-70) years. The pathology most commonly encountered was colorectal cancer in 19 patients. Of these, the majority[11] comprised of growth in the sigmoid colon and upper rectum. Thirteen patients were found to be in Duke's stage B, 4 in stage C and 2 patients in Duke's stage D. The other pathologies encountered were sigmoid volvulus[2], tuberculous obstruction[3], obstructed paraumblical hernias[2], diverticular disease[1], amoebiasis[1] and stricture colon[1]. The average operating time was 2 hours.

Two colonic perforations were seen as a result of the obstruction and in two patients there was colonic ischaemia. In three patients the obstructed colon (two in obstructed hernias and one in volvulus) was gangrenous, whereas in the other, a complete stricture was present in the sigmoid colon.

Complications occurred in ten patients. There was one death in the immediate post-operative period (3.4%). There were 3 instances of wound infection treated by daily dressings. Three patients had post-operative chest complications, who were treated by antibiotics and chest physiotherapy. An intra-abdominal abscess occurred in one patient after resection for diverticulitis, treatment was percutaneous drainage guided by ultrasonography and parenteral antibiotics. One patient developed prolonged paralytic ileus, which responded to conservative management. Wound dehiscence occurred in one patient, which was resutured. There was no clinical evidence of leakage from anastomosis. The average hospital stay was 19.3 days, varying from 10 days to 32 days.

DISCUSSION:

Despite advances in perioperative patient care, improved anaesthetic technique and effective antimicrobial agents,

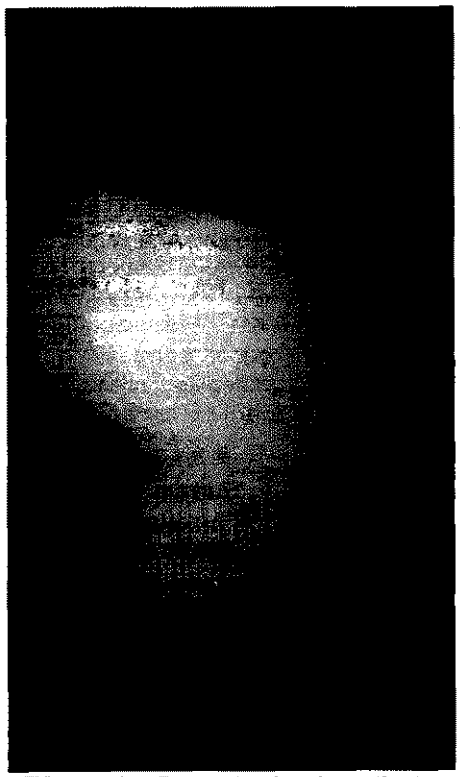

FIG. 1. *Barium Enema showing obstruction in sigmoid colon*

FIG. 2. *Colonic adenocarcioma*

the morbidity and mortality associated with emergency operations of the colon are considerable[1,9]. The operative management of patients with acute obstruction or perforation of the left colon has always been controversial. Since being described by Dudley in 19802, table lavage and primary anastomosis is being performed more frequently. The fear that this procedure might result in increased incidence of anastomotic leakage, are unfounded. The matter is now being addressed with increasing vigour[10,11].

The frequently adopted three stages procedure is probably recommended because of its safety in the hands of junior surgeons, who operate these cases in middle of the night. Staged operations, however, have disadvantages for the patients. Patients especially the elderly, do not adopt well to a stoma. This procedure combines the longest period of hospitalization, with delay in removal of the diseased colon. Multiple hospital admissions and operations are required, which significantly increase the cost of surgery. In addition, the formation and subsequent

closure of colostomy is associated with a morbidity rate ranging from 5 to 57%, and a mortality rate in the range of 0 to 34%[12].

Hartmann's procedure is the most favoured procedure in the U.K. for left sided obstructed colonic lesions[13,14]. However, this procedure is also associated with an incidence of anastomotic leakage on reversal[4]. Furthermore it requires a colostomy for 2-3 months, adoptation to which may be difficult in upto 10% of cases. Immediate resection and anastomosis with on-table intestinal preparation[2,3] has several advantages. The diseased intestine is removed. Faecal loading of the unprepared proximal colon, which is one of the most improtant barriers to successful anastomotic healing[15], is excluded. Primary anastomosis is performed and further operations are avoided. Only one patient died in our series; so this compares favourably with mortality reported in other series of one-stage surgery[3,4,5,6,7].

The spectrum of pathology seen in our study is somewhat similar to that presented in other studies[16], except that tuberculosis is another major cause of intestinal obstruction in our area. We had no incidence of clinical anastomotic leak. The only death in our series was of 55 years old lady, who died of severe toxaemia due to gangrenous colon obstructed in paraumblical hernia 6 hours after surgery. The hospital stay of 19.3 days is actually better than that reported in comparative studies[4,14] (23.6 days).

A single operation instead of three, a shorter duration of hospitalization and management without stoma care were indirect indicators of cost effectiveness of primary anastomosis. Furthermore, we do not consider purulent peritonitis to be a formal contraindication for primary anastomosis when the general condition of the patient is good. Evaluation of one-stage procedure that had been in practice in our unit is also done. Besides being more convenient to the patient it also is economical in terms of hospital costs per patient. One-stage procedures assumes even greater importance if one considers the fact that most of the patients fail to return after simple detorsion of the colon. They will only return if another acute episode sets in. Primary anastomosis performed on the colon was often found to work well in our setting. One reason may be the contents of the involved segment of the colon; the contents of the segment are often more gaseous rather than fluid.

CONCLUSION

It is concluded that resection and primary anastomosis is a treatment of choice in large bowel obstruction, as it obviates the need of colostomy and saves the patient from further operation, reducing both the morbidity and mortality and at the same time it is safe and cost effective. However, for junior surgeons in training, initial colostomy may be a safer option.

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NEONATAL ANTROPOMETRY

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ABSTRACT:
One thousand neonates were examined for anthropometric measurement i.e. weight, crown heel length, occipito frontal diameter, mid arm circumference. Ponderal index and ratio of mid arm circumference (MAC) and occipito frontal circumference (OFC) were calculated. The mean maternal age was 28 + 6 year. Out of 1000 women whose babies were examined 20.4% were primigravidas, 54.0% were multigravidas and 25.6% were grandmultigravidas. The commonest mode of delivery was spontaneous vertex delivery (80.3%), followed by vaccum extraction 9.1% , cesarian section 9.0% and forceps delivery 1.6%.

Out of the total 52% were males and 48% females with 19% having preterm delivery and 81% term delivery. Low birth weight i.e less than 2500 gram was observed in 10.6% of babies with 5.5% males and 5.1% females. The mean birth weight was 3.16 Kg, length 49.76 cm, OFC 34.91 cm, MAC 9.27 cm. The mean ponderal index was 2.47 and MAC:OFC ratio was 0.266. It was concluded that the population under study has lower preterm delivery rate, lower low birth weight rate but more or less similar anthropometric measurements, as reported from other parts of the country.

KEY WORDS: Anthropometry , Neonate , Low birth weight.

INTRODUCTION:

The word anthropometry is derived from Greek word Anthropos = Human, Metery = Measurement[1]. These measurements basically assess the growth and nutritional status of an individual. The usual measurements that are taken in neonates are weight, height, and OFC. Weight is modified more by acute malnutrition, while stunting occurs only after prolonged malnutrition, whereas OFC which depends on size and growth of brain is least and last to be affected. Moreover weight is also modified by presence of increased fluid content found especially in preterm babies, infants of diabetic mothers and neonates with cardiac and renal problems. Moreover it drops by maximum of 10% of initial birth weight during first 10 days of life even in normal neonates. Therefore weight, though the most commonly taken measurement does not accurately reflect the intra-uterine nutrition and growth. MAC on the other hand reflects fat and muscle deposition in peripheral tissues and does not change as much as weight in postnatal period and comes back to original value quickly. Because it is less variable, therefore it may be more reliable parameter of growth and nutrition. MAC correlate significantly with both estimated gestational age and birth weight[2]. It is claimed that among all the measurements, MAC is most useful in predicting the perinatal morbidity and mortality and there is a definite relationship between MAC and birth weight. 98% of the babies with birth weight of less than 2000 gm and 79% of babies of less than 2500 gm had MAC of 9 cm or less and there is an inverse relationship between neonatal mortality and MAC. On basis of MAC three risk groups are identified as under:

- Those with MAC less than 8 cm = high risk.
- Those with MAC between 8.1- 9 cm = intermediate risk.
- Those with MAC more than 9 cm = low risk.

The mortality increases from 0.9% in low risk group to 9.3% in high risk group[3].

Ponderal index measures the heaviness of body, large index indicates a baby heavy for its length and small index reveals neonate who is thin for length[4]. An index of two or less co-related significantly with symptomatic growth retardation and thus intra uterine malnutrition[5].

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MAC:OFC ratio increases in linear fashion with gestational age irrespective of race and sex. It varies from 0.19 at 26 week of gastational age to 0.33 at term[5]. This ratio is more helpful than weight alone, in assessing the quality of intra uterine nutrition[6]. The advantage of this ratio is measuring head circumference amd MAC is simple, non-invasive, non-stressful procedure but the disadvantage is that head growth may show marked variation from sub-optimal growth to hydrocephallic percentiles especially, in preterm babies[7].

PATIENTS AND METHOD:

The babies delivered to the pregnant mothers admitted in various hospitals and maternity homes of Hyderabad and Latifabad were included in this study irrespective of their sex, gestational age, race and socio-economic status. The period of study was from January 97 to January 98. Only those babies were included in this study whom the author attended. More than 60% of babies included in this study were from private hospitals and maternity homes. Twin and still-born deliveries were excluded.

Information about age, parity, mode of delivery and duration of gestation was recorded. All the babies were examined within first 24 hours. The gestational age was calculated from last menstrual period, and an estimate of gestational age was also made from clinical examination using Dubowitz scoring method[8]. The linear measurements were made with non-stretchable plastic tape to the last completed millimeter . The following measurements were made:-

- Weight:- Babies were weighed naked on standard baby weighing machine to the nearest 100 gms.
- Crown heel length:- It was taken to the last completed millimeter of plastic tape. An assistant was asked to help keep the baby in straight position.
- Occipito-frontal circumference:- It was taken to last completed millimeter at maximum occipito-frontal circumference.
- Mid arm circumference:- Measured at mid point between acromion and olecranon with arm held in extension and pronation .

All the measurements were taken on the left side of the body. The following calculations were made.

$$\text{Ponderal index} = \frac{\text{Birth Weight in grams}}{\text{Length in centimeter}} \times 100$$

$$\text{MAC:OFC ratio} = \frac{\text{M.A.C (in cm)}}{\text{OFC (in cm)}}$$

The mean, standard deviation, and range of 2 standard deviations were calculated for weight, length, OFC, MAC, Poderal index and MAC:OFC ratio. The statistical data analysis was done with computerised programing in C++ language.

RESULTS:

Total 1000 babies were included in this study. The mean maternal age was 28 + 6 years. The parity of mothers and their mode of delivery is shown in Table 1. Out of 1000 women 204 were primigravidas, 540 were multigravidas and 256 were grandmultigravidas, having more than 5 babies. 45 of grand multigravidas had more than 10 children . The largest number of babies born to a mother in this series was 15.

The commonest mode of delivery was spontaneous vertex delivery. The commonest indication for application of forceps or vaccum was failure to progress during second stage of labour, with or without signs of foetal distress. The indications for caesarian section were foetal distress (the commonest) with or without prolonged second stage of labour 58, diabetic mother 5, cord prolapse 3, transverse lie 2, breech presentation 5, post maturity 5, footling 1, prolonged rupture of membrane 3 , partial separation of placenta 2 , placenta previa 3 , antepartum haemorrage 3. (Table-I).

Table-I: Parity & Mode of delivery

Parity	Mode of delivery				
	Spontaneous vertex delivery	Vaccum extraction	forceps	Cesarean section	Total
Primigravida	147	30	3	24	204
Multigravida	440	46	8	46	540
Grand Multi-gravida	216	15	5	20	256
Total	**803**	**91**	**16**	**90**	**1000**

Total babies were 1000 with 520 males and 480 females. The term delivery was considered from 38th completed weeks to 42 weeks of gestational age (9). There were 190 pre term and 810 term deliveries. There was no post term birth.

Total number of low birth weight babies (less than 2500 gms) were 106 (10.6%) with 55 (5.5%) males and 51 (5.1%) females. The mean weight of total babies was 3.16 kg, mean weight for males was 3.21 kg where as for female was 3.1 kg, thus males were heavier by 0.11 kg. Similarly the mean of length, OFC and MAC were 49.76 cm, 34.91 cm and 9.27 cm respectively. The mean length for male was 49.89 cm and female 49.61 cm, mean OFC for male 35.02 cm and for female 34.79 cm . Mean M.A.C for males 9.38 cm and for female 9.6 cm. Except females with gestational age of 30 weeks , who were heavier,

taller with high OFC and MAC, in every gestational age group males were having better measurements than females .

Maximum numbers of babies born were with gestational age of 38 weeks i.e 341 with 162 males and 179 females. The mean birth weight in this group was 3.15 kg for males and 3.01 kg for females. The heaviest baby born in this series was a male infant with birth weight 5 kg, delivered at gestational age of 42 weeks. The mother was multigravida, non diabetic and the baby had no clinical problem.

DISCUSSION:-

Weight:- The over all mean birth weight observed in this study was 3.16 kg . This is little higher than given by Arif & Nizami in 1985 as 2.98 kg[10] and Arif in 1992 as 2.98 + 0.520[11] and Rehmatullah who reported a mean birth weight of 2.80 kg[12] but same as reported by Sarwar and Mazhar who reported mean weight of 3.10 kg for male and 2.90 for females[13]. Similar mean weight was reported by Bhutta et:al i.e 3.022 kg[14] . In comparison to data from India our mean birth weight is higher but this study was conducted in Kashmir which is situated at a higher altitude and babies delivered at higher altitude are known to have lower weights[15] .

Length:- Mean crown heel length in our study was 49.76 cm which is similar, as reported by Bhutta et al i.e 49.1 cm[14]. Again our mean is higher than reported from India[15], but lower than N.C.H.S standard. However Karlberg reported that in urban setting of Lahore city, the birth length is comparable to that of Scandinavian countries[16].

Occipito frontal circumference:- The mean OFC recorded is 34.91 cm, for males 35.02 cm and for females is 34.79 cm .This is higher than given by Bhutta i.e 34.1 cm[14] as well as from India[15].

Mid arm circumference:- Over all mean MAC found is 9.2 cm with males having 9.38 cm and female 9.16 cm thus males having higher MAC than females . This value is somewhat lower than given by Bhutta i.e 10 cm[14]. This value is also lower than given by Sasanow et al2 but number of infant included in his study was very small . It has been observed that there is linear increase in MAC with increasing birth weight and gestational age. All babies weighing less than 2.0 kg has MAC of less than 8 cm and those weighing less than 2.5 kg has M.A.C of less than 9.0 cm.

MAC/OFC Ratio:- The mean MAC/OFC ratio observed is 0.266 with value of 0.268 for males and 0.265 for females. This ratio also shows linear increase as birth weight and gestational age advances but our mean values are less than those reported by Sasanow[2].

Ponderal Index:- Overall mean values for this index observed is 2.47 with 2.55 mean value for males and 2.38 for females. This also increased linearly as birth weight and gestational age advanced.

Mean maternal age :- In our series is 28+6 years, whereas that given by Bhutta is 26+5.6 years[14]. In his study 30.9% were primigravidas and 12.3% were multigravidas, but in our study 20.4 % were primigravidas 54.0% were multigravidas and 25.6% were grand multigravidas with 4.5% of total having more than 10 children .

Gestational age:- The term was taken as after completed 38 weeks to 42 weeks , in this way we had 19% pre term deliveries and 81% term deliveries but with 37 to 42 weeks taken as a term, the pre term delivery rate comes to 3.6% (because 15.4% babies were delivered with 37 weeks of gestation) which is almost same as reported by Sarwar and Mazhar i.e 3.8% (13) , but lower than reported by Bhutta i.e 4.2%[14].

Low birth weight:- Documented in our series is 10.6%. The incidence reported by Rehmatullah et al in 1968 was 22.27%[12], by Arif and Nizami in 1985 as 22.1%[10], by Hanif and Tabassum as 34%[17], by Arif in 1992 as 22.1%[11], by Bhutta 14.2%[14] , by Sarwar and Mazhar 9.5%[13]. The last mentioned authors were of the opinion that mothers from rural areas gave birth to heavier babies than urban population. However a better economic status is associated with better birth weight. This may be a reason for lower low birth weight rate in our series, because more than 60% of babies were from private hospitals and maternity homes with comparatively better socio-economic status. Same may be the reason for lower figure given by Bhutta.

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FOURNIER'S GANGRENE A UROLOGICAL EMERGENCY

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ABSTRACT:
A retrospective study to collect data about Fournier's gangrene done in Surgical-IV Liaquat Medical College Hospital Jamshoro/Hyderabad. During five years period from January 1994 to December 1998, thirty cases were collected with median age of 53 years. Pain, fever, erythema and swelling of the genitalia were present in all cases. The crepitus was found in fifteen cases and 33.3% patients developed multiple organ failure.

The cause of infection was urological in 90% cases and anorectal in 10% cases. Associated systemic diseases were diabetes mellitus in 66.7%, uraemia 86.7%, cardiac failure in 33.3% cases and hepatic failure in 10% cases. The operations done were debridements in all cases, cystostomy in 83.3% and colostomy in 6.7% cases. Twenty patients (67%) died due to multiple organ failure.

KEY WORDS: Fournier's gangrene, Scrotum, Genitalia, Colostomy.

INTRODUCTION:

Fournier's gangrene is a urologic emergency in which there is infective fasciitis of the perineal, genital or perianal regions. The infective process leads to thrombosis of the subcutaneous blood vessels, resulting in gangrene of the overlying skin[1]. Mortality and morbidity are very high due to late presentation and late diagnosis of the condition. The purpose of this study was to determine the management, morbidity and mortality of the condition.

PATIENTS AND METHODS

A retrospective study was carried at Surgical Unit-IV LMCH, Jamshoro/Hyderabad of all the cases of Fournier's gangrene admitted during the five years, from January 1994 to December 1998. Age, clinical presentation, management and complications of the condition were recorded.

RESULT

Total number of the cases were 30. The age of patients ranged from 40-70 years and median age was 53 years. Majority of patients had very late presentation i.e. after 5-6 days. There were erythema and swelling of the genitalia in all cases, extending to lower abdominal wall in 90% cases and perianal region in 10% cases. The other symptoms were pain (100%), fever (100%) and crepitus (50%). Ten patients were in septicaemia at the time of admission.

The cause of infection found was urological in 27 cases (90%) and anorectal in 3 cases (10%). In the 27 patients having urologcial causes stricture urethra was present in 20 cases, stones in the urethra in 4 and traumatic catheterization in 3 cases. In the 3 patients with anorectal problems, one had perianal abscess, one had ischiorectal abscess and one had perforation of the sigmoid colon. The associated systemic diseases found were diabetes mellitus in 20 cases, uraemia in 26, cardiac failure in 10 and 3 had hepatic failure.

X-ray abdomen showed gas in the abdominal wall in the 20 cases. Stones in the urethra were visible on x-ray abdomen in 4 cases. Ultrasound of scrotum and abdomen revealed the normal testes and no other pathology in the abdomen. Retrograde urethrogram revealed stricture in 20 cases.

The culture of the pus revealed E.Coli in 90% cases, bacteroid in 74.1%, streptococcus and staphylococcus in 40% cases. All the patients were started on broad spectrum antibiotics like amoxycillin with gentamicin or third generation cephalosporin with metronidazole. The antibiotics were changed according to culture and sensitivity report.

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The operation done were debridement in all cases with cystostomy (open or percutaneous) in 25 cases, colostomy in 1, and urethrolithotomy in 4. All the patients had undergone debridement of gangrenous skin 2-3 times.

Twenty patients died due to multiple organ failure. Of the 10 surviving patients, skin coverage was provided by split skin grafting. Urethral stricture was dealt by dilatation and urethroplasty.

DISCUSSION

Fournier's grangrene is a rare but life threatening disease. This disease needs urgent treatment as it progresses rapidly. Most of the patients with disease are old as in our study and other reported[2,3,4,5] series. This disease has also been reported in young and paediatric patients[6]. All our patients were males though its has also been reported in females[7]. Most of the patients report after 2-7 days[2,8] and this has been case in our study. The portal of entry of infection in our series is urogenital (90%) and anorectal (10%) while the world literature reports urogenital 45%, anorectal 33% and cutaneous 21%[9]. Urogenital causes are urethral stricture, urethral calculi, traumatic catheterization[3,8], indwelling catheters10 and prostatic biopsy[11].

The colorectal causes reported in literature are ischiorectal abscess, perforated diverticulitis[12], perforated rectal/sigmoid carcinoma[12,13,14], anal dilation[15], rectal mucosal biopsy[16], banding of haemorrhoids[17], rectal perforation by foreign body[18], ruptured retorcaecal appendix[19] and inflammatory bowel disease[12]. In our study the sources were ischiorectal abscess, perianal abscess and perforated sigmoid carcinoma.

The other causes reported in literature are insertion of penile prosthesis[20], vasectomy[21], circumcision[22], herniorraphy[23] and pressure sore[3]. These causes were not found in our study.

The systemic disorders associated with this disease in our study are diabetes mellitus, renal failure and hepatic failure. This has been supported by world literature[8,9,24]. Other causes mentioned are chronic alcoholism and immunosuppression[25].

It is a polymicrobial infection and the most common isolated bacteria in our series are E.Coli followed by bacteroides, streptococcus, staphylococci and clostridia. These findings have also been reported by others[8,26,27].

The clinical presentation in our series was similar to that described in literature i.e. pain, erythema, swelling of scrotum associated with fever and crepitus[2,28]. With the establishment of gangrene, pain decreases due to compression and destruction of cautaneous nerves[29]. Progression to multiorgan failure is the usual cause of death in our series and is supported by world literature28.

Plain X-rays showing air in the soft tissues were not helpful but some x-rays showd urethral calculi as the cause of the disease. Proctoscopy and retrograde urethrogram were done to find out the cause. Ultrasound of scrotum helped to distinguish Fournier's gangrene from other intrascrotal pathology like scrotal abscess and strangulated hernia[30]. Other investigations mentioned in literature, like CT[31] and MRI[32] are helpful if the source of infection is retroperitoneal or intra abdominal.

The patients of Fournier's gangrene should be admitted to intensive care units and need cardiac, repiratory and renal support. These patients need parenteral broad-spectrum antibiotics and multiple surgical debridements. Hyperbaric oxygen therapy has been used in Fournier's gangrene[33], which is claimed to have bactericidal effects on anaerobes, improves tissue oxygenation and improves phagocytic function[23].

We have used cystostomy and colostomy where needed and this has been supported in literature[2,35,36]. We have not done orchidectomy as testes were normal and were burried on the medial side of thigh, although orchidectomy for non-viable testes has been reported[36].

Some surgeons have used multiple through and through drains rather than radical debridements and claimed good results[29]. But we have relied on repeated debridements[6,37]. The skin defects resulting from the debridements were covered by split thickness skin grafts[36].

The mortality in our series is 67% while in the literature is 7-75%[3,8,39,40]. The factors causing increased mortality reported in literature are delay in treatment, primary anorectal infections and advanced age[40].

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COLONIC TRAUMA CAUSED BY ATTEMPTED CRIMINAL ABORTION BY UNTRAINED PERSONNEL

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ABSTRACT:
A prospective study was carried out in Surgical Unit-III, Bahawal Victoria Hospital, Bahawalpur, from May 1993 to December 1995 to highlight the details of gut injuries associated with criminal abortion done by untrained personnel.

Total number of patients were 12, with mean age of 25 years. Injury was diagnosed on clinical ground. All the patients were submitted laparotomy. Sigmoid colon injury was present in 100% of cases either complete transection or perforation. Seven patients were having associated injury to small bowel. Uterus was perforated in 4 cases while 8 patients were having perforation in posterior fornix of vagina.

KEY WORDS: Criminal abortion, colonic perforation.

INTRODUCTION:
Injury to the colon results from penetrating wounds and wounds resulting from blunt abdominal trauma[2] Penetrating trauma is so far the most common cause of acute colonic injuries[2,6,9]. Other unusual causes of colonic trauma have been described viz foreign bodies introduced from the rectum and perforating the colon[2]. In our surgical practice we have come across an unusual but not uncommon causes of colonic injuries restricted to the sigmoid colon, which are caused be criminal attempts to induce abortion by untrained personnel especially the Dais. The mechanism is such that during D & C, either the uterus or the posterior fornix of the vagina is perforated and when the patients strains, the mobile portions of the gut (small gut, sigmoid colon) come out through the perforation and are cut away be the unwary, thinking that they represent the products of conception / placenta. The present report describes our experience with this type of colonic trauma.

PATIENTS AND METHODS:-
During the period from January 1993 to December 1995, 12 cases of colonic trauma caused by criminal D & C, were treated at the Surgical Unit-III, Bahawal Victoria Hospital, Bahawalpur. Diagnosis was made on the basis of clinical examination in all except 2 patients, where clinical findings were equivocal. The plain x-ray, however, revealed gas under the diaphragm and helped us in making the diagnosis. Lapaortomy was undertaken after resuscitation, through a lower midline incision which was carried upwards for variable distance above the umbilicus. The small and large bowel ends were controlled with non-crushing bowel clamps. In cases presenting with signs of ongoing intra-abdominal bleeding, the bleeding mesenteric vessels were controlled first. The peritoneal cavity was then mopped cleaned and washed thoroughly with normal saline. Small bowel ends were identified, oriented, their ends freshened and anastomosed in an end-to-end fashion after ensuring that they had adequate blood supply. In cases where sigmoid was cut away and missing (8 cases), its proximal end was the distal descending colon and brought out as end colostomy in the left iliac fossa. The distal end left behind in the peritoneal cavity after putting two or three marking silk sutures. In three cases, the sigmoid colon injury did not involve the whole circumference of the bowel. In these cases either the perforation itself was brought out as colostomy or the perforation was closed and proximal diverting colostomy was done. Abdomen was closed after putting a drain in pelvis and another in the left paracolic gutter. Abdominal closure was done in a single layer with monofilament non-absorbable polypropylene suture.

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RESULTS:-

The mean age of the patient was 25 years (range 23-25). None of the patient / relations consented to as history of criminal intervention. The main clinical presentations are shown in Table-I. Details of injury is shown in Table-II. Various operative procedures adopted are shown in Table-III. All the patients survived. Common complications noticed are shown Table-IV.

Table-I: Clinical Presentation

Clinical Feature	No. Of Cases	Percentage
Abdominal pain	12	100
Abdominal tenderness	09	100
Abdominal distention	12	75
Absent bowel sounds	09	75
Bleeding per vagina	02	16.6

Table-II Details Of Injury

Injury	No. Of Cases	Percentage
Sigmoid colon	12	100
a - Complete transection	09	75
b - Hole on antimesenteric border	03	25
Small bowel injury	07	58.3
Uterine perforation	04	33.3
Perforation of posterior fornix	08	66.6

Table-III Operative Procedures

Operation	No. of Cases	Percentage
Hartmann's operation	4	33.3
Hartmann's + end-to-end anastomosis of ileum	6	58.3
Only colostomy	1	8.3
Colonic injury repaired + proximal colostomy + small bowel anastomosis	1	8.3

Table-IV Post-Operative Complications

Complications	No. of Cases	Percentage
Wound infection	10	83.3
Intra-abdominal abscess	03	25
Respiratory complications	05	42.5
D.V.T.	01	8.3
Wound dehiscence	01	8.3

Eight out of 12 patients came back for closure of colostomy. Colostomy closure was generally undertaken after a period of 3 months. The colostomy closure consisted of reversal of Hartmann's in 6 patients, simple closure of the colostomy in the remaining 2 patients. The Hartman's reversal necessitated a formal laparotomy and colo-rectal anastomosis, which was done in single layer with interrupted vicryl 2/0. At the end of colostomy closure, anal sphincter was manually stretched. All colo-rectal anastomosis healed but one patient developed anastomotic stricture, which responded to regular dilatation through the sigmoidscope.

DISCUSSION:-

The colonic injury in these cases was restricted to the sigmoid colon. The injury is usually circumferential and often a segment of the bowel is missing, with two ends lying separate in the peritoneal cavity. The reason why colonic injury in these cases was restricted to the sigmoid was that this segment is mobile and can be pulled down from below.

Limited options for treatment are available when a segment of the sigmoid colon is missing. In the absence of shock, associated injuries or gross faecal soiling primary repair or resection with anastomosis may be considered[12]. In the presence of severe contamination of the peritoneal cavity, restoration of the bowel continuity is not advisable. This injury falls into grade 3 according to Flint and Vitale classification. According to them only colostomy should be done in these cases.

Due to potential for infective complications the hospital course was prolonged and there was a high incidence of infective complication in our cases. There was a 25% incidence of intra-abdominal abscesses, and wound infection was seen practically in every patients. This led us to adopt the policy of delayed wound closure (delayed primary closure) in the last 5 patients[1]. Wound dehiscence was seen in only one patient. We employed a mass closure technique with non-absorbable sutures and strongly believe that this technique should be adopted in dealing with these patients.

The other important aspect of these injuries is associated small bowel trauma. This adds to the operative time and has the potential for increasing infective complications. The nature of small bowel trauma is similar to that sigmoid colon. The small bowel is often missing in pieces. In our cases a segment of about 2 feet of the small bowel was missing. The small bowel injury is usually dealt with by doing end-to-end anastomosis of the small bowel after ensuring adequate blood supply to the bowel ends.

The other factors which lead to increased risk of infective complications are the left-sided colon injury which con-

tains solid faecal material and hence more bacterial load / gram of faeces[11]. The blood in the peritoneal cavity, which comes from division of mesenteric vessels, serves as a culture media for the bacterial growth. Moreover, the dirty instruments used by 'dai's' also contribute to higher infective complications. End colostomy should be sited at a place where colostomy bag application is easier. In these cases it would be at least 5 cm away from bony prominence and the incision should be brought through the rectus muscle[1,2,6]. Since, the sigmoid colon had often been missing in our patients, the distal descending colon served as the end colostomy spout. To bring it up on the anterior abdominal wall without tension means that splenic flexure had to be mobilised[9]. In one of our patients in which splenic flexure was not mobilised colostomy retraction occurred in the post-operative period[3].

Restoration of the alimentary tract continuity after a Hartmann's procedure cannot be carried out without a laparotomy, as the distal bowel lies buried in the peritoneal cavity. The distal pouch is usually of sufficient length and easily identified, however, marking silk sutures if placed at the original operation, make identification of the distal stump easier. All except 3 of our patients had continuity of their alimentary tract restored. This procedure was undertaken after suitable bowel preparation, and barium examination of the distal stump. We, however, have omitted barium examination of the distal stump because the distal extent of the injury almost never extends below the rectosigmoid junction. The colorectal anastomosis at the time of Hartmann's reversal is easily carried out because the distal stump is of sufficient length, and the anastomosis was made to the intra-peritoneal part of the rectum. It has been reported that colorectal anastomosis carry a 5% chance of clinical leak, and in 20% leak can be demonstrated by radiological means[3]. No anastomotic leak occurred in our patients, although one developed stricture at the anastomosis. We think that this was the result of sub-clinical leak, which lead of healing by fibrosis and eventually a stricture. The reason why colorectal anastomosis leak more often is that colon is more sluggish in recovering the peristalsis; therefore, ileus is prolonged in young patients due to high sphincter tone, the colonic anastomosis is stressed. It is, therefore, advised that anal sphincter be manually stretched at the time of colostomy closure it has been our routine policy. Although we are pleased with our results of colostomy closure but one study from USA has incidence that colostomy closure after trauma is associated with significant morbidity. So result of this study supports for the primary repair of colon injuries[10].

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INCISIONAL HERNIA REPAIR BY MESH IMPLANTATION

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ABSTRACT:
The occurrence of incisional Hernia after abdominal surgery is not uncommon problem. Here we present a retrospective study of 30 cases of repair of incisional hernia by mesh implantation. This study was extended over a period of three years from 1993 to 1995. Out of 30 patient, 13 were males and 17 females. Prolene mesh or Mersilene mesh was implanted using only technique. Wound infection occurred in three patients. Only one patient developed reoccurrence.

KEY WORDS: Incisional hernia, Mesh implantation

INTRODUCTION:

Incisional hernia is defined as a defect in the scar tissue, which could be detected by clinical examination. It is truly iatrogenic and starts as a symptomless partial disruption of the deeper layers of previous incision due to surgery[1,2]. As a result of high recurrence rate in the repair of incisional hernia, various techniques have been used. These include anatomical repair, Keel's operation, repair of huge hernias with the help of fascia lata, by allogenic material like tantalum[3] and by synthetic materials like nylon, polyester (Mersilene) and polypropylene (Prolene or Marlex)[4,5,6], where it was not possible to close the defect in anterior abdominal wall without tension.

Prosthetic materials were introduced in the 20th century. Gibson in 1920 reported successful repair of incisional hernia by releasing incision of anterior rectus sheath parallel to midline in the epigastric midline incisional hernia[7]. The use of nylon in hernia repair was carried out by Acquarina and Bourrat in 1944. Tantalum mesh was introduced by Douglas in 1948 and Koontz in 1948[3]. Uscher et al[8]. were the first to use marlex mesh, which in recent years have been advocated for massive hernia repairs.

Although wide variety of procedures have been adopted for the repair of incisional hernia, the mesh implantation remains the most cost-effective and efficient method of dealing with incisional hernia[9].

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PATIENTS AND METHODS

This retrospective study of incisional hernia repair by mesh implantation was carried out on 30 cases collected from Allied Hospital and Divisional Headquarters Hospital, affiliated with Punjab Medical College, Faisalabad over a period of 3 years extending from 1993 to 1995. The patients included in the study were from 11-70 years of age. Out of 30 patients, 13 were male and 17 female. All patients were admitted through outpatient department.

From the patients' hospital record, epidemiological data (name, age, sex, medical record number and postal address) was noted. The presenting features and their duration, data of initial operation and time interval between operation and appearance of incisional hernia were noted from the records. The known suspected risk factor like obesity, diabetes, prolonged steroid therapy, history of wound infection following surgery, indication for initial operation whether elective or emergency, early wound dehiscence and the type of incision made were specially looked for.

Mesh implantation was done in all 30 patients under general anaesthesia using onlay technique (mesh being placed between anterior rectus sheath and subcutaneous tissue). Drains were removed when the drainage was less than 20 ml in 24 hours. Prophylactic antibiotics were given and continued for at least 72 hours postoperatively. Average post-operation hospital stay was 8 days. Follow up was done by making contact at their respective postal addresses.

Table-I: Risk Factors Contributing To Incisional Hernia		
Risk Factors	No. of patient	Percentage
Wound infection	25	83.33
Emergency surgery	12	40.00
Obesity	8	26.66
Burst abdomen	7	23.33
Diabetes	3	10.00
Chronic Lung Disease	1	3.33

Table-II: Postoperative Complication of Incisional Hernia Repair by Mesh Implantation		
Risk Factors	No. of patient	Percentage
Wound infection	3	10.00
Seroma formation	2	6.66
Paralytic ileus	2	6.66
Wound sinus	1	3.33
Hernia recurrence	1	3.33

RESULTS

Male to female ratio was 1:1.30. Majority of patients 22(74%) were between the ages of 31-60 years. In all 30 patients, hernia appeared during the first year after surgery.

The most common presenting complaint was protrusion of abdomen (100%) followed by vague abdominal discomfort in 26 patients (86.6%) and dragging pain at hernia site in 8 patients (26.6%). The major risk factors contributing to incisional hernia are shown in Table-I.

Midline incision was responsible for hernia formation in 18 patients (60%) followed by paramedian incision in 6 patients (9.99%). Transverse midabdominal incision was the cause of hernia formation in only one patient (3.3%) and one patient (3.3%) had transverse lower abdominal (Pfanensteil) incision that led to incisional hernia formation.

Postoperative complications after mesh implantation are shown in Table-II.

DISCUSSION

Incisional hernia is caused by deficient wound healing from the very beginning or by gradual yielding of an apparently soundly healed wound. Incisional hernias should be repaired unless patient is unable or unwilling to undergo surgery as hernias increase in size, are unsightly, frequently painful and eventually cause bowel obstruction[10].

The recurrence rate varies usually directly with the size of the defect and with large hernias closed under tension may be as high as 20%[11,12]. The use of nonabsorbable suture has reduced the incidence of incisional hernias[13]. Factors contributing toward aetiology and pathogenesis of incisional hernia include type of incision, suture material used absorbable or non-absorbable, technique of closure i.e. layered or mass closure.

Our study of 30 cases though limited but show some distinct features compared to the international data. According to literature, incisional hernia occurred more frequently between 50-60 years age group and female have higher frequency than males with the ratio of 2.4:1[12]. In this retrospective study, majority of patients (73%) were in the 31-60 years age group with females to males ratio 1.3:1. This difference in age group and slightly higher female preponderance is most probably due to higher number of lower midline incisions (36.6%) used in females for obstetric and gyaencological interventions in this study.

The transverse incisions are mechanically stronger than vertical incisions so, incisional hernia occurs less commonly in transverse incisions than in vertical incisions[14]. Our study also showed that (6.6%) of incisional hernias were due to transverse incisions while (69.7%) patients developed incisional hernias after vertical incisions.

International data shows that post-operative wound infection[15,16] obesity[17] and diabetes[12] are important risk factors. In our study post-operative wound infection after previous surgery occurred in 83% of patients, obesity was present in 27% of patients and 10% of patients were diabetic. The literature showed that majority of incisional hernias (80%) developed in the first two years[18]. Our study showed that 100% of incisional hernias developed within the first year of surgery.

In our study, important complication after mesh implantation was wound infection which according to literature has rate of 11% [16]. In this study, the rate was 10%, following repair.

CONCLUSION

Study about mesh repair in Pakistan is till limited. International data gives a very low recurrence rate with mesh implantation[8]. According to another study[12] patients treated by mesh implantation have significantly low recurrence rate as compared to those treated by other methods of repair. This retrospective study is only limited to 30 cases but it still proves that mesh repair is very effective method of dealing with incisional hernias. In our opinion mesh repair should be undertaken in all the cases of giant and recurrent hernias to prevent recurrence. Emphasis should be given to thorough preoperative preparation and post-

operative care to reduce the chances of recurrence.

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TREATMENT OF GYNAECOLOGICAL AND OBSTETRIC URETERIC INJURIES

SAIFAL KHAN TURK, LUBNA MUNEER, ABDUL SATTAR MEMON

ABSTRACT:
From January 1993 to December 1998, 42 women (mean age 44 years, range 18-62) were treated for 48 ureteric lesions following gynaecological and obstetric surgery. In six patients, 7 ureteric lesions were detected intraoperatively and repaired immediately. In the remaining 36 patients, 41 ureteric injuries were diagnosed and treated after a delay, 19 patients with 24 ureteric injuries underwent repair by open surgery while 17 patients with a unilateral ureteric lesions underwent elective primary endourological treatment.

The results of ureteric repair were related to surgery that caused the lesion; poor result occurred in patients who underwent radical hysterectomy alone or combined with radiotherapy. The type (fistula or stenosis) and the site (vesico-ureteric junction, uterine artery or infundibulo pelvic ligament) of ureteric lesion has no influence on the result, irrespective of the type of treatment. The cure rate was 85.7%, 87.5% and 88.2% for immediate intraoperative repair, delayed open surgical and endourological treatment respectively. The results were not related to the type of treatment.

In the treatment of obstetric and gynaecological ureteric injuries, endourological treatment plays an equally important role when compared to open surgery, provided patients are selected correctly. The treatment of lesions caused by radical hysterectomy alone or associated with radiotherapy, should be paid special attention as these may lead to poor results.

KEY WORDS: Endourology, Ureter, Iatorgenic injury, gynaecology, surgery.

INTRODUCTION

Iatrogenic ureteric injuries may complicate urological, vascular, gynaecological and general surgery. Two thirds of these injuries occur during gynaecological surgery, with an incidence of 0.4% to 2.5% of all gynaecological procedures[1,2] and only one third of these injuries are diagnosed intra-operatively.

The treatment of iatrogenic ureteric injuries has been influenced by the recent progress made in endourological techniques. In the present study we report the comparative results obtained with endourological treatment and open surgery in the treatment of gynaecological and obstetric ureteric injuries.

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PURPOSE OF STUDY

The purpose of this study was to compare open surgery and endourological techniques in the treatment of ureteric injuries following injuries resulting from gynaecological and obstetric surgery.

PATIENTS AND METHODS

From January 1993 to December 1998, 42 women (mean age 44 years, range 18-62 years) were treated at Urology and Surgery Department, Liaquat Medical College Hospital, Hyderabad (LMCH) for ureteric lesions, consequent upon gynaecological and obstetric surgical procedures at LMCH and adjacent District and Taluka Hospitals.

In total 48 ureteric lesions, the injury was unilateral in 36 patients (22 on the right and 14 on the left), bilateral in five and involved both left ureters of a complete duplication of the collecting system in one patient (Table-I).

In six patients ureteric injury was detected intraoperatively and immediately repaired, four of these had one ureter ligated or transfixed (two on the left and two on the right), one patient had complete dissection of the ureter on the left side and one patient had bilateral ligation of the ureter associated with a bladder neck and base lesion.

In 36 patients 41 ureteric injuries were diagnosed and treated with a delay varying between 5 and 144 days (mean 26 days). Of these 41 lesions, 10 were fistulae (four complete and six incomplete) and 31 were stenosis (18 complete and 6 incomplete). The site and type of lesion was diagnosed pre-operatively by intravenous pyelography (IVP) in five patients and antegrade and/or retrograde pyelography in 31 patients. The surgical procedures that caused the ureteric lesions are given in Table-II.

Intraoperatively 7 ureters were repaired immediately in three cases of abdominal hysterectomy, in one case of vaginal hysterectomy (bilateral lesions associated with base and bladder neck injury) and in two cases of radial hysterectomy (Table-III). The treatment of 41 ureters was delayed and carried out by either open surgery or endourologically.

Endourological Treatment (Table-IV)

For primary elective endourological treatment 17 patients were selected with unilateral and simple ureteric injuries less than 2 cm in length and of recent formation. This group comprised of 17 ureteric lesions,(6 on the left, and 11 on the right side), five fistulae and 12 stenoses. A nephrostomy tube had been inserted previously in 12 patients.

In all patients of this group urethrocystoscopy and retrograde ureteric catheterisation was attempted. When a 0.35 J guidewire bypassed the uretric injury, ureteric catheter of 5 or 6F was inserted and after satisfactory radiographic assessment (on table retrograde pyelography under image intensifier, a JJ stent of 5 or 6F was inserted.

When ureteric catheter did not pass, a nephrostomy tube was inserted (5 patients), unless it has been postioned previously (12 patients). Then rigid ureteroscopy with balloon dilation and/or cold knife incision were attempted. If this failed, antegrade flexible ureteoscopy and endoureterotomy with a hot electrode, followed by balloon dilation was performed. In the present series, retrograde rigid ureteroscopy was performed in 8 patients, retrograde flexible ureteroscopy was performed in one patient and antegrade flexible ureteroscopy in two patients. The dilation, incision and stenting were similar in all cases.

Table-I

Treatment	No. of Patients	Ureters				
		Rights	Left	Bilateral	Duplex	Total
Intraoperatively Repair	6	2	3	1	0	7
Endourological	17	11	6	0	0	17
Delayed open surgery	19	9	5	4	1	24
Total	**42**	**22**	**14**	**5**	**1**	**48**

Table-II

Surgical Procedure	No. of Patients	%	No. of Ureters	%
Abdominal hysterectomy	24	57.1	26	54.1
Radical Hysterectomy				
Alone	5	11.9	5	10.4
With radiotherapy	4	9.5	5	10.4
Vaginal hysterectomy	4	9.5	5	10.4
Caesarean Section	2	4.7	2	4.1
Caesarean hysterectomy	2	4.7	3	6.25
Oophrectomy	1	2.3	1	2.08
Total	**42**		**48**	

Table-III

Operation	No. of Patients	No. of Ureters
Immediate		
Ureterocystoneostomy	4	5
Ureterolysis	1	1
Uretero-Ureterostomy	1	1
Total	**6**	**7**
Delayed		
Ureterocystoneostomy	13	18
Ureterolysis	4	4
Uretero-Ureterostomy	1	1
Unilateral ileal ureter	1	1
Total	**19**	**24**

Table-IV

Procedure	No. of Patients
Stenting alone	9
Cold knife and stenting	2
Balloon dilation and stenting	4
Balloon + cold/hot knife and stenting	2
Total	**17**

Table-V

	Ureteric Injuries		Ureteric Healing		Adjunctive treatment	
Treatment	Ureters	Pts	Ureters	Pts	Ureters	Pts
Intra-operative	7	6	6 85.7%	5	1 14.2%	1
Endourological	17	17	15 88.2%	15	2 11.7%	2
Open surgery	24	19	21 87.5%	16	3 12.5%	3
Total	**48**	**42**	**42 87.5%**	**36**	**6 12.5%**	**6**

The stents were replaced or removed after 3-4 months, depending upon results or radiographic assessment.

After treatment, these patients were reviewed regularly with an IVP at 3,6 and 12 months and ultrasound of upper urinary tract every year.

Open Surgery

Nineteen patients, 14 with unilateral ureteric injury (nine on the right and 5 on the left) four with bilateral lesions and one with lesions of both ureters of a complete duplication of collecting system (total 24 ureteric injuries; 4 fistulae and 20 stenoses) underwent open surgery (Table-III). Out of these, 5 patients (two with fistulae and 3 with stenosis) were operated after a failed retrograde attempt to bypass the ureteric injury by a guidewire; while 14 patients with complex ureteric lesions (either bilateral or longer than 2 cm) were treated by elective primary open surgery, without attempting endourological treatment.

Preliminary percutaneous nephrostomy was performed in six patients with severe hydromphnosis. All ureteric reimplantation, uretero-ureterostomy and ureterolysis were stented (5 or 6F). The duration of stenting varied from 3 to 6 weeks.

Partial replacement of the ureter with an ileal loop was performed in one patient because of extensive injury after radical hysterectomy and radiation.

Results (Table-IV)

Immediate surgical repair: One patient with ureteric transection during radical hysterectomy had intraoperative ureterocysto neostomy, showed partial ureteric obstruction of reimplanted ureter, which was treated successfully with percutaneous antegrated balloon dilation and ureteric stenting.

Endourological treatment

Technical success rate was 77.3% (17 patients out of 22) as 5 patients had failed endoscopic stenting and underwent open surgery. In the long term complete ureteric healing occurred in 15 of 17 treated ureters (88.2%). Mild and insignificant stricture persisted in two ureteric injuries caused by radial hysterectomy alone (one case) or with adjuvant radiotherapy (one case).

Open surgery

Among 24 surgically treated ureters, three required adjunction treatment. Two patients treated for ureteric obstruction resulting from radial hysterectomy and abdominal hysterectomy respectively, underwent dilation and stenting for obstruction of the ureterocystoneostomy (Table-V). One patient who has ureterocystoneostomy for ureteric injury, following radical hysterectomy and radiotherapy, underwent nephrectomy for a non-functioning kidney.

COMPARATIVE RESULTS

Whatever the type of urological treatment used, the outcome was not significantly different; the ratio of ureteric healing was 85.7%, 88.2% and 87.5% for immediate intraoperative repair, endourological treatment and open surgery respectively.

There was no relationship between the results of treatment and the site of ureteric injury (vesico ureteric junction, uterine artery and infundibulo pelvic ligament). The results of ureteric repair were related to the type of gynaecological operation that caused the initial ureteric injury. Majority of poor results occurred in patients who had undergone either hysterectomy alone or with radiotherapy.

DISCUSSION

The ureteric lesions still constitute a major complication of obstetric and gynaecological surgery, inspite of improved surgical techniques[3,4,5,6,7]. Approximately 8% of all ureteric lesions involve the distal end of ureter and become evident during either simple or radial abdominal hysterectomy[3,4,8]. Most of the ureteric injuries occur when haemostatic sutures are placed on the side of uterus during hysterctomy. Only few injuries are localised at the infundibulo pelvic ligament and are usually the result of sutures placed at the level of peritoneal reflection[9].

There is no general agreement on how to treat these ureteric injuries. The principles underlying management of ureteric injuries are the relief of fistulae or obstruction and ureteric repair. The traditional treatment of ureteric injuries has been immediate intraoperative repair or open surgery, undertaken after variable delay (usually a few months). However, better results have recently been reported with early rather than delayed postoperative repair[8,10,11] because of lower rate of complications and morbidity.

Ureteric injuries diagnosed and treated intraoperatively were more successful (100%) than delayed open management (66.7%), as reported by Mendez and McGintry[12]. Intraoperative repair of the ureteric lesions is the best procedure because it is less traumatic for the patient and is usually faster and requires simple technical solution when compared to delayed repair. Other authors report good cure rates in endourologically treated ureteric injuries. However, the results largely depend on the length and duration of the lesion[3,14,15] and are apparently worse than those achieved with open surgery[3,4,13-16].

The choice between open surgery and endourological treatment, in ureteric injuries detected late depends mainly on the length (<2cm) and duration (<3months) of the lesion and whether other associated lesions are present[4,15,17,18]. Currently for the majority of patients with a delayed diagnosis of ureteric injury, an initial endourological attempt may be an excellent approach that does not interfere with subsequent surgical managment[3-17].

In the present study there were no differences between the results obtained with lesions diagnosed postoperatively and treatment endourologically or with open surgery, because of the correct selection of patients. Two methods were used for endoscopic treatment of ureteic strictures:

1. Balloon dilation, used only for very short strictures and of short duration. A balloon with an electrode (Acucise) was used for strictures that can not be reached with rigid or flexible instruments.
2. Endouretrotomy, cold or hot-knife incision was used for strictures that could be approached with rigid or flexible endoscopes. Both methods are safe and effective. The hot electrode allows coagulation and a better controlled deep cut when compared with cold knife. Whenever possible, the use of incision followed by ballon dilation ensures better results. At the end of dilation/incision, the application of ureteric stent prevents urine from leaking into the retroperitoneum[19].

The inchaemic damage is probably responsible for the severity of ureteric lesions and for poor results of ureteric repair. The relationship between results of ureteric repair and the type of gynaecological surgery that caused the ureteric injury might arise because the iatrogenic ureteric lesion is negatively influenced by the factors causing the ischaemic damage to the ureter, such as lymph node removal during radical hysterectomy and radiotherapy.

When compared to open surgery, endourological treatment plays an equally important role in the treatment of gynaecologically related ureteric lesions. Hence, we believe that an initial endourological approach may be an excellent alternative for the majority of patients with delayed detection of ureteric injury, as it does not interfere with subsequent surgical management, should this be necessary.

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A STUDY OF 76 CASES OF HEAT STROKE AT J.P.M.C, KARACHI

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ABSTRACT:
Heat stroke is the most severe among heat illnesses. People at risk are military personnel, sportsmen, labourers, alcoholics and patients on major tranquilizers. In June, 1996, 76 patients were admitted in Medical Unit-III, Jinnah Postgraduate Medical Centre, Karachi with the clinical diagnosis of heat stroke. Of 76 patients 56 recovered, while 20 expired. Mortality rate was 26.31%. Clinical presentation like stroke, grade-IV coma and DIC were associated with high mortality. Old age, hypertension, diabetes mellitus and IHD were major risk factors of heat stroke mortality. Quick medical help and treatment of associated diseases decreased mortality.

KEY WORDS: Heat stroke.

INTRODUCTION

Among the so called heat syndromes, heat stroke is the most serious medical emergency[1]. Human beings are aware of its manifestations since Biblical times[2]. Ancient Greeks related this disease with the dog star, Sirius, and "dog days" was the term used to mention that period of time in July and August. They thought that heat stroke was due to this star and was given the name of Siriasis. Even in modren times heat stroke is frequently seen in a segment of population that is predisposed to it. At risk are military recruits[4], sportsmen[3], outdoor labourers, alcoholics, patients on major tranquilizers and elderly people[2]. During Haj season a large number of pilgrims are affected and quite a few of them die due to heat stroke[5,6].

PURPOSE OF STUDY

We conducted a study of 76 heat stroke cases admitted in Medical Unit-III, J.P.M.C., Karachi during the month of July, 1996. Main objectives of the study were:-

- Clinical presentation of patients with heat stroke.
- Effects of associated diseases like hypertension, diabetes mellitus, and C.V.A. etc. on outcome of heat stroke.
- Response of patients to swift medical help, especially cold sponging.

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MATERIAL AND METHODS

This study was conducted in Medical Unit-III (Ward-7), Jinnah Postgraduate Medical Centre, Karachi during July, 1996. During this time environmental temperature soared upto 41.6°C. This extreme environmental temperature coupled with frequent and prolonged power breakdowns resulted in a large number of heat stroke cases. Patients presented in the Accident and Emergency Department of Jinnah Postgraduate Medical Centre, Karachi with high grade fever defined as fever of 106°F or higher. Patients with fever of 105°F with neurological manifestations (altered consciousness, C.V.A. etc.) were also admitted and treated as cases of heat stroke.

The following protocol was followed for each patient:

History and clinical examination, record of rectal temperature, pulse and blood pressure, immediate cooling, secure airway, oxygen inhalation, I.V. line with 0.9% NaCl or Ringer's lactate, and intake and output records.

Blood was drawn for complete blood picture, urine examination, serum electrolytes, urea, M.P., creatinine, glucose, SGOT, L.D.H., LFTs; E.C.G., and X-ray chest, chlorpromazine (25-50 mg, I/V) for shivering, antimalarial, antibiotics and other relevant medications were administered.

RESULTS

During the aforementioned period of intense heat, out of the 76 patients admitted, 48 were male and 28 female. (Table-I).

All patients had rectal temperature of 106°F or above on admission. They also had signs and symptoms pertaining to G.I., CNS, CVS and respiratory system. Different combinations of clinical symptoms and signs were detected in individual patient (Table-II).

Fiftysix (73.68%) patients showed uneventful recovery. Average stay in hospital was five days. Twenty patients expired (M:12, F:08). Mortality rate was 26.31%. Clinical presentation at the time of admission was an important prognostic factor. Twelve patients who presented in grade-IV coma ultimately died. This alone accounts for 60% of the patients who expired. Four patients presented with bleeding from multiple sites and were diagnosed as cases of Disseminimated Intravascular Coagulopathy. All of them expired even with full haemostatic support

Twentynine patients had clinical features of associated illnesses alongwith heat stroke. Twentyone patients with associated illness made a full recovery. (Table-IV)

DISCUSSION

High grade fever was the main presenting feature in all the cases of heat stroke, but not the only presenting complaint as in many cases there were gastrointestinal, respiratory or CNS manifestations.

Thirty-one patients had vomiting and a similar number of patients had diarrhoea. Vomiting and dirrhoea is presumed to be due to splanchnic and renal vasoconstriction. CNS manifestations ranged from irritability and restlessness to grade-IV coma. Grave prognosis was associated with more severe manifestations. Prompt cooling and supportive management has decreased mortality in an otherwise fatal disease. Due to its multiorgan involvement mortality is quite high in admitted patients. It is being reported upto 50% even after medical help[7].

Dr. Bachmann has reported in a clinicopathological conference on heat stroke, (Am: J Med. 1967) marked difference in mortality among two groups of patients.

Table-I Age and sex distribution

Age	Male	Female
15-30	16	04
31-45	08	01
46-60	10	08
> 60	15	15
Total	**48**	**28**

Table-II Clinical presentations

Clinical Features	No. of Patients	Percentage
High grade fever	76	100.00
Diarrhoea	31	40.78
Vomiting	31	40.78
Altered consciousness	30	39.47
Headache	09	11.84
Bleeding	04	5.26
Other	04	5.20

Results of Laboratory investigations are shown in Table-III.

Table-III

Investigation	No. of Patients	Percentage
Leucocytosis	76	100.00
Altered LFTs	69	90.78
Hypoglycemia	03	3.94
Hyperglycemia	10	13.15
Hyponatremia	54	71.05
Hyperkalemia	50	65.78
Increased haematocrit	63	82.89
Positive malarial parasites	07	9.21
Increased muscle enzymes	48	63.15
High BUN	05	6.57

Table-IV 21 Patients with associated diseases (who recovered)

Name of Diseases	No. of Patients
Malaria	07
Diabetes Mellitus	04
Hypertension	03
C.V.A.	01
Renal Failure	02
I.H.D	03
Respiratory Diseases	01

Eight patients with associated illnesses expired. (Table-V).

Table-V 8 Patients with associated diseases (who died)

Name of Diseases	No. of Patients
Diabetes Mellitus	02
Hyperthyroidism	01
Puerperal sepsis	01
Brain tumor	01
Renal Failure	01
C.V.A.	01
Hypertension	01

Group treated vigorously showed mortality of 33% as compared to 56% in less vigorously treated group[1]. In our study mortality was 26.31%. This is attributed to the prompt delivery of medical help by a team of trained medical personnel. Associated illnesses, age and clinical presentation also influenced mortality. It was markedly high in elderly patients who were unconscious at the time of presentation or bleeding diathesis. Association of heat stroke and D.I.C. is well documented[1]. Systemic diseases like Diabetes Mellitus and Hypertension were also associated with a high mortality. Srichaikul-T (1989) reported similar findings[8].

Congestive cardiac failure (CCF) is traditionally considered an important risk factor for heat stroke[9]. In our study none of the patient presented with C.C.F., although hypertension and ischemic heart disease were documented in seven patients. During stay in the ward most of the patients developed clinical features of congestive cardiac failure. Joseph Gold[10] documented similar results.

Many interesting facts were documented during this study. Highest number of patients with heat stroke belonged to old age group. They were not exposed to external heat, but high environmental temperature. Old age and long power break downs leading to decreased air movements also contributed to heat stroke. Similar results were documented by Asif Kamal in 1977 while studying heat stroke in admitted patients[11].

Infections such as malaria and other febrile illnesses can aggravate severity of heat stroke. Evidence of such diseases should always be sought. In our study seven cases were positive for malarial parasite. Therefore, it is advised to look for malaria in patients with clinical diagnosis of heat stroke[7].

Old age and associated diseases such as Hypertension, Ischemic Heart Disease (I.H.D) and Diabetes Mellitus are significant risk factors for development of heat stroke. Preventive measures such as less exposure to high temperature, proper hydration and proper ventilation are the main stay of prophylaxis of heat stroke.

In this study we conclude that prompt medical help and treatment of intercurrent diseases are the most significant factors in the management of heat stroke. If these factors are entertained properly, mortality is decrease drastically.

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NEW TECHNIQUE

REDUCTION OF ANTERIOR DISLOCATION OF SHOULDER MODIFIED HIPPOCRATES MANIPULATION

SAQIB AMIN

INTRODUCTION

For reducing anterior dislocation of the shoulder either Kocher's or Hippocrates' manipulation is generally required. A modification of the Hippocrates' manipulation for reducing anterior dislocation of shoulder joint is described. Instead of surgeon's foot, his fingers are used as fulcrum to lever the head into the glenoid fossa. It is simple, does not require general anaesthesia and is without the risk of damaging the neuro-vascular structures.

Technique: The patient is advised to lie down on a couch and an intravenous injection of diazepem (10 mg) is given. After about 5 minutes the surgeon standing on the dislocated side, takes the flexed elbow of the patient in his left hand and applies firm traction. The fingers of the right hand of the surgeon are pushed medial and as far as possible to the dislocated head. The fingers are used as fulcrum to lever the head into the glenoid fossa.

RESULT

Forty consecutive anterior dislocation of shoulder were reduced by this modified Hippocrates' manipulation during the years 1998 and 1999 (Table).

DISCUSSION

For Kocher's manipulation to succeed, good muscular relaxation is essential, which can be achieved only by genral anaesthesia. If muscles are not relaxed while attempting reduction, the patient resists manipulation and contracts apposite group of muscles, thereby preventing successful reduction. Noordeen et al have described a method in which the patient, himself performs the manoeuver[1].

Patient Profile

1	Total no. of Patients	40
2	Male / Female ratio	9:1
3	Initial dislocation	28
4	Recurrent dislocation	12
5	Reduction axillary nerve injury	Nil
6	Neuro Vascular injury after reduction	Nil
7	Failed reduction	5*

*(Subsequently reduced under GA using modified Hippocrates manipulation

Advantages of modified Hippocrates' manipulation are:

1. It is simple. There is no need for general anaesthesia or heavy sedation. The patient stays under observation for a short period.

2. The tactile sensation of the fingers is better than that of foot. The push and direction of leverage can be better controlled if fingers are used instead of foot.

3. There is no risk of damage to axillary vessels or nerves.

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AN UNCOMMON FOREIGN BODY IN RESPIRATORY TREE OF AN INFANT

A Case Report

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ABSTRACT:
A six months old female infant presented with two months' history of cough and difficulty in swallowing. There was a definite history of nail aspiration which was put into the mouth by elder brother who was two years old. At bronchoscopy a 35 mm long nail was removed from trachea. To our knowledge such a long nail with this presentation has never been reported before in this age group in English language literature.

KEY WORDS: Foreign body aspiration, Unusual presentation, Bronchoscopy

INTRODUCTION

Foreign body aspiration is a common accident in children. Although no age group is immune but it is rare in infancy[1]. Variety of objects have been removed at bronchoscopy[2]. The mode of aspiration is also quite varied. In this report we are presenting an interesting case with unusual mode of aspiration of an uncommon object.

CASE REPORT

A six months old female infant weighing 6 kg presented with 2 months history of cough and difficulty in swallowing. Two months prior to presentation patient developed difficulty in breathing while playing with elder brother who was two years old. Grand mother suspected foreign body aspiration and tried to remove it with finger. She felt an object in pharynx and while trying to remove, it slipped distally into pharynx. On specific questioning mother found that the elder sibling while playing, put a nail into the mouth of the patient. Although definite history was there but none of the doctors advised x-rays and kept on treating the patient with antibiotics and antihistamines. This went on for 2 months when a doctor advised an x-ray chest in which nail was seen lying almost vertically in neck and upper chest region (fig. I). Initially it was suspected to be in oesophagus and oesophagoscopy was done but foreign body was not found. Following that bronchoscope was passed into trachea and nail visualized and removed. Post operative recovery was uneventful and patient was discharged home next day.

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DISCUSSION

Foreign body aspiration is associated with significant morbidity and at times mortality[3,4,5]. Choking accident is frequently witnessed by adults but often times it goes unnoticed and patients receive treatment for pneumonia before the presence of aspirated foreign body is realized. In expert hands bronchoscopic removal of foreign body is a simple procedure especially if it is done on elective basis but in emergency situation when patient has already col-

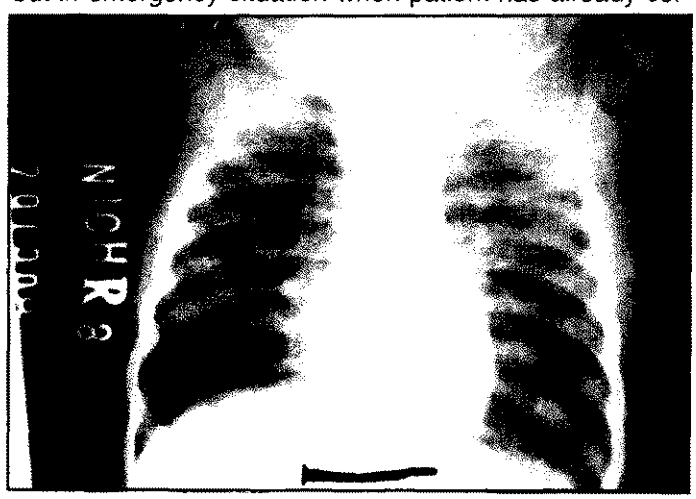

FIG. I. ***X-ray showing nail in neck and upper chest region.***

lapsed endotracheal intubation and resuscitation followed by bronchoscopy under GA by expert anaesthetist should be the line of management[6].

In a ten year review of 265 bronchoscopic removal of foreign bodies Zerella et al found only seven nails and screws. Only 7% of their patients were under one year of age. The mean duration of symptoms was 3.12 days and median was 1 day[7]. There is an inherent risk of damage to respiratory tract while removing long standing foreign bodies especially in small children[8,9].

The length of trachea in infants weighing 0.6 to 5 kg is between 25mm to 50mm[10]. It is also interesting to note that in our patient nail remained in trachea for two months but produced minimal symptoms because of its metallic nature although at removal it was found to be rusted. The patient was lucky as fragile respiratory tree was not lacerated during removal.

Foreign body aspiration is a preventable accident. Younger child should not be left alone with elder siblings as practiced in many families. Such incidents could be fatal. Parents should be instructed in this regard and should be given guidelines as to take care of small infants by family physicians. Awareness can be created through electronic media.

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