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EDITORIAL:

THE IMPORTANCE OF CLINICAL SYSTEMS BIOLOGYS TO SURGERY AND MEDICINE

Systems biology has been called the beginning of real biology equal in importance to the genomic revolution and is the first new medical faculty founded at Harvard for over 20 years. It combines engineering principles mathematical methods and information technology as a way of managing and interpreting the enormous amount of data generated by the human genome project.

It has been realized that clinical affliction and dichotomy is a way of bridging the gap in medical and surgical training that has arisen as a result of the massive amount of information generated by the discovery and publication of new and more precise feedings, in 1996 it was estimated that 17 clinical articles had to be read daily simply to keep up with recent discoveries. In 2003, David Sacket, the driving force behind evidence based medicine, stated that 33 articles needed to be read per day as high quality information was doubling every 18 months. The response of universities and the medical establishment to this was to create more and more super specialties with the basic science component becoming less and less relevant to clinical practice. The general public has responded by demanding more and more of their doctors often knowing as much as medical practitioners and becoming increasingly critical of and litiginous towards the medical profession, medical students have become more and more confused as they are taught more and more specialist medicine to the detriment of a wholestic understanding of medicine in general and patients in particular. It has been said that prior to 1981 (the advent of high technology) students became good doctors because of their training, whereas after 1981 students became good doctors despite their training. At the clinical level in disciplines such as surgery, the age old generational conflict between youths and age has resurfaced in a most destructive fashion. Youth has the characteristics of enthusiasm, conviction and ignorance whereas age has the characteristic of caution, experience and wisdom (although this is often difficult to separate from arteriosclerotic degeneration) and two camps have arisen the older clinicians who emphasize clinical training and skills and reject molecular medicine and the generally younger molecular medicine scientists who consider clinical medicine limited beginning that will not prepare them adequately for medicine in the 21st century and in countries like Pakistan, will produce an intellectual underclass of doctors of very bright students and that this is already apparent in the increasing amount of study required to pass PLAB or USMLE, as training is controlled by an older, clinically orientated generation. Fortunately, system biology based on welter Cannon's wisdom of the body homeostasis, is a way of incorporating new information into an integrated unity, especially important for a wholistic understandable approach for medical students. This integrative approach clarifies why super specialization is ultimately a useless exercise and re emphasizes. The clinical importance of treating the whole patient in his as her environment. It also stresses individualization of management. (why do only one or two people in a house get TB?) Older clinicians must realize that this trend towards individual management from the first steps of clinical experience actually makes medicine simple and more understandable. There are many more implications of clinical systems biology e.g. gynecology is changing to women health, surgery is becoming preventative and basic science will have to be completely overhauled for part I & animations. This is particularly important for countries such as Pakistan because it is already clear cleat that the future is here and we ignore it at our peril.

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CLINICO-RADIOLOGICAL PRESENTATION AND POST EXCISION PROGNOSIS OF COMPLICATED SOLITARY OSTEOCHONDROMAS

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ABSTRACT

This is a descriptive observational study based on review of cases of solitary osteochondroma (OC) excised in the last 20 years at JPMC Karachi. The purpose of this study was to evaluate the clinico-radiological presentation and the complications that warranted excision of these benign tumours and also to know the number of malignant transformation. The material included case sheets, available x-rays, histopathology reports. Excluded were the cases of multiple osteochondromatosis, diaphyseal achalasia, enchondromas and patients' age <5 years. Patient whose report showed malignant transformation were called by special messenger.

A total of 78 solitary osteochondroma were excised. Age range of these patients was 7-30 years except one whose age was 60 years. Average age was 17.30 years in males and 16.1 years in females. Male vs. female ratio was 2:1. Flat bones (Ilium & scapula) were involved in 8 cases and long bones in 63 cases. Other rare site included phalanges (2), metacarpals (2), clavicle (1), greater trochanter (1) and talus (1). Malignant transformation warranted excision in 5(6.41%) cases that was in elder age group. The rapid growth of tumour during growth spurt period was the commonest (78.2%) presentation warranting excision in teenagers and adolescents. The other common presentation (38.46%) that warrant early excision in younger age group was development of deformity when tumour occurred in either of two distal radius / ulna or distal tibia/fibula. The other presentation warranting excision was neurovascular complications that were mostly around knee joint (16.66%), distal radius and upper humerus. All the patients remained well following excision and none has reported recurrence.

KEY WORDS: Bone tumour, Osteochondroma.

INTRODUCTION:

Solitary osteochondroma is a cartilage capped bony protrusion on the external surface of bone. The lesion is by far the most common benign tumour representing 50% of all benign bone tumours and about 10-15% of all tumour of skeletal origin[1]. Sessile osteochondroma often remain silent, some of that become complicated due to resurgence of rapid growth during growth spurt period or malignant transformation. However, in certain locations due to mechanical factors: pressure irritation of neurovascular bundle in the vicinity leads to formation of pseudo aneurysm & paraesthesia. This study is the review of tumour registry record of the last 20 years at JPMC.

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PATIENT AND METHODS:

This is a descriptive, observational, study carried out at Department of Orthopaedic Surgery Jinnah Postgraduate Medical Centre Karachi. Study is based on scrutiny of available record, case sheets, radiographs and histopathology reports from January 1982 to January 2003.

The inclusion criteria for selection of cases was patients above 5 years of age with lesion involving epiphysio-metaphyseal region, with clinico-radiological correlation suggesting osteochondroma. Older age patients with previous sessile or pedunculated lesion of scapula, ilium & long bones with recent increase in size were also included. Only patients with confirmed osteochondroma on histopathology were included in this study group. Exclusion criteria were, patients age below 05 years, metaphyseal lesion proven other than osteochondroma patients having multiple osteochondromatosis and diaphyseal achalasia.

The preoperative workup included CBC, ESR, conventional radiograph of part involved, chest radiograph, TC 99 bone scan, CT/MRI if needed surgical notes and histopathology reports. Surgical approach was also noted. In all cases excisional biopsy was method of choice. Wide margin excision was carried out in osteochondroma with malignant transformation. In some cases with non pedunculated tumour in excisable bone (fibular head, distal ulna, scapula, metacarpal) tumour was excised with part of healthy bone. In all cases periosteum covering the tumour was also excised along with main tumor mass. Patients were given supportive splintage for 2-3 weeks as and when required. Clinico-radiological follow up protocol was fortnightly for one month and then every three month. The patients with malignant transformation were called by special messenger for update clinico-radiological & laboratory reports evaluation.

The criterion of tumour eradication was no significant symptoms and no recurrence of tumour mass. The patients fulfilling these criteria having follow up duration > 1 year were labeled good. The patient developing resurgence of pain and tenderness, radiological evidence of recurrence were labeled poor.

RESULTS

In the span of 20 years 712 primary bone tumours were excised at JPMC, out of which 78(10.95%) were solitary osteochondroma. Age range of these patients was 7-30 years except one whose age was 60 years. The majority 63 [80.76%] of patients were in age group 11-20 years. Average age was 17.30 years in males and 16.1 years in females. Male vs female ratio was 2:1. Flat bones (Ilium & scapula) were involved in 8 cases and long bones in 63 cases. Other rare site included phalanges (2), metacarpals (2), clavicle (1) greater trochanter (1) and talus (1). Forty five (57.69%) osteochondroma were sessile type and 33 (42.30%) pedunculated. The minimum size of tumour excised was 2.1x 2cm and maximum 16.5x12x9cm. Malignant transformation warranted excision in 5(6.41%) cases all were in elder age group, four of these involved girdle bones and one arising from greater trochanter. The commonest (78%) presentation was rapid growth associated with growth spurt period. The other presentation in younger age groups in 38.46% cases was development of deformity when tumour occurred in either of two distal radius / ulna or distal tibia/fibula that warrants early surgical removal. The Osteochondroma around knee and upper humerus (16.66%) presented with neurovascular compression symptoms. 3.84% cases involving foot and ankle caused pain and decrease range of motion along with visible deformity (Fig-I) warranted early age excision. None of these patients so far reported with signs of recurrence after excision of tumour and were labeled good in prognosis. (table I)

Table I SITE, TYPE & COMPLICATIONS

SITE	NO. (%)	SESILE	PEDUNCULATED	N-Vascular compression	Pain	Malignancy	Deformity
Femur (Distal)	23 (21.43%)	10	13				
	Lat. 7			3	3	-	1
	Med.16			2	11	-	3
Femur (Proximal)	1 (1.28 %)	1				1	
Tibia (Upper)	18 (23.07 %)	04	14				
	Lat. 3			1	2	-	-
	Med.15			3	5	-	7
Tibia (Distal)	04 (5.12 %)	4	-	-	1	-	3
Fibula (Upper)	06 (7.69 %)	05	1	2	2	1	1
Fibula (Distal)	01 (1.28 %)	01	-	-	1	-	-
Humerus-Upper	04 (5.12 %)	01	3	1	-	-	3
Radius (Distal)	04 (5.12 %)	03	1	1	2	-	1
Scapula	05 (6.49 %)	05	-	-	2	2	1
Spine –	01						
Lat. Border	03						
Med. Border	01						
Phalanges	02 (2.56 %)	02	-	-	1	-	1
Ilium	03 (3.84 %)	03	-	-	2	1	-
Ulna	02 (2.58 %)	02	-	-	-	-	2
Meta tarsal	01 (1.28 %)	01	-	-	1	-	-
Clavicle	01 (1.28 %)	01	-	-	1	-	-
Lat End							
Talus	01	01	-	1	-	-	-
Spine	1 (1.28%)	1	-	-	-		
Total	78	45 (57.69%)	33 (42.30 %)	14 (16.66 %)	34 (42.30%)	5 (6.14 %)	25 (38.46%)

FIG- I: Ostechondroma arising from IInd metatarsal neck, causing metatarsalgia and Hallum valgus

DISCUSSION

Solitary osteochondroma arising jointly from distal metaphysis of femur and proximal metaphysis of tibia represents 43-50% of cases. The pattern of distribution of sessile OC varies widely in different studies. The majority of OC in this study were around knee joint (52.5%). Similarly upper humeral lesion in this study accounts for 5.12% whereas in Memorial hospital statistics that mounts to 24.76%[2]. This gross variation in pattern may be due to inclusion of only complicated cases in this study and all complicated and uncomplicated OC were included in Memorial hospital study. In the spine lesions are located close to secondary centre of ossification, near the tip of spinous process, vertebral arch or costovertebral joint. In one patient of this study it was arising between pedicle and arch. The OC scapula amounts to 2-3% of lesions and often involve vertebral border and thoracic surface[1]. whereas in this study scapular lesions accounts for 6.4% and arises from lateral border and spine scapula. Two of these five scapular tumours arose from lateral border and spinous process & one from greater tuberosity behaved aggressively to produce unrelenting pain and rapid increase in size. X-ray revealed thick cartilaginous and lobulated mass with streaky calcification findings consistent with malignant transformation. (Fig- II,III).

FIG- II: Signs of Malignant transformation in preexisting Osteochondroma scapular spine

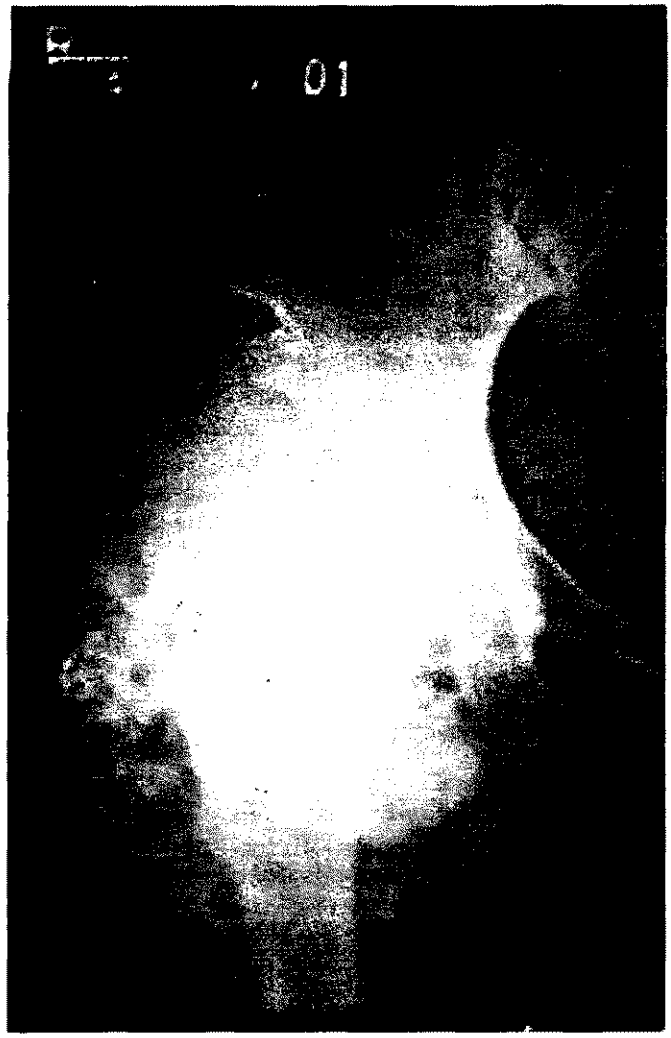

FIG- III-A: Signs of Malignant transformation in preexisting Osteochondroma at greater trochanter of femur.

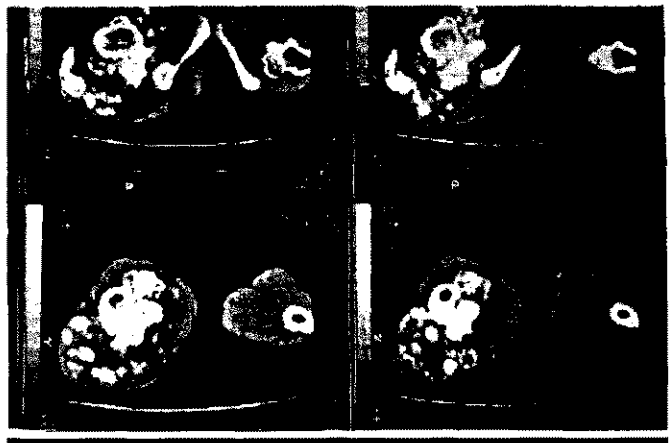

FIG- III-B: MRI showing extent of Tumour and Signs of Malignancy

Osteochondromas are usually asymptomatic often discovered by feeling of a painless mass. The majority are diagnosed in second decade[1,2]. In present study 80.76% were in second decade and 10.25% were in third decade (tableII). In certain locations, it becomes painful due to mechanical factors, by irritation or pressure on neurovascular bundle, slipping over by muscle or tendons, interfering ROM and in some cases locking of

FIG- III-C: Post Excision Tumour mass

knee has also been reported[5,6]. Pain may also be caused by a fracture through stalk of an exostosis, bursitis and large bursa formation[1,7]. Neurovascular compression has been reported due to enlarging osteochondroma of knee joint causing peroneal nerve neuropathy (7.69% in present study), popliteal artery compression leading to intermittent claudication (16.66% in present study) and pseudoaneurysm formation[1,8,9]. Waiter reported pseudoaneurysm of popliteal artery adjacent to femoral OC developed several days after lifting weight in a 17 year old male. Spinal cord & roots compression due to expansion of laminar osteochondroma are rare but well recognized for complication warranting surgical decompression and is potentially catastrophic when arises from cervical spine[10,11]. Facial asymmetry, dysfunction due to temporal bone and intracranial osteochondroma are other rare complications warranting early removal[12-14]. Guner G, and Devine JH reported more interesting sites & methods of surgery of intra articular OC in knee joint and sacroiliac joint removed with endoscopic surgery.[12-13]

The two cases of scapular tumour & one from greater trochanter in this study were of large size than those arising from long bones & behaved aggressively & were confirmed as malignant on histopathology. In these cases cartilage thickness was 3-5cm, with few cartilage loose bodies lying free in soft tissues adjacent to original mass. The malignant transformation with development of chondrosarcoma arising from either cartilage cap or its rests accounts for only 1%[14 -15]. whereas, in this study malignant transformation occurred in 6.41% cases. The higher ratio may be due to inclusion of only complicated cases Wuisman[15] reported 45 secondary chondrosarcoma, 16 arising from solitary Osteochondroma and 29 in 22 patients with multiple osteochondromatosis. Mahboobi[16] reported low grade chondrosarcoma of pelvis arising from a previous post radiation osteochondroma. Clinico radiologically, criteria for malignant transformation includes persistent unrelenting pain, irritation and recent rapid increase in size, swelling becoming tender and developing surface adherence. The CT scan and MRI has revolutionized staging and preoperative planning by providing information about the characterization of tumour and for intra and extra osscous spread of the tumour. In this study 6.41% cases developed chondrosarcoma. All were treated with wide margin excision and none of them so far reported recurrence with minimum follow-up of more than a year. The other indications warranting excision of osteochondroma are fracture through stalk, neurovascular compression symptoms, paraplegia (in spinal osteochondroma) and pseudo aneurysm and limitation of ROM which is more frequent in posterior osteochondroma around knee joint. Seven cases in this series had significant vascular compression symptoms related to posterior tibial artery that recovered after excision.

Local recurrence following excision of a osteochondroma is not entirely settled in the present literature. Wuisman[15] reported local recurrence in 8 of 14 chondrosarcomas treated with less than radical or wide primary surgery: He reported no local recurrence after a primary wide excision in 30 lesions and a radical procedure in one lesion.

CONCLUSION:

Silent sessile osteochondromas become painful and produce complications often during growth spurt period. The complications that warrants excision in younger age groups, range from irritation by slipping over of tendon, irritation or compression of neurovascular bundle and more severely producing the pseudoaneurysm. Malignant transformation to osteosarcoma or chondrosarcoma is another absolute indication of excision that often appears in elder age groups. The osteochondromas around knee and upper humerus should be removed at earlier age once noticed, as majority of these later produce complications.

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URETHROPLASTY FOR TRAUMATIC POSTERIOR URETHRAL STRICTURES

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ABSTRACT

Objective
To evaluate the results of delayed urethroplasty after initial cystostomy following posterior urethral injury.

Design *Descriptive study.*

Place And Durationof Study
Department of Urology and Transplantation, Jinnah Postgraduate Medical Center Karachi, over the span of two years (2001-2002).

Subjects And Methods
Analysis of 15 patients undergoing delayed single stage perineal urethroplasty for posterior urethral distraction defect associated with pelvic fracture was performed. Preoperative evaluation of distraction defect included simultaneous retrograde urethrogram and voiding cystourethrogram. Postoperative pericatheter urethrogram was performed after three weeks and catheter removed in the absence of any leakage. Postoperative uroflowmetry and retrograde urethrogram was done after one month and three months respectively for average 12 months. Patients were evaluated specifically regarding stricture, impotence and incontinence postoperatively.

Results
Mean age of the patients was 25 years. The estimated preoperative distraction defect was 3 cms. Mean follow up was six months, mean hospital stay was five days and duration of urethral stenting was average 3.6 weeks. Perineal urethroplasty was successful in 60% of cases. Ten patients underwent end to end anastomosis, seven(70%) proved to be successful while in 5 patients Badenoch pull-through urethroplasty was done. Successful results were obtained in 2 patients (40%).The criteria of success was no subsequent procedure required after urethroplasty. However, postoperative soft stricture, requiring optical urethrotomy less than twice, formed in 2 patients of end to end group and 2 patients of Badenoch pull through group. Rest of the patients from both groups, requiring salvage multiple endoscopic urethrotomies, were categorized as complete failure

Conclusion
Overall success of our one stage perineal urethroplasty was 60%. The most probable factor responsible for failure in our opinion was incomplete removal of dense fibrosis from distraction defect.

KEY WORDS: Posterior urethral distraction defects, Perineal urethroplasty, Posterior urethra.

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INTRODUCTION:

Traumatic disruption of posterior urethra is the most severe form of injury of lower urinary tract resulting from violent external force, occurring in approximately 10% of patients with pelvic fractures. These are most difficult and controversial injuries to treat.[1] One detailed

analysis of the results of urethroplasty showed that the greatest rate of recurrence (29%) was noted in patients with membranous lesions who predominantly had post-traumatic stricture.[2] Distortion of normal lower urinary tract anatomy and function, combined with dense fibrosis involving the affected area, make surgical repair of these injuries challenging even in best hands.[3]

Historically a 1-stage Badenoch Pull-through procedure of the bulbar urethra was used for strictures less than 2cm, while larger strictures were managed by transpubic anastomotic urethroplasty or by 2-stage substitution urethroplasty by scrotourethral inlay. Abdomino-perineal repair was reserved for complex posterior urethral defects, bladder neck abnormalities and fistulae to the bladder base or rectum.

Considerable debate still exists regarding timing of repair; immediate exploration and urethral realignment versus initial suprapubic cystostomy and delayed perineal urethroplasty as well as open surgical versus endoscopic management of posterior urethral injury. Our treatment of patients with posterior urethral disruptions consists of immediate suprapubic cystostomy and delayed perineal urethral reconstruction. The goal of initial therapy is urinary diversion with least negative impact on long term rates of stricture formation incontinence and impotence. The results were then analyzed regarding patency of urethra, flow rate, continence, potency and postoperative strictures.

PATIENTS AND METHODS

A total of 15 male patients underwent posterior urethroplasty at Department of Urology, Jinnah Postgraduate Medical Centre, Karachi during the year 2001 – 2002. A one stage perineal repair of posterior urethral strictures was accomplished in 15 cases, 5 patients underwent Badenoch pull through procedure while in 10 patients end to end urethroplasty was done.

All patients underwent simultaneous retrograde urethrogram (RUG) and voiding cystourethrography, urethroscopy and antegrade cystourethroscopy via suprapubic cystostomy tract, to assess magnitude of urethral separation. The acute treatment of patients presenting at Accident and Emergency Department was placement of suprapubic cystostomy tube with no attempt at immediate realignment. Posterior urethroplasty was then performed at minimum of 6 months interval after the initial trauma.

Briefly the operative technique of end to end urethroplasty comprised:

Circumferential mobilization of bulbar urethra: This maneuver was conducted proximally to the point of obliteration and distally as far as the penoscrotal junction. A descending urethral sound/cystoscope was passed through suprapubic cystostomy tract and negotiated through bladder neck into prostatic urethra. Midline perineal scar incision was then made until the tip of the sound/cystoscope was encountered.

Separation of corporeal bodies if required: This maneuver was performed beginning at the level of crus and progressing distally along a relatively avascular plane for approximately 4 to 5cm. This maneuver allows the urethra to be redirected cephalad, resulting in an additional 1 to 2cm of apparent urethral length. The other options to get additional length of urethra although not employed in our series, are inferior pubectomy and supracrural rerouting in order to get tension free anastomosis.

Excision of strictured segments: Restoration of urethral continuity was attempted first through a midline perineal incision. The bulbar urethra was dissected down to the proximal end of the strictured segment, which led to the apex of prostate. After the stricture segment was excised, all periprostatic and prostatic fibrosis was removed until healthy pliable tissue was reached. This dissection often necessitated excision of the infraverum montanal prostate. The the proximal and distal ends were then spatulated and mucosa of distal end was fixed laterally by 4/0 chromic catgut sutures.

After mobilization of the anterior urethra a tension free bulbo-prostatic anastomosis was done with 6 to 8 sutures of 3/0 polyglactin over a Foley catheter. The operation was completed by inserting a suprapubic catheter through tract already present and closing the perineal wound with drain. The urethral catheter was removed after 2 weeks if extravasation was absent on the pericatheter RUG, and after 3 weeks if otherwise. The suprapubic catheter was removed after a successful voiding trial usually on the same day.

Briefly the operative technique of Badenoch pull through urethroplasty comprised: Passing Nelaton tube from suprapubic tract, suturing distal end of tube with proximal end of bulbar urethra, pulling Nelaton catheter to coapt two urethral ends together and keeping nelton tube on traction with skin sutures.

Outcome analysis: Postoperative RUG and uroflowmetry were done after 1 month, 3 months, 6 months and as needed thereafter. Abnormal radiography appearances associated with decrease flow rates were further evaluated endoscopically. Chart review was used to note the continence, erectile function and need for subsequent procedure. Criteria for success were no subsequent procedure requirement after urethroplasty and patient voideing as before trauma.

RESULTS

A total of 15 urethroplasties were performed comprising 5 Badenoch pull-through and 10 cases of end to end anastomosis. These cases have been followed for a mean of 1 year. All procedures were performed through

perineum in single stage. Average age of patients was 25 years (Range 15 to 50 years). All patients had history of blunt trauma to posterior urethra, fall from height in 5/15 cases and RTA in 10 patients. Eleven out of fifteen patients had associated fracture pelvis. Four patients had history of exploratory laparotomy and rail road procedure at the time of injury of elsewhere. Four patients gave the history of scrotal abscess and surgical drainage. The estimated distraction defect in posterior urethra was 3 cm (Range 2 to 5cm). Mean time between injury and repair was 6 months. Period of postoperative catheterization was 3 weeks in 11 patients and 4 weeks in 4 patients because pericatheter retrograde urethrogram revealed some degree of leakage in later cases. One patients sufferred iatrogenic trauma to rectum during procedure but it was non consequential.

Procedure was completely successful in 9 patients, (2 patients from Badenoch pull through group and 7 from anastomotic repair.) In failed group, 4 patients developed soft stricture at repaired area and required optical urethrotomy twice during follow up. Two were regarded as complete failure because they underwent multiple optical urethrotomies. However they were salvaged by optical urethrotomies and self-intermittent catheterization.

A total of 7 patients complained erectile dysfunction pre-operatively and 6 remained impotent post-operatively. All 15 patients were continent postoperatively.

DISCUSSION

The major advantage of delayed urethral reconstruction after prostato membranous disruption is that it can be done under controlled conditions when the patient has recovered from major associated injuries. Conventional management of posterior urethral disruption is comprised of immediate surgical exploration, haematoma evacuation and realignment of the torn urethra over a catheter in traction. However this procedure is discouraged because Foley balloon may cause ischaemic injury to bladder neck, which is a major cause of urinary incontinence after posterior urethral injury. In addition Ragde and McInnes[4] demonstrated that catheter traction did not coapt the urethral edges. Moreover immediate exploration might introduce infection in pelvic haematoma and it exposes the severely traumatize and unstable patient to further operative risks. The rate of stricture, impotence and incontinence were high. Morehouse working on Johanson s idea of initial cystostomy and delayed urethroplasty of inevitable stricture, rather than primary repair, reported a decrease of each of three major complications, permanent stricture, from 14% to 6%, incontinence from 21% to 6% and impotence from 33% to 10%.

Only 3 situations merit the immediate exploration.[1]

1. Severe prostato-urethral dislocation with a "Pie-in-the-sky" bladder results when severe trauma disrupts all fascial attachments between the bladder/prostate and pelvic floor.

2. Failure to recognize and correct immediately a concomitant rectal tear resulting into contamination of the pelvic haematoma.

3. Tear through bladder neck generally requires more extensive mobilization and haematoma evacuation to ensure an anatomic repair. In the later event the urethra may be realigned at the same time.

The essential details to be fulfilled include meticulous and complete excision of the prostatic and preprostatic scar tissue, lateral fixation of healthy mucosa of two urethral ends, and creation of a tension free anastomosis. Morey and McAninch[3] stressed that careful and complete excision of scar tissue is the single most important detail for achieving a successful outcome after posterior urethral reconstruction.

Suprapubic cystostomy can be performed quickly and safely even in the hemodynamically compromised patients. Since the retropubic space is not open, the tamponade effect of pelvic haematoma is not lost and the risk of infection is reduced. It is believed that no further pelvic dissection reduces the incidence of later potency disturbances.

Recently the advances in flexible endoscopic techniques and guide wires have again produced a reappraisal for both initial treatment of posterior urethral disruption and delayed repair of urethral stricture. Herschorn[6] reported his experience comparing early endoscopic urethral realignment with suprapubic cystostomy alone in posterior urethral disruption. Suprapubic cystostomy alone was followed by inevitable stricture formation in 95.5% cases requiring urethroplasty in 89.4% of cases. In contrast successful endoscopy urethral alignment was associated with stricture formation in 53.9% cases requiring urethroplasty in 23.2% of cases. Impotence in suprapubic cystostomy group was 13% versus 50% in endoscopy group. Incontinence in suprapubic group was 0 to 14% in contrast 0 to 22% in endoscopic group. End to end anastomosis appears to be most successful method of posterior urethral construction. Success rate in other large series ranges from 80 to 95%, while 60% in our small series. Failed cases either had previous laparotomy and railroad procedure or dense fibrosis.
In our experience liberal distal mobilization of corpus spongiosum with corporeal separation when necessary obviates any form of pubectomy. One of our patients regained potency while other already impotent cases remained so after the procedure. Potency as reported historically increased from 46% - 62% postoperatively. This finding was also noted by Koraitum[7] in large series of similar patients. These results were probably due to the late recovery of potency after initial injury. Even in patients who were not operated from prostato-membranous disruptions appear to have same rates,

suggesting that long-term prognosis in erectile function is predicted more on the magnitude of injury than the form or time of treatment.

The incidence of incontinence reflects the adequacy of bladder neck. Unfortunately there is no way to confirm it preoperatively definitely; therefore the aim of therapy is to ensure the patency of urethra.

CONCLUSION:

Delayed one stage perineal urethroplasty is preferred treatment of posterior urethral stricture provided one can observe certain essential details. These details include meticulous and complete excision of the prostatic and preprostatic scar tissue, lateral fixation of healthy mucosa and creation of tension free anastomosis. Incomplete excision of scar tissue will necessarily result in anastomosing the bulbar urethra into fibrosed prostatic apex with unhealthy adherent mucosa. The ultimate outcome is urethral obliteration shortly after removal of the urethral stent.

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ULTRASOUND GUIDED PERCUTANEOUS DRAINAGE OF PANCREATIC PSEUDOCYSTS USING P.D. CATHETER

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SHAKOOR MEMON AND **SAEED QURAISHY

ABSTRACT

OBJECTIVE

The purpose of the study is to report the drainage of pancreatic pseudocysts by percutaneous insertion of P.D. catheter under US guidance.

PATIENTS & METHODS

Between January 1999 and December 2003, 44 patients (28 male, 16 female) with abdominal fluid collection from complicated acute pancreatitis underwent percutaneous ultrasound guided drainage using adult (12 F) or pediatric (10 F) peritoneal drainage catheter.

RESULTS

Simple cysts found in 07 patients, haemorrhagic in 20 and infected in 17 patients. Etiology varied from trauma in 09 patients, gallstone in 19 patients, post ERCP 05 patients, biliary ascariasis in 03 and alcohol consumption in 01 patient to idiopathic 07 patients. The tube was kept for drainage from 2 weeks to 11 weeks. The success rate was 84% whereas 12 % patients did not improve and required open drainage and lavage. No major complications occurred.

CONCLUSION

The study shows that complicated peripancreatic fluid collections can be safely and effectively treated in most patients with percutaneous P.D. catheter insertion under real time US guidance.

KEY WORDS: - Pancreatic pseudocyst, Percutaneous drainage.

INTRODUCTION

Pancreatic pseudocyst is a collection of pancreatic juices, enclosed by a wall of fibrous or granulation tissue, arising as a result of acute pancreatitis, pancreatic trauma or chronic pancreatitis. A number of consequences can result from pancreatitis such as acute fluid collections, pseudocysts, pancreatic abscesses, pancreatic necrosis and phlegmon pancreatitis. Complications are responsible for a significant proportion of the morbidity and mortality. However, if detected early, they can often be treated appropriately without sequelae[1-5]. Pseudocyst formation is the commonest complication and its frontline treatment includes drainage. Indications for drainage are, more than 6.0 cm size of pseudocyst, presence of symptoms, complications and a suspicion of malignancy. However, interventional radiology has now been shown to be a valuable addition for both the diagnosis and therapy of these disorders[6,7].

Pancreatic pseudocysts may be drained using a variety of approaches such as endoscopic ultrasound (EUS) guided drainage, endoscopic transpapillary drainage and

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percutaneous US or C.T. guided drainage. External drainage using C.T./US guidance is the most common approach[9]. Three-dimensional sonography has been reported useful for the guidance of catheters into cyst cavities and avoiding vessels[9]. The reported success rates for ultrasound-guided pseudocyst drainage vary from 50 % to 90 %[10,11,12]. Large ductal leaks or obstruction of the main pancreatic duct usually cause unsuccessful drainage[13].

Commonly used tubes for percutaneous drainage are chest tubes 12 to 24 F or PCN set pediatric 10 F or adult 12 F. To our knowledge, no one has reported the use of peritoneal drainage (P.D.) catheters 10 F and 12 F for drainage of pseudocysts. We decided to use P.D. catheter in our study. Its low cost, wide availability, numerous small holes in the tube and insertion by trocar technique were the reasons to use the tube.

PATIENTS AND METHODS

Between January, 1999, and December, 2003, at J.P.M.C. and K.A.H., 44 patients, ranging in age from 6 to 52 years, with pancreatic pseudocysts, underwent ultrasound-guided percutaneous drainage using peritoneal drainage (PD) catheter. Patients selected from both the sexes and all age groups having a pancreatic pseudocyst more than 6 cm in size, abutting the anterior abdominal wall, displacing the bowel loops and providing at least a 1.0 cm window for the insertion of the drainage tube. The cyst symptomatic/complicated and located anywhere within the abdomen. All patients had normal or corrected bleeding profiles.

The equipment used was Just Vision, Eccocee or Nemio Power Color Doppler of Toshiba with 3.5 MHz (variable frequency) convex transducers. Consent was taken after informing the patients of the benefits and risks associated with the intervention and other alternatives. They were educated on how their co-operation would help in the successful placement of the catheter. Patients were placed in the supine position. Under aseptic conditions and local anesthesia, the catheter was introduced under real time guidance into the pseudocyst cavity (Figure I) through the anterior abdominal wall i.e. through the linea alba or through the lateral margin of left rectus muscle. Immediately after catheter placement close to the pancreatic tail under real time US guidance, position of the catheter was secured to the skin by 2.0 silk sutures. A small ball at the drainage end was used to secure the level / position of the tube. Diagnostic aspiration sample was saved for routine examination, cytology and culture / sensitivity. A drainage bag was connected to the catheter and dressing was applied. Broad-spectrum systemic antibiotics were started before the drainage procedure and subsequently altered depending on the results of the culture and antibiotic sensitivities. Follow-up care consisted of daily bedside inspection in admitted cases to assess the clinical parameters (fever, white blood cell count) and daily monitoring of the amount of catheter drainage. Subsequent follow-up ultrasound was done in all cases and C.T. scan was performed in some cases where fever did not settle, fever recurred or if abdominal pain or discomfort developed / persisted, and also before removal of the drain tube in some patients.

The catheters were left in place until drainage stopped (<10-ml/24 hrs). After the drainage ceased, a contrast study (fluoroscopy) with the use of a 76 % water-soluble iodinated contrast was performed to assess catheter patency and cavity size. If the catheter was patent and the

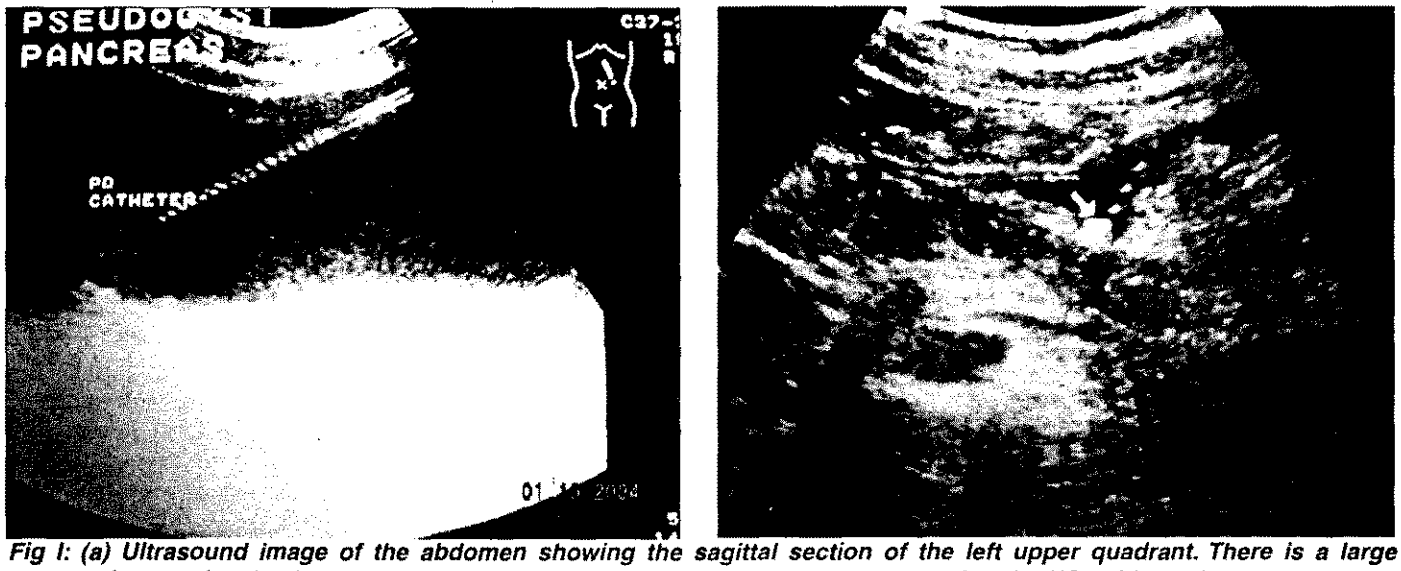

Fig I: (a) Ultrasound image of the abdomen showing the sagittal section of the left upper quadrant. There is a large pancreatic cyst showing internal echoes consistent with blood, P.D. catheter passed under US guidance having numerous holes seen insitu. Film (b) shows axial image of the left upper abdomen, after resolution of the pseudocyst, with a drain tube insitu (arrow) adjacent to the pancreatic tail.

cavity had collapsed, the tube was capped and left in place for 1-2 days after which, if no pain, fever or fluid accumulation occurred, the catheter was removed. If a post-procedure US scan did not show adequate decompression or a second cavity was seen, an additional catheter was placed. Catheter manipulation (i.e., change of catheter) was performed if there was clinical evidence of catheter clogging or if injection of the contrast material into the cavity showed that a single catheter had not adequately drained a large cavity.

RESULTS

The size of pancreatic pseudocysts ranged from 6.0 to 24.0 cm. In 7 patients, it was simple cyst while in 20 patient hemorrhagic fluid was found. Seventeen patients had infected cyst. In 9 patients there was history of trauma, in 19 patients there were stones in biliary tree, 3 patients had biliary ascariasis, while 5 patients had history of undergoing ERCP. One patients was alcoholic, no cause found in 7 patients

The tubes were kept for drainage from 2 weeks to 11 weeks. The amount of fluid aspirated varied from 750-ml to 8,800-ml. Transient hemorrhage was noted in 24 cases, mainly in those who came with the history of trauma Tube blockages were cleared with irrigation, using 20-ml normal saline mixed with injection gentamicin or with 0.35-G guide wire. Adult P.D. catheter 12 F was used in 12 cases and pediatric P.D. catheter 10 F was used in 32 cases.

Spontaneous dislodgment of catheter occurred in 04 patients. In one patient, 5 P.D. catheters were passed because of multiple cysts, spontaneous dislodgment, and re-accumulation after few days. Four out of nine patients who came with trauma required more than one tubes and six required blood transfusions.

Complete recovery took place in 13 – 70 days with a hospitalization period ranging from 1 day to 4 weeks depending upon the etiology. Successful drainage was seen in 37 (84%) patients whereas 07 patients did not improve and fluid re-accumulated due to which they finally underwent open drainage and lavage. Three patients died due to complications of open surgery

DISCUSSION

Percutaneous drainage has become an acceptable treatment of pancreatic pseudocysts, having as high as a 90% cure rate reported in some series[11,12]. Contraindications to percutaneous catheter drainage include the presence of pancreatic necrosis or a solid non-drainable pancreatic mass, lack of safe access route, and active pseudocyst hemorrhage[11]. Abdominal fluid collections complicated with pancreatitis are frequently multi-locular or multi-septated, extensive and poorly defined. They may be associated with fistulae and necrotic tissue[4,6]. Percutaneous drainage of infected peri-pancreatic fluid collections is one of the formidable challenges being faced by the interventional radiologist. Other important factors include precise anatomic definition and localization of the fluid collections, a safe percutaneous access route, use of appropriate catheters and attentive post-procedural management of the catheters. It is believed that they can be accomplished with ultrasound in most patients.

Accurate localization of the collections is critical for the diagnosis as well as for planning catheter placement. Fluid collections could be located in areas remote from the pancreas, including the pelvis, para-colic gutters and mesentery, even the suprapubic region. Therefore, it is important to scan the entire abdomen and pelvis. Multiple collections are common, and they may be contiguous to or remote from one another. Identification of a window in the peritoneum beneath the anterior abdominal wall, for the site of insertion and placement of the catheter close to the pancreatic tail, under true real-time guidance, is best possible with US. Color Doppler mapping of the pseudocyst and deciding about the areas of insertion before puncture, also provides the required confidence. Fine needle insertion into the cyst must be done before the insertion of the drain tube.

Repeated ultrasound or C.T. scanning is frequently required to follow-up patients with infected pancreatic fluid collections. The follow-up scans may indicate the need to alter therapy (i.e., use of more or larger catheters, catheter re-positioning, or surgery). Altimeter and Alexander[14] emphasize that early diagnosis and early percutaneous drainage reduce mortality. Our patients were cured and significant temporary improvement was achieved, even in all the seven patients who ultimately underwent surgery. A combined approach of percutaneous drainage and surgery is sometimes essential. Even if percutaneous drainage is not curative, a beneficial temporary effect should be achieved in almost all patients[4,6].

Common causes of failure of catheter drainage are incomplete evacuation of fluid collection because of unrecognized loculation, undetected and undrained remote collections and subsequent development of unrecognized new collections[15]. The use of pre-drainage C.T. and C.T. performed within 24-48 hours after catheter drainage can avoid such problems. If the patients respond to treatment, no additional scans are needed until catheter removal is planned or unless new symptoms or signs (pain, fever, rising white blood cell count) develop.

Catheter drainage time in the previously reported series spanned, on an average, about 15 days (range 2 days to

01 month) for infected fluid collections or pseudocysts and 20 days (range 7-41 days) for pancreatic abscesses [5,6,7,15]. Catheters were capped prior to their removal, and the patients were studied with C.T. within two to seven days to detect any evidence of fluid reaccumulation. The above-mentioned technique has been described previously by Torres et al. and van Sonnenberg et al.[5,6] and is believed to be important, since fluid reaccumulation after catheter removal would likely become infected, and thus, lead to abscess formation. In previous reports, the incidence of fluid re-accumulation after catheter removal was 9%[4]. In our study, we used relatively small-bore catheters but they were drain tubes kept from 13 upto 70 days. Since the tubes had numerous small holes, these were less frequently blocked by necrotic material, which could not easily enter, and the fluid component kept on draining for a longer period / probably took a longer time to resolve. No catheter kinked or broke down. Tube stiffness caused slight discomfort to some patients but it was better secured to skin by a small ball at the tail end of the catheter. This tube is easy to pass by a small skin nick and deep incision, that is required for a chest tube, can be avoided. This tube doesn't roll over on the trocar, which might happen with a chest tube while insertion through abdominal muscles without incision in the muscles. Simple trocar technique makes it an ideal tube to be passed under real time guidance, as it can be seen throughout the procedure.

Percutaneous management of complicated pancreatitis involves substantial time, effort and cost. Catheter exchange is more common in such cases than in other types of abscesses. In addition, follow-up US/C.T. examinations (not performed for most abscesses in other locations) are frequent. The results of percutaneous management of complicated pancreatitis, while not as good as percutaneous management of other abscesses, compare favorably with surgery, a cure rate of almost 84% and temporary beneficial effects in patients who were not cured, make it the method of choice in the management of complicated pancreatitis, providing either a temporary effect until surgery can be performed or a cure.

Interventional radiology procedures benefit surgeons by expediting accurate diagnosis, determining the need for operation, facilitating surgery by draining abscesses and improving the patient's condition and obviating the need for general anesthesia and major surgery in high-risk or post-operative patients.

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SURGICAL AUDIT USING POSSUM SCORING SYSTEM

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ABSTRACT

OBJECTIVES

The objectives of this study was, to describe the efficacy of a simple scoring system (possum) for surgical. audit system.

DESIGN This was a descriptive study.

PLACE AND DURATION OF STUDY

Surgical unit-I, Holy Family Hospital, Rawalpindi Pakistan from April, 2001 to October, 2001.

PATIENTS AND METHODS

A total of 500 cases were studied. The physiological score was calculated at the time of admission whereas operative severity score at the time of discharge. By using logistic regression analysis the mortality and morbidity rates were predicted and the outcome measured. The O: E ratio and sensitivity and specificity calculated. Significance assessed by Chi square analysis.

RESULTS

The scoring system studied, provided the assessments for mortality and morbidity, which did not significantly differ from observed rates ($p < 0.001$). The POSSUM score provided a reasonably effective means of achieving comparison among the two-thirds of patients who underwent surgical procedure. All the data required was readily available from the patient's routine assessment, observations and investigations in all clinical settings.

CONCLUSION

POSSUM provides a good assessment of the risk of mortality and morbidity in general surgical patients. This score can be effectively applied in all surgical setups in Pakistan. We stress that POSSUM should be used as an adjunct to surgical audit.

KEY WORDS: - POSSUM, Preoperative scoring, Surgical audit, Preoperative risk assessment.

INTRODUCTION

Risk assessment is a fundamental component of surgical practice. It is important for two main reasons. Firstly, the appropriate selection of patients for surgery depends on the balance between the benefit likely to be derived from the surgical procedure and the risk posed by that procedure. Secondly, an assessment of risk will guide the surgeon and the anesthetist as to the degree of supportive care that will be necessary in the postoperative period.

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Risk factors relate to age, co morbid disease, nature of the operation, surgeon and the patient's medication[1, 2]. Risk scoring is currently of particular importance in surgical practice. A number of scores that aim to predict outcome in specific conditions are already widely used such as the Ranson score for pancreatitis, the Child's classification of liver failure or burn index etc. A more general scoring system that would be applicable to all surgical patients would provide a useful tool to simplify comparative audit and research.

The preoperative scoring systems aim to predict the risk to particular patient who is to undergo an operation. The Royal College of Surgeons of England has defined audit

as the "systemic appraisal of the implementation and outcome of any process in the context of prescribed targets and standards"[2]. The Physiological and Operative Severity Score for enUmeration of Mortality and Morbidity (POSSUM) has been devised specifically for prediction in general surgical patients.

In our country the health care facilities are not as good as in developed countries. Also there is no developed system for surgical audit and application of the results of audit to improve the quality of surgical care. So we need a simple, easy and quick scoring system which has not such complex variables which could not be maintained in our routine settings because of both overload of the patients on small number of hospitals in cities, poor socio-economic status of the patients and poor diagnostic facilities in most of the hospitals.

The incidence of post-operative complications in our country is much higher than in developed countries because of lack of hygiene, poor quality control on medicines and instruments used in our setup, inadequate follow-up and poor literacy rate. Because of these reasons the importance and need of surgical scoring is increased manifolds in Pakistan in order to improve surgical outcome and to improve the quality of surgical care.

The purpose of this study was to describe the efficacy of a simple score that can be applied on all general surgical patients for surgical audit.

PATIENTS AND METHODS

This study was conducted in Surgical Unit I of the Department of Surgery, Holy Family Hospital, Rawalpindi, Pakistan from April, 2001 to October, 2001. 880 patients admitted either through Emergency Department or Out Patient Department (OPD) were selected, out of which 720 patients scored using the POSSUM system. 220 patients did not come for follow-up, discharged immediately or missed from study. A total of 500 patients studied during this time. All underwent an operation and needed inpatient care of at least 24 hours after operation and had at least one-month postoperative follow-up. The patients who underwent surgery for trauma (150 patients) were also excluded from study[3].

The physiological score contains twelve variables and scores were given according to severity of condition. This score was used at the time of operation. The minimum score for a patient was 12 and maximum was 96 (Table: I). The operative severity score contains six variables. This score was used at the time of discharge. The minimum score was 6 and maximum was 48 (Table: II) [3]. The complications recorded on separate sheet during one-month postoperative period either in ward or in follow up clinic of OPD as follows [3].

TABLE-I THE PHYSIOLOGICAL SCORE[1,3]

	1	2	4	8
Age (yrs.)	≤ 60	61-70	≥71	
Cardiac Sign Chest radiograph	No failure	Digoxin, antianginal, hypertensive therapy	Peripheral oedema, warfarin therapy Borderline cardiomegaly	Raised jugular venous pressure Cardiomegaly
Respiratory history Chest radiograph	No dyspnoea	Dyspnoea on exertion Mild Obstructive airway disease	Limiting dyspnoea (one flight) Moderate Obstructive airway disease	Dyspnoea at rest (rate ≥ 30/min) Fibrosis or consolidation
Blood pressure (systolic/mmHg)	110-130	131-170 100-109	≥ 170 90 – 99	≤ 89
Pulse (beats/min)	50-80	81-100 or 40-49	101-120	≥ 121 or ≤ 39
Glasgow coma score	15	12-14	9-11	≤8
Hemoglobin (g/100ml)	13-16	11.5-12.9 16.1-17.0	10.0-11.4 17.1-18.0	≤9. 9 ≥18.1
White cell count ($x10^{12}$/l)	4-10	10.1-20.0 3.1-4.0	≥ 20.1 ≤3. 0	
Urea (mmol/l)	≤ 7.5	7. 6 –10. 0	10. 1 –15. 0	≥ 15.1
Sodium (mmol/l)	≥ 136	131-135	126-130	≤ 125
Potassium (mmol/l)	3.5 5.0	3. 2- 3.4 or 5.1 – 5. 3	2.9 – 3.1 or 5.4 – 5.9	≤ 2.8 or ≥ 6.0
Electrocardiogram	Normal		Atrial fibrillation (rate 60–90)	≥5ectopics/minQ, ST/T changes

TABLE: II THE OPERATIVE SEVERITY SCORE[1,3]

	1	2	4	8
Operative severity	Minor	Moderate	Major	Major +
Multiple procedures	1		2	>2
Total blood loss (ml)	≤ 100	101 – 500	501 – 999	≥ 1000
Peritoneal soiling	None	Minor (serous fluid)	Local pus	Free bowel content, pus or blood
Presence of malignancy	None	Primary only	Nodal metastases	Distant metastases
Mode of surgery	Elective		Emergency resuscitation of > 2h possible or Operation < 24h after admission	Emergency (immediate) surgery in < 2h

Minor surgery: ***minor surgery includes suprapubic cystostomy, lipoma and cyst excision, hernioplasty, etc***
Moderate surgery: ***includes appendectomy, cholecystectomy, mastectomy, TURP etc.***
Major surgery: ***bowel resection, cholecystectomy with choledocotomy, any laprotomy, peripheral vascular procedures, major amputations***
Major+surgery: ***Any aortic procedure, abdominoperineal resection, pancreatic or liver resection, esophagogastrectomy etc*** [1,3].

1. Hemorrhage (Wound, Deep, Other).
2. Infection (Chest, Wound, Urinary tract, Deep, Septicemia, Pyrexia of unknown origin, others).
3. Wound dehiscence (Superficial, Deep).
4. Anastomotic leak.
5. Thrombosis (Deep vein thrombosis, Pulmonary embolus, Other, Cerebrovascular accident, Myocardial infarct).
6. Cardiac failure.

7. Impaired renal function.
8. Hypotension
9. Respiratory failure.
10. Any other complication.
11. Death.

The definitions used for various types of complications are as follows[3].
Wound hemorrhage Local hematoma requiring evacuation.
Deep hemorrhage Postoperative bleeding requiring re exploration.
Chest infection Production of purulent sputum with bacterial culture, pyrexia, consolidation on x-ray.
Wound infection Wound cellulitis or discharge of purulent exudate.
Urinary infection Presence of $>10^5$. Bacteria / ml or WBCs in urine in previously clear urine.
Deep Infection The presence of an intra-abdominal collection confirmed clinically or radiologically.
Septicaemia Positive blood culture.
Pyrexia of unknown origin Any temperature above 37°C for > 24hrs occurring after original pyrexia following surgery has settled for which no obvious cause could be found.
Wound dehiscence Superficial or deep wound breakdown.
Deep Vein Thrombosis & pulmonary embolus When suspected confirmed by investigations.
Cardiac failure Symptoms & signs of left ventricular failure or congestive cardiac failure.
Impaired renal function: Increase in urea > 5mmol / l from preoperative level.
Hypotension A fall in systolic blood pressure below 90mmHg for > 2hrs.
Respiratory failure Respiratory difficulty requiring emergency ventilation.
Anastomotic leak Discharge of bowel contents via the drain, wound or abnormal orifice.

All patients had blood samples taken for checking:
- Urea and electrolyte levels
- Hemoglobin concentration
- White cell count
- Electrocardiogram
- Chest radiographs

The statistically significant equations were yield from logistic regression analysis both for mortality and morbidity[3].

For mortality it was:

R/1-R = -7.04 + (0.13 x physiological score) + (0.16 x operative severity score).

For morbidity it was:
R/1-R = - 5.91 + (0.16 x physiological score) + (0.19 x operative severity score).
Significance was assessed by using Chi square (X^2) test[3].

Finally on the basis of outcome of the study the O: E ratio was calculated by assessing the percentage difference between observed and expected outcome. 1.00 indicates performance as expected, <1.00 better than expected and >1.00 worse than expected[4].

RESULTS

During the study period 500 patients underwent surgery. Majority were low risk inpatient procedures like appendicectomies, hernia repairs and other such procedures. These procedures formed about 57% of workload. Distribution of patients according to physiological score (Table.III) and operative severity score (Table.IV), showed that majority of patients were between 12-24 in physiological score and 6-16 operative severity score. It showed that majority of patients had very small risk of postoperative complications. The observed and expected rates of mortality and morbidity (Table V) and O: E ratio calculated. The outcome was slightly worse than expected. However there was no significant difference between observed and expected mortality and morbidity. Majority of patients were males (60.8% vs. 39.2%).

TABLE: III DISTRIBUTION OF PATIENTS ACCORDING TO PHYSIOLOGICAL SCORE

PHYSIOLOGICAL SCORE	NUMBER OF PATIENTS	PERCENTAGE
12	26	5.2
13	122	24.4
14	74	14.8
15	66	13.2
16	46	9.2
17	42	8.4
18	16	3.2
19	16	3.2
20	18	3.6
21	18	3.6
22	10	2.0
23	10	2.0
24	6	1.2
26	6	1.2
27	6	1.2
29	6	1.2
30	4	.8
32	4	.8
40	2	.4
55	2	.4
Total	500	100.0

TABLE: IV DISTRIBUTION OF PATIENTS ACCORDING TO OPERATIVE SEVERITY SCORE

OPERATIVE SEVERITY SCORE	NUMBER OF PATIENTS	PERCENTAGE
6	72	14.4
7	58	11.6
8	26	5.2
9	48	9.6
10	34	6.8
11	142	28.4
12	18	3.6
13	18	3.6
14	14	2.8
15	4	.8
16	14	2.8
17	8	1.6
18	2	.4
20	8	1.6
24	22	4.4
26	4	.8
27	4	.8
29	2	.4
34	2	.4
Total	500	100.0

TABLE: V OBSERVED AND EXPECTED RATES OF MORTALITY AND MORBIDITY

	Total operations	Observed	(%)	Expected	(%)	O: E ratio
Mortality	500	22	4.4	21	4.2	1.04
Morbidity	500	138	27.6	125	25	1.10

Relation of postoperative stay with increasing physiological and operative severity score (Table. VI) showed that postoperative stay increases with increasing physiological and operative severity score. The minimum postoperative stay was one day and maximum was sixty-six days, and mean postoperative stay was 5.04 days. Majority of complications were wound infections (18%) followed by postoperative hypotension (9%). Rate of wound infection in clean surgeries was 3.2%, in clean contaminated was 20.6% and in contaminated was 37.5%.

The sensitivity and specificity of POSSUM for mortality (Sensitivity = 90.5%, Specificity = 100%) and for morbidity (Sensitivity = 95.4%, Specificity = 100%) was calculated. The significance was assessed by Chi square test ($c2 = 60.358$, $df = 1$, $P < 0.001$).

DISCUSSION

Scoring would seem to be the best method available for

TABLE: VI RELATION OF POSTOPERATIVE STAY (DAYS) OF PATIENTS IN HOSPITAL WITH INCREASING PHYSIOLOGICAL AND OPERATIVE SEVERITY SCORE.

POSTOPERATIVE STAY (DAYS)	PHYSIOLOGICAL SCORE	OPERATIVE SEVERITY SCORE
1	12	6
2	13	7
3	14	8
4	15	9
5	16	10
6	17	11
8	19	13
9	20	14
10	21	15
12	23	17
13	24	18
15	26	20
18	27	24
20	28	26
23	30	29
25	32	31
30	40	33
66	55	34

assessing the risk of mortality and morbidity but existing scoring systems do not completely meet our expectations as being readily applicable to audit. One worrying feature of scores that estimate the risk of mortality and morbidity preoperatively or in the immediate perioperative stage was that they could be used to decide on the continuance of resuscitative measures. Our intension was to find the efficacy of a score to aid audit and we, therefore, devised a method in which the full score and the numerical estimate of risk of mortality and morbidity was not available until outcome was known. In this way we hoped to minimize the risk of inappropriate score usage[3,5,6,7].

The physiological score variables and individual factor weightings were devised by a linear multivariant discriminant technique, which has been recommended as the statistical method that best simulate the formation of clinical judgment. The information from this analysis was combined with both linear discriminant and logistic regression analysis to produce the present physiological and operative severity score [3].

We attempted to find out the efficacy of a scoring system applicable to all general surgical patients in all surgical settings. The present scores were developed from the clinically observed mortality and morbidity rates rather than fitting the score to the data by the application of weighting tables[7]. The present score is both quick and easy to use. The clinical features scored are all assessed as a part of the usual admitting clinical history and

examination and all the biochemical, radiological and cardiological investigations are readily available in all clinical settings. Both scores can be gauged within 5 minutes by all grades of staff as compared to three minutes by Copeland G P et al[3]. Complications were assessed by observations. While this means that some sub clinical complications may have been missed. We felt that these would be unlikely to be of clinical importance especially as we had adopted a 1-month follow up period as in other studies [3,4,8].

To be of use in surgical audit the scoring system must produce a valid assessment of the risk of mortality and morbidity. The present scoring system achieves these aims by comparing the actual rates versus predicted rates for these two parameters. Thus for the most part, scoring system appears to cover the range of general surgical procedures, both elective and emergency and allows prediction of both mortality and morbidity. The efficacy of POSSUM to predict the postoperative outcome is as good in this study ($P < 0.001$) as in previous studies [3,4,5,6,8].

It may be more important and potentially more educational to concentrate discussion of mortality and morbidity on patients falling below 90%[3]. Equally profitable discussion could be extended to surgical assessment, for example the uncomplicated and surviving patients falling above 50% [3], where potential improvements in policy and management may be more apparent. Indeed comparison of physiological and operative severity scores of patients undergoing similar procedures in different units may be of benefit by highlighting different operative and management practices and also differing modes of presentation. Comparative audit should be encouraged but such studies should include measurement of risk-adjusted outcome rather than of crude mortality and morbidity data [4,8,9,10].

The present study also proves that the postoperative stay of patients is directly proportional to their physiological status. The results are same as in Menon K V et al [11]. Here is important that in economic point of view increasing postoperative stay in hospital not only increase the number of complications especially infections but also increase the total cost of treatment which is of course not acceptable in developing countries like Pakistan.

An accurate scoring system can have many uses. At the initial assessment, a risk score may be of value in triage and planning treatment, such as whether and which surgical option may be appropriate and where the patient would best be managed (e.g. general ward, high dependency or intensive care unit). By enabling satisfaction of patients on the basis of an objective measure of the severity of illness, risk scores can be used to compare the outcomes of alike patient groups [4,8].

An assessment of the difference between the predicted and the actual rates of adverse outcome can be made, so permitting the comparative audit and an assessment of the quality of care. In view of the current vogue for providing the public with a ranking of hospitals based on information such as death rate and length of stay it is important for accuracy to ensure that these data are adjusted for severity of illness and operation.

Other applications of these comparable data include research, the evaluation of new therapeutic strategies and the assessment of resource utilization and allocation. It was never intended to effect the decision to operate, a decision that must always remain clinical. It could theoretically assist in the direction of resuscitative efforts[12]. The rate of postoperative infection is higher than the international rate likely because of poor sterilization techniques and lack of personal hygiene in patients and poor quality control on drugs in Pakistan [1,4,13].

Most scoring systems have been devised especially for use in intensive care[7,14,15], where general surgical patients are in the minority. A single scoring system applicable to all general surgical patients outside the intensive care unit would be an ideal means of facilitating comparative surgical audit [3,7].

The POSSUM score provides a reasonably effective means of achieving comparison among the two-thirds of general surgical patients who undergo an operation during their hospital stay. For a score to be generally acceptable and accurately recorded, all the data required would have to be readily available from the patient's routine assessment, observations and investigations as also proved by previous studies [3,5,6,7,10].

CONCLUSION

Although POSSUM cannot replace highly specific scoring systems for individual disease states or the intensive care patients, it does appear to provide a good assessment of the risk of mortality and morbidity in the general surgical patients. This score can be effectively applied in all surgical setups in Pakistan. We stress that POSSUM should be used as an adjunct to surgical audit.

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HISTOPATHOLOGICAL CORRELATION OF ENDOMETRIAL CURETTAGE WITH ABNORMAL UTERINE BLEEDING PATTERN

ANWAR M., NAQVI SQH, KEHAR S IMDAD AND JAMAL Q.

ABSTRACT

OBJECTIVE: To determine the histopathological pattern of lesions associated with abnormal uterine bleeding in different age groups.

DESIGN: A cross sectional study of 500 randomly selected specimens.

PLACE: Department of Pathology, Basic Medical Sciences Institute, Jinnah Post Graduate Medical Center, Karachi.

DURATION: January 2002 to December 2003.

METHODS:
500 formalin fixed paraffin embedded blocks were retrieved and 5mm thick sections were cut and stained with haemotoxylin and eosin, periodic acid-schiff, trichrome & reticulin. The other additional information collected was age, pattern of bleeding, and clinical findings.

RESULTS:
Of 500 specimens' examined, endometrial pathology was detected in 164 cases. The most frequent histopathological change was endometrial hyperplasia observed in 103 patients (62.8%). 26 (15.8%) out of 164 were associated with malignant changes and the maximum number of cases i.e. 64 were found in 31-40 years age group.

CONCLUSION:
The current study emphasizes the necessity of D & C before the age of 40 years in patients presenting with abnormal uterine bleeding.

KEY WORDS: - Abnormal uterine bleeding, Histopathological pattern.

INTRODUCTION

Abnormal uterine bleeding is a common gynaecological complain. About 60% of patients, visiting a physician, seek treatment for menstrual problems[1]. The most probable etiology of abnormal uterine bleeding relates to the patients reproductive age, as does the likelihood of serious endometrial pathology. The specific diagnostic approach depends on whether the patient is premenopausal, peri-menopausal or postmenopausal[2].

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Abnormal menstrual bleeding can be divided into those associated with ovulatory cycle and those that are due to anovulation. The term dysfunctional uterine bleeding is defined as excessive, prolonged, unpatterned bleeding from the endometrium that is unrelated to structural or systemic disease[3]. Endometrial cancer is rare in women under the age of 35. Risk factors such as obesity and chronic anovulation increase the risk in younger women. Perimenopausal and postmenopausal women and women who are younger than 35 years of age and have a history of chronic anovulation or obesity are considered as high risk, and endometrial biopsy or endovaginal ultrasound is required to rule out endometrial hyperplasia or cancer. Some investigators are firm in the more

conservative recommendation that any women over 35 years of age with abnormal uterine bleeding should undergo endometrial evaluation[4].

Endometrial sampling is the main stay of diagnostic studies for abnormal uterine bleeding. It not only gives a glimpse of patients hormonal status, but also is important in eliminating the possibility of the presence of a premalignant or malignant disease. Endometrial biopsies are rarely necessary in adolescent. In post menopausal patients, it is desirable to perform enometrial biopsies in all patients before the institution of hormone replacement therapy[5].

Although a number of studies of endometrial biopsies have been done but most of them are related to post menopausal bleeding, only a few studies have been performed in relation to other types of abnormal uterine bleeding[6]. Focussing on these issues, this study has been designed to observe histopathological changes associated with various types of abnormal uterine bleeding pattern.

PATIENTS AND METHODS

During the period under study a total of 2520 cases of dilatation and curettage (D & C) were received from Gynaecoclogy and Obstetrics Department of Jinnah Postgraduate Medical Centre by Department of Pathology, Basic Medical Sciences Institute, Jinnah Postgraduate Medical Centre

These cases of D&C included:

1. D&C for abnormal uterine bleeding
2. D&C for retained products of conception (RPOC's).
3. D&C for diagnosis of infertility.
4. D&C without any clinical information

All the cases of D & C for abnormal uterine bleeding i.e. 500 were included for the study. The representative paraffin embedded blocks of endometrial biopsies with abnormal uterine bleeding cases were retrieved. Haematoxylin & eosin (H&E) staining of all cases was done on 5µm sections. The slides were reviewed under scanner (10x4), low power (10x10) and high power (10x40) lenses. Extra slide were also prepared for special stains such as Periodic acid-Shchiff, trichrome and reticulin The results were maintained in the form of database.

RESULTS

In the current study of endometrial curettage from 500 patients with abnormal uterine bleeding. The commonest presenting complaint was menorrhagia seen (212 case). There were 179 patients in secretory phase (35.8%) and 138 patients in proliferative phase (27.6%). Table I. The most frequent histopathological change was endometrial hyperplasia seen in 103 patients (20.6%).

There were 27 cases of postmenopausal bleeding and out of these,1 16 cases were (59%) associated with malignancy viz. (a) 13 cases (48%) of adenocarcinoma (b) 3 cases (11%) of squamous cell carcinoma. Remaining 11 cases (17%) were associated with benign lesion.

TABLE-I CORRELATION OF PATHOLOGICAL LESION WITH PATTERN OF BLEEDING IN 500 CASES

Histopathological Findings	IMB	Menorrhagia	Metrorrhagia	Polymenorrhagia	Polymenorrhea	PMB*	Total	%
Endometritis	2	0	0	3	0	0	5	1
Adenocarcinoma	1	5	1	1	0	13	21	4.2
Adenomatous Hyperplasia	0	16	8	9	0	3	36	7.2
Cystic Hyperplasia	5	21	8	28	0	3	65	13
Decidual change	1	2	0	0	0	0	3	0.6
Endometrial polyp	2	11	7	5	0	2	27	5.4
Menstrual	2	1	3	1	0	0	7	1.4
Proliferative	10	69	20	37	2	0	138	27.6
Secretory	34	80	32	29	4	0	179	35.8
Atrophic	0	0	0	1	0	2	3	0.6
Atypical Hypderplasia	0	1	0	1	0	0	2	0.4
Irregular Shedding	0	5	0	3	0	0	8	1.6
Tuberculosis	0	0	0	0	0	1	1	0.2
Metastatic SCC**	0	0	1	0	0	3	4	0.8
Endometrial SS***	0	1	0	0	0	0	1	0.2
Total	**57**	**212**	**80**	**118**	**6**	**27**	**500**	**100**

IMB-Intermenstrual Bleeding
PMB - Post menopausal Bleeding*
*SSC** - Squamous Cell Carcinoma*
*SS*** - Stromal Sarcoma*

Patients divided into 6 groups according to the pattern of abnormal uterine bleeding i.e. menorrhagia, metrorrhagia, polymenorrhagia, polymenorrhea, intermenstrual bleeding and post menopausal bleeding. 212 cases (42.4%) presented with menorrhagia, 118 cases (23.6%) with polymenorrhagia, 57 cases (11.4%) of intermenstrual bleeding, 80 cases (16%) with metrorrhagia, 27 cases (5.4%) with post menopausal bleeding.

According to age groups the maximum number of cases were found between 31 – 40 years. There were 21 cases of adenocarcinoma with maximum number between ages of 41 – 60 years with a steep rise after the age of 41 years and steep fall after the age of 60 years (tables II,III). Adenomatous hyperplasia without atypia was seen in 36 cases and adenomatous hyperplasia with atypia seen in 2 cases. Sixty five cases of cystic hyperplasia fallowed the same pattern.

Postmenopausal bleeding was more commonly associated with malignancies i.e. 13 out of 21 cases of adenocarcinoma and 3 out of 4 cases of squamous cell carcinoma whereas hyperplasia presented with menorrhagia in 37 cases and polymenorrhagia in 36 cases out of 103 total cases. The commonest pattern of bleeding was menorrhagia and the commonest histopathological lesion was endometrial hyperplasia i.e. 103 cases out of 164 cases. (Table IV).

Analysis of endometrial histology in different clinical types of uterine bleeding revealed diagnostic yield, 54 out of 212 cases (25.5%) in menorrhagia, 45 out of 118 (38%) in polymenorrhagia, 20 out of 80 cases (25%) in metrorrhagia, 20 cases out of 57 (43.3%) in intermenstrual bleeding, 25 out of 27 cases (92.5%) in postmenopausal bleeding.

TABLE-II DISTRIBUTION OF 500 CASES OF ABNORMAL UTERINE BLEEDING IN CORRELATION WITH AGE OF PATIENT

Pattern of bleeding	Age (Years)					Total	%
	20 – 30	31 – 40	41 – 50	51 – 60	> 60		
Intermenstrual Bleeding	18	28	7	4	0	57	11.4
Menorrhagia	43	110	51	8	0	212	42.4
Metrorrhagia	26	33	19	2	0	80	16.0
Polymenorrhagia	20	50	20	12	16	118	23.6
Polymenorrhea	4	2	0	0	0	6	1.2
Postmenopausal Bleeding	0	0	7	14	6	27	5.4
Total	**111**	**223**	**104**	**40**	**22**	**500**	**100**

TABLE-III POSITIVE CASES WITH INTRA UTERINE PATHOLOGY IN RELATION TO AGE OF THE PATIENT

Histopathologic Diagnosis	Age (Years)					Total	%
	20 – 30	31 – 40	41 – 50	51 – 60	> 60		
Adenocarcinoma	0	4	6	6	5	21	13
Metastatic SSC*	0	0	1	3	0	4	2.4
Endometrial Polyp	9	9	6	3	0	27	16.4
Adenomatous Hyperplasia	10	15	5	6	0	36	22
Cystic Hyperplasia	10	36	16	3	0	65	39.6
Atypical Hyperplasia	0	2	0	0	0	2	1.2
Atrophic	0	0	0	2	0	3	1.8
Endometritis	1	3	1	0	1	5	3
Endometrial SS**	1	0	0	0	0	1	0.6
Total	**31**	**69**	**35**	**23**	**6**	**164**	**100**

SCC - Squamous cell Carcinoma SS** - Stromal Sarcoma*

TABLE-IV **POSITIVE CASES WITH INTRA UTERINE PATHOLOGY IN RELATION TO DIFFERENT PATTERN OF ABNORMAL BLEEDING**

Histopathologic Diagnosis	Menorrhagia	Metrorrhagia	IMB	Polymenorrhagia	PMB	Total	%
Adenocarcinoma	5	1	1	1	13	21	12.8
Metastatic SS*	0	1	0	0	3	4	2.4
Endometrial Polyp	12	7	2	3	3	27	16.4
Adenomatous Hyperplasia	16	4	8	8	0	36	22
Cystic Hyperplasia	18	5	9	27	6	65	39.6
Atypical Hyperplasia	1	0	0	1	0	2	1.2
Atrophic	0	2	0	1	0	3	1.8
Endometritis	2	0	0	3	0	5	3.0
Endometrial SS**	0	0	0	1	0	1	0.6
Total	**54**	**20**	**20**	**45**	**25**	**164**	**100**

SCC - Squamous cell Carcinoma* *SS** - Stromal Sarcoma*

Out of 500 cases, 4 cases of invasive squamous cell carcinoma (0.8%), one case of endometrial stromal sarcoma (0.2%) and 21 cases of endometrial adenocarcinoma (4.2%) were found. It was observed that in the present study endometrial pathology was detected in significant number of cases that is 164(32.8 %) cases out of 500.

DISCUSSION

In the present study endometrial pathology was detected in a significant number of cases that is 164 (32.8%) out of 500 cases, which provided diagnostic explanation for patients' complaint. In this case series, frequency of adenocarcinoma is 4.2% contrary to the previous reported prevalence 0.44%[6] and 1.35[7]. The high number of adenocarcinoma as compared to other studies could be due to prolonged, unopposed stimulation of estrogen as in polycystic ovarian diseases and other ovarian tumors (granulosa cell tumor, thecoma, sertoli leydig cell tumor), which lead to development of hyperplasia and adenocarcinoma. The under lying pathogenesis / concomitant tumour of the ovary could not be searched for.

The maximum number of cases of endometrial adenocarcinoma were in the age group between 41 – 60 years. Although endometrial adenocarcinoma has been reported rarely before the age of 40 years. We have found 4 cases in the 4th decade. The benign cases like polyps, hyperplasia and endometritis constituting 58.5 % of all the positive cases, were found under 40 years of age. In our society, the most important problem is the reliability in reporting correct age. Our women either not aware of their exact age due to illiteracy or tend to hide their age due to some social and cultural reasons. Hence, the possibility of obtaining incorrect age cannot be ruled out.

No explanation could be given for abnormal bleeding in patients with secretory (35.8%) and proliferative endometrium (27.6%). Some of these could have been due to abnormal hormonal influences. These could not be further sorted out, as there was need of careful correlation of endometrial histology with basal body temperature and the hormone status, which were not done as they were mostly out door patients.

CONCLUSION

The commonest bleeding patterns among abnormal uterine bleeding were menorrhagia and polymenorrhagia. The commonest lesion detected was Hyperplasia. The frequency of malignancy among uterine bleeding was 5.2%.

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AN EXPERIENCE OF PERCUTANEOUS NEPHROLITHOTOMY

QAZI FASIUDDIN, MUBASHER .H.TURI, SHAHZAD ALI AND KHALID SAEED

ABSTRACT

Perculaneous nephrolithotomy (PCNL) as monetherapy and especially in combination with extracorporeal lithotripsy (ESWL) has almost diminished the need for open surgery and offers an excellent modality for large renal calculi with very little morbidity. The objective of this study was to share our initial experience of first fifty cases. The study was conducted at Department of Urology, Jinnah Postgraduate Medical Center Karachi from August 2002 to March 2004,

Fifty adult patients with mean age 35±15 years, (34 male and 16 females) having stone size >2.5cm causing some hydronephrosis were included in this study. General anesthesia was given in all cases and after insertion of retrograde ureteric catheter, access to a suitable calyx was gained using fluoroscopic antegrade approach. In 32 (72%) patients stones were completely removed and in 12 (27%) patients ESWL was done for residual fragments. There were three conversions to open two due to excessive bleeding and one because of tract access failure. Mean operating time was 1 hour 25 minutes and average hospital stay was 3 days. Minimal complications occurred i.e. urosepsis in 3 (6%), urinary fistula wound infection and ureteric stone in one each

KEY WORDS: - Percutaneous nephrolithotomy (PCNL), Renal calculi, Extra corporeal shock wave lithotripsy (ESWL)

INTRODUCTION

Nearly three decades back open surgery was the only option for all renal calculi but since the introduction of other minimally invasive techniques management of renal calculi has changed drastically. Now almost all the renal calculi can be treated with minimally invasive or non–invasive techniques i-e percutaneous nephrolithotomy (PCNL) and extra corporeal shockwave lithotripsy (ESWL). Smaller stones < than 2.5cm are managed with ESWL while for the bigger stones results of PCNL are better than ESWL[1,2]. For PCNL we are getting more and more options to break the stone with the electro-hydraulic, laser, ultrasonic lithotripsy and also pneumatic lithoclast lithotripsy. Similarly we can use rigid metallic dilator or balloon dilator to dilate percutaneous tract With such an advancing technology results of PCNL are becoming much better.

In initial days some anatomical abnormalities of kidney like some congenital anomalies were considered to be the relative contraindication for the PCNL but with the advancing technology PCNL is being done successfully even in pediatric urolithiasis, pelvic ectopic kidney, morbidly obese patients [3], caliceal diverticular calculi [4], upper pole calculi [5] with supracostal approach and lower pole calculi not removed with ESWL. Some centers are also practicing mini-percutaneous techniques with smaller nephrostomy port instead of standard 30 Fr nephrostomy sheath[6].

Type of postoperative nephrostomy drain and its size has also being under consideration to reduce postoperative pain and discomfort while in some centers tubeless PCNL is under practice in selected cases[7]. Bilateral simultaneous PCNL has also attempted with equal success rate. ESWL is reserved only for smaller calculi or as a adjuvant therapy to PCNL. For big stag horn stone sandwich therapy can be done as some time it is difficult to remove the stone with monotherapy. It's recommended for complete stone situation as in ESWL failure [8].

PCNL is more acceptable therapy to the patients than open surgery because of its different advantages like

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short hospital stay, very small postoperative scar mark, less postoperative pain, less need for blood transfusion, less incidence of per–operative hemorrhage leading to nephrectomy especially in cases of intrarenal pelvis, no incisional hernia, less incidence of wound infection.

In a country like Pakistan, facilities of PCNL are not available at every center. The centers where PCNL is being done, some of them are still in their learning curve period. Purpose of this study is to share our experience of PCNL and to discuss the selection criteria, limitation of the procedure, and utilization of different options available during the procedure in order to reduce the complications.

PATIENTS AND METHODS

Fifty (50) patients with mean age 35 years ±15 years were selected over a period of one year and eight months extending from August 2002 till March 2004. Of these thirty four were male and rest female. All of them were having renal stone size >2.5cm and with moderate hydronephrosis. Patients having smaller stones < 2.5cm, solitary kidney, ectopic or malrotated kidneys and with outflow obstruction were excluded. The base line urea level ranges between 25 to 55 mg% while serum creatinine between 0.8 to 1.5 mg %.

Urine DR and C/S were done in all the patients and they were made infection free before the procedure. Stone size, renal function and anatomy was assess by U/S KUB and IVU in all cases while retrograde study performed in two cases with suspected PUJO. Renal scan was also performed in these 2 patients. In all the selected cases kidneys were of normal anatomy, function, location and were not operated upon before. Stone distribution was right 28 and left 22.

General anesthesia was given in all cases. Fluoroscopic antegrade approach was adopted. With patient in lithotomy position an open ended 5 Fr ureteric catheter was passed and secured to a Foley catheter, allowing injection of contrast material to opacify and distend the collecting system. With patient in prone position access was gained to the collecting system via suitable calyx dilation of the tract over a .038-inch guide wire to 30 Fr allowed insertion of an amplatz sheath through which rigid nephroscope was passed.

Fragmentation of calculi was performed using pneumatic and U/S probe. Red rubber 16Fr catheter used in all cases as nephrostomy. Ureteric stent was utilized at the end of procedure. Nephrostomy tube taken out on first postoperative day after clamping for few hours and ureteric catheter few hours after that.

RESULTS

PCNL was performed on fifty patients out of whom thirty four were males and rest females. In 3 cases of failure, pyelolithotomy was done. Two were due to excessive bleeding and in one there was tract failure. Stone location and distribution with average stone clearance is given Table I. Mean operating time was one hour 25 minutes. Blood transfusion was required in five (10%) patients. Average hospital stay was three days. Stone clearances were defined by x-ray KUB and U/S KUB. Complications occurred in eighteen patients (table 2). Only in three patients two stage procedure was adopted utilizing the same tract. In twelve patients ESWL for significant residual stone burden was done. In four patients DJ stent was placed before ESWL for greater stone burden.

TABLE-I **LOCATION OF STONE VS AVERAGE STONE CLEARANCE.**

Stone Location	Pelvis only	Pelvis+one calyx	Pelvis+Two calyces	Pevis+three calyces
No.& % of patients	12(27.2%)	24(54.5%)	6(13.5%)	4(9%)
Average Stone clearance	100%	80%	>60%	>60%

TABLE-II **COMPLICATIONS.**

COMPLICATION	NUMBER OF PATIENTS	%
Excessive perop bleeding	4	8%
Tract access failure	1	2%
Urosepsis	3	6%
Viscera Injury	0	0%
Urinary Fistula	1	2%
Wound Infection	1	2%
Ureteric Stone	1	2%

DISCUSSION

The goal of surgical stone management is to achieve maximum stone clearance with least morbidity to the patient[9]. The advent of ESWL, as well as the continuing technical and technologic improvements in endourology, has enabled most renal stones to be treated in minimally invasive fashion. Four minimally invasive treatment modalities are available for the treatment of kidney

stones. These are ESWL, PCNL, retrograde ureterocscopic intrarenal surgery (RIRS) and laparoscopic stone surgery. ESWL has also been used in combination with PCNL (Sandwich Technique), as well as with ureteroscopic lithotripsy.

Open surgery is rarely required for stone management where facilities are present for endourological procedures In the era of ESWL, indications for PCNL are limited to four types of stone disease[10].

1. Urinary obstruction not caused by the stone itself.
2. Large volume stone (>3 cm, stone surface > 500 mm square)
3. Stones that cannot be positioned within the focus of shock wave apparatus.
4. Lower pole stones even under 2 to 3 cm range.

Stone free rate with PCNL is higher than ESWL[11]. Also PCNL may be the preferred choice for cystine stones due to the hardness and high recurrence rate[12]. PCNL may be less expensive than anatropic nephrolithotomy, require a shorter hospital stay and allow a more rapid return to work[13,14,15].

In the western world, the prevalence of urinary stone disease is estimated to be 2 to 3% and the likelihood that a man will develop stone disease by age 70 years is one in 8. In our part of the world although the exact prevalence is not known but extrinsic aetiological factors like long summer months may result in increased stone load[16].

It is not uncommon in developing countries for patients with urolithiasis to present with advanced uremia caused by long standing obstruction, almost invariably complicated by infection[17]. A percutaneous endourological approach offers the best hope for these patients.

In our experience of one year with PCNL, pelvis stones were most easy to remove. Only in those with extension into calyces, were difficult to remove completely as we used rigid nephroscope and single access tract. The advent of percutaneous procedures has significantly reduced the morbidity of previously used surgical procedures[18]. Fortunately we encountered fewer complications. Excessive hemorrhage during the operation led to two conversions into pyelolithotomy while access tract failure was another. Blood transfusion was required in only 5 (22.7%) patients comparable with those reported by Stoller and colleagues[19]. Urosepsis occurred in 3(12%) patients, two of whom were having staghorn stones and one was diabetic, as also reported by Segura et al [20] and Rao et al [21] in their studies. Urinary fistula occurred in one case which healed 4 weeks after placement of DJ stent whereas ureteric stone & wound infection occurred in 1(4%) patient which were treated accordingly. Patients with significant residual stone fragments i.e. 6(27%) were referred for ESWL, as facilities were not present in our setup.

In our one-year experience with PCNL we have found this modality in combination with ESWL very successful and hope that improvement in the learning curve will lead to better results.

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THE STUDY OF 100 CHILDREN WITH ENTERIC FEVER

BILQUIS LAKHANY, JAMSHED AKHTAR*, ASLAM HAIDER QURESHI, REHANA AKHTAR**

ABSTRACT

This study was conducted at the Department of Paediatric Medicine at National Institute of Child Health (NICH), Karachi, from January, 2003 to December, 2003. Hundred children were admitted with Enteric fever and studied prospectively. These accounted for about 1% of the total admissions. Inclusion criteria was positive blood and / or bone marrow culture. Majority of patients (95) had blood culture positive for Salmonella typhi. Salmonella para-typhi.A found in 3 cases and Salmonella para-typhi B in 2 cases only. Bone marrow culture was positive in 25% patients. Majority of the isolates were sensitive to all the primary and the 3rd generation cephalosporins. The patients were between the ages of 5-10 years. Male to female ratio was 2:1. Presenting symptoms were mainly fever, vague abdominal symptoms, anorexia, nausea, vomiting, diarrhoea, headache and cough. One patient presented with a picture of hepatic failure with favorable outcome. Two patients developed arthritis and one developed enteric perforation with fatal outcome.

KEY WORDS: Enteric fever, Child, Clinical picture

INTRODUCTION

Enteric fever is a common illness of children, caused by Salmonella typhi and less commonly Salmonella para typhi A and Samonella para typhi B[1]. Although enteric fever has largely disappeared from the developed countries, it still remains endemic and serious health problem in many parts of the world, including Pakistan[2]. The clinical presentation is in children is different from adults. Incubation period ranges from 7-21 days (mean 14 days). Duration of illness ranges from 14-35 days (mean is 28 days). Relapse occurs in 5% of cases. Pattern of transmission is water born, water washed and food born[3].

Epidemic typhoid is water born while endemic typhoid is water washed. The house fly is an important vehicle for transmitting the bacilli from the excreta to food.[3] Blood culture is the most useful test for the diagnosis of enteric fever, however recent study[4] has shown that bone marrow aspirate culture is more sensitive and the anti typhoid drugs do not interfere with the recovery of the organisms. The control of enteric fever depends primarily upon the availability of clean water and good sewer system, hand washing after using wash room and prevention of food from flies and dust. The commonly used drugs in the treatment of enteric fever include cholramphenicol, amoxicillin, Augmentin and 3rd generation cephalosporins[5]. This paper describes the clinical picture, laboratory profile, and complications seen in our hospital

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PATIENTS AND METHODS

Following protocol was adopted for investigating suspected enteric fever in children. A complete blood count and blood culture were obtained in all cases suspected of enteric fever. A bone marrow aspirate for culture was also taken if the blood culture was negative, with prolonged history of illness and in patient who had received antimicrobials for enteric fever for one week. Liver function tests and ultrasound of upper abdomen were performed if there was tender hepatomegaly. X-ray chest was done whenever indicated. One hundred consecutive children, with culture proven enteric fever were admitted in the Medical units of NICH during the study period. On admission complete history and thorough physical examination were recorded on prestructured proforma. The case records were analyzed for mode of presentation, clinical features, laboratory evidence of enteric fever, course of illness and development of complications if any. On admission, patients were started on either chloramphenicol or amoxicillin randomly. These drugs were continued or changed to a second line drugs according to response of

the patients and results of the culture. The drug to which the patients has responded was continued for 10-14 days. The patients were discharged from the ward after completion of therapy.

RESULTS

There were 68 males and 32 females in the study. The age ranged from 5 to 10 years (Table I). The signs and symptoms are given in table II. Complications were seen in 5 cases. Intestinal perforation and hemorrhage occurred in only one case. This patient underwent surgical exploration but developed DIC and died on 8th post operative day in spite of intensive care. Two patients developed enteric encephalopathy. They fully recovered following treatment. Two patients developed Samonella arthritis and improved with medical management with splintage. One patient presented with a picture of hepatic failure, treated in the intensive care unit with supportive management and third generation cephalosporins and this child recovered completely.

DISCUSSION

The incidence of enteric fever is still high in our country and it does not appear to decline in last few decades. Although majority of cases are treated on an out door basis it still accounts for about 1% of our total admission in paediatric wards. This shows that enteric fever is still endemic in Pakistan. Our number of admissions, general features of enteric fever and results are some what similar to other studies[1-2]. Definitive diagnosis of enteric fever is based on isolation of organisms from blood or bone marrow. In about 70% of cases blood culture was done and it was positive for Salmonella typhi, sensitive to first line antimicrobial drugs. Mean interval between the onset of symptoms and diagnosis in this study was 12 days which is also reported by others[2]. Highest number (63) was noted between 5-7 years of age. Higher number in boys is consistent with the high propensity of Salmonella for males[3-4]. Higher incidence in summer and rainy season has been reported in other studies[4-5]. Fever and gastrointestinal symptoms as the name signifies (enteric fever) were also commonly seen[5-6].

Diarrhoea vomiting abdominal pain and jaundice were seen in our study. The higher incidence of abdominal symptoms is indicative of greater propensity for the organisms to proliferate in the reticulo-endothelial system. The rapid onset of severe form of typhoid with features consistent of encephalopathy as in three of our cases reported, may indicate infection with particularly virulent typhoid strains. It is important to note however, that in many parts of the world enteric fever is likely to occur in the same environmental conditions that promote the spread of viral encephalitis and viral hepatitis.[5,6] Our results show that first line antimicrobial drugs generally continue to be effective in the treatment of enteric fever.

In summary we find that enteric fever still remains endemic and widely prevalent in our community and requires control measures such as provision of safe drinking water, improving sanitation, hygiene and immunization.

TABLE-I AGE AND SEX DISTRIBUTION

Age in years	Male	Female	Total
5 – 7	15	05	20
7 – 9	38	25	63
> 10	15	02	17
TOTAL	68	32	100

TABLE-II SIGNS AND SYMPTOMS

Signs & Symptoms	Number and percentage
Fever	100
Anorexia	75
Abdominal pain	50
Diarrhoea	23
Cough	20
Headache	10
Convulsion	01
Drowsiness	01
Jaundice	02

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FREQUENCY OF IMPAIRED GLUCOSE TOLERANCE IN POLYCYSTIC OVARIAN DISEASE

RUBINA SOHAIL, NADIA ISLAM, FARRUKH ZAMAN

ABSTRACT

Objectives: *The study aims to assess the frequency of impaired glucose tolerance (IGT) in women with polycystic ovarian disease (PCOD).*

Design *Descriptive study.*

Place & Duration

Department of Obstetrics and Gynaecology, Unit-II, Services Hospital, Lahore, for a period of one year, from 01.07.2001 – 30.06.2002

Patients And Methods

The study included 50 patients of polycystic ovarian disease, diagnosed by ultrasonography. These patients were advised 75g oral glucose tolerance test.

Results

The frequency of impaired glucose tolerance in diagnosed patients of polycystic ovarian disease was 20%. PCOD patients with abnormalities in glucose metabolism had a greater body mass index, higher fasting glucose and 2 hours post-load glucose levels than those with normal glucose tolerance.

Conclusion

Frequency of impaired glucose tolerance in diagnosed patients of polycystic ovarian disease is 20%.

KEY WORDS: Polycystic ovarian disease Insulin resistance, Impaired glucose tolerance

INTRODUCTION

Stein and Leventhal originally described polycystic ovarian disease, in 1905 as a syndrome comprising of menstrual irregularities, hirsutism and obesity in association with enlarged polycystic ovaries. In the past decade it became apparent that the syndrome is also associated with metabolic disturbances.

Burghen et al[1] first reported in 1980 that women with PCOD have higher basal and glucose stimulated insulin levels than weight matched controls. Subsequently a number of studies worldwide demonstrated that hyperinsulinemia and insulin resistance are common features of a large number of patients affected by PCOD, eventually causing glucose intolerance along with problems we commonly see in adult onset diabetes[2,3].

In addition to hyperinsulinemia and insulin resistance, altered first phase insulin secretion impaired glucose tolerance, dyslipidemia, hypertension and impaired fibrinolysis have also been described in PCOD[4]. These metabolic disturbances, place women with PCOD at higher risk of the development of cardiovascular disease and diabetes. There is evidence of association of IGT and NIDDM in females with PCOD, but prospective long term studies of glucose metabolism in large groups with PCOD are lacking[5,6].

PATIENTS AND METHODS

The study was carried out in the outpatient department of Obstetrics and Gynaecology, Unit-II, Postgraduate

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Medical Institute/Services Hospital, Lahore. from 01.07.2001 to 30.06.2002. The study included 50 patients of polycystic ovarian disease. Patients with polycystic ovarian disease, who were known diabetics taking oral hypoglycemics and asymptomatic patients with PCOD were excluded.

All patients selected were advised 75g oral glucose tolerance test. Those patients having whole blood sugar fasting value < 6.7mmol/L (120mg) and two hours whole blood glucose value 6.7-9.9mmol/L (120-180mg) were labeled as having impaired glucose tolerance test.

Computer programme SPSS version 10.0 was used for data analysis. Data entry sheet was created in SPSS and after feeding all variables data was analyzed to determine the frequency of impaired glucose tolerance in patients having polycystic ovarian disease.

RESULTS

Body mass index was calculated in all the patients irrespective of risk factors. Out of these, 32% had BMI more than 30 Kg/cm² (Table 1). 34 patients (68%) had family history of diabetes. The frequency of impaired glucose tolerance in this study was 20%, while 3 (6%) were diagnosed as having diabetes for the first time. Out of ten patients who had glucose intolerance, eight had a BMI greater than or equal to 30Kg/m². Out of ten patients who had glucose intolerance, 9 patients (90%) had NIDDM in their parents or siblings.

TABLE-I BMI IN PCOD PATIENTS

BMI (Kg/cm²)	Number	Percentage
15-25	3	6.0
26-29	31	62.0
≥ 30	16	32.0

DISCUSSION

Results regarding frequency of impaired glucose tolerance in PCOD patients coincided with studies conducted in Ramathibodi Hospital Mahidol University, Bangkok[7], which was done on Asian women, which showed IGT in 20% women and Queen Elizabeth Hospital, South Australia [7], which showed a prevalence of impaired glucose tolerance of 19.4% in PCOD women. There are certain risk factors associated with IGT in PCOD women. These include family history of diabetes mellitus and obesity determined by BMI. BMI is a significant predictor of adverse change in glycaemic control.

In this study 10 (20%) patients of 50 patients were found to have IGT after OGTT 8 (80%) of these 10 glucose intolerant women had BMI of > 30 Kg/m2. This showed obesity is a significant risk factor for impaired glucose metabolism as it does in other studies showing substantial rate of conversion from normoglycaemia to IGT in PCOD confirming our observations[8].

Another observation in the current study was that women with IGT had higher prevalence of first-degree relatives with diabetes. 9 out of 10 patients had diabetes in one of the parent cr sibling. Similar results were obtained in a study conducted in USA where patients with IGT had higher BMI, and 2.6 fold, higher prevalence of first-degree relatives with NIDDM[9]. Women with PCOD are high-risk population for complications like IGT, NIDDM, lipid abnormalities in pregnancy and later adult life. Women with PCOD particularly obese and with diabetes in first degree relatives should have periodic OGTT for early detection of deterioration.

CONCLUSION

- The frequency of impaired glucose tolerance in diagnosed patients of polycystic ovarian disease was 20%.
- The PCOD patients with abnormalities in glucose metabolism had a greater body mass index, higher fasting glucose and 2 hours post-load glucose levels than those with normal glucose tolerance
- Prevalence of glucose intolerance increased with BMI in PCO patients.

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PHARMACEUTICAL COST OF DIABETES AND ITS CO-MORBIDITIES

ASHFAQ AHMED, ERUM SHAKIR,TAHIR ANSARI

ABSTRACT

Objectives: *To estimate the direct costs of diabetic care and to correlate the disease severity and its complications with the pharmaceutical cost of the care.*

Design *The research design is non-interventional descriptive study and sample is non-particular purposive..*

Place & Duration

This study conducted in two cities Karachi and Rawalpindi, Jinnah Postgraduate Medical Center and Holy Family Hospital from March 2003 to May 2003.

Patients And Methods

Physician using structured questionnaires interviewed 200 patients. The patients were classified into two clinical groups, those with good glycemic control and without complications were placed in group A while the patients with 6 major complications of diabetic were placed in group B. Health expenditure in first and second year following diagnosis were computed.

Results *Patient in Group A spent 2 to 12% of their income, while patient in group B mostly had two or three complications and spent 15 – 22% of their average income on treatment.*

Conclusion *The study re-emphasizes the need to control diabetes and to make an endeavor to prevent and reduce the incidence of its complications which will not only reduce morbidity, mortality and disability but will also reduce economic burden. This study will serve stimulus for further research into economic aspects of management of various illnesses.*

KEY WORDS: *Illness burden, Diabetes mellitus,*

INTRODUCTION

Diabetes mellitus is a chronic disease that has a major social impact. Proper planning for the management of patient with diabetes mellitus requires consideration of the cost that diabetes imposes on the health system. Direct costs (pharmacy, hospitalization, consultation) mostly drive from health care strategies that aim to reduce late complications of the condition and maintain day-to-day quality of life[1].

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For such a chronic and potentially disabling disease with numerous complications it is surprising that cost has not been more extensively researched, a large amount of data are available about the implication of diabetes in terms of incidence and prevalence but few regarding cost has been collected[2]. Most of direct cost of diabetes treatment results from its complication. The hospitalization costs for the complication of diabetes are particularly heavy. This underscores the need to reduce complication and also their economic burden[3]. The most important contributors to the costs of diabetes are complications

such as these of eye and limbs, heart, neuropathy and nephropathy[2]. Incidence rate for the groups with and without diabetes are as follow, Myocardial infarction 9.0% versus 3.2%, stroke 8.7 versus 3.8%, hypertension 26.2% versus 16.9%, end stage renal diseases 5.9% versus 1.4%, foot ulcer 7.9% versus 1.1% and eye diseases 44.3% versus 2.8%[5].

Most of indirect costs (loss of productivity as a result of disability, absent from working days, loss of potential productive year of life) are related to diabetic complication, which greatly exceed the rest of the costs, and are also very difficult to classify in standard manner[1].

Intangible costs (pain, anxiety, inconvenience and lower quality of life) also have great impact on lives of patients and their families and are most difficult to quantify.[6] Study in India estimates that for a low income Indian family with an adult with diabetes 25% of family income may be devoted to diabetic care. For families in USA with a child who has diabetes the corresponding figure is 10%[6].

Both insulin dependent (IDDM) and non insulin dependent (NIDDM) diabetic patients exhibit similar complications so that the cost of treatment may be comparable but further studies are needed to establish this[2]. Medical innovations that can delay the onset and slow progression of diabetes have tremendous potential to mitigate the associated clinical cost repercussion[4]. The high Incidence and costs may support the value of aggressive early intervention for patient with diabetes[5].

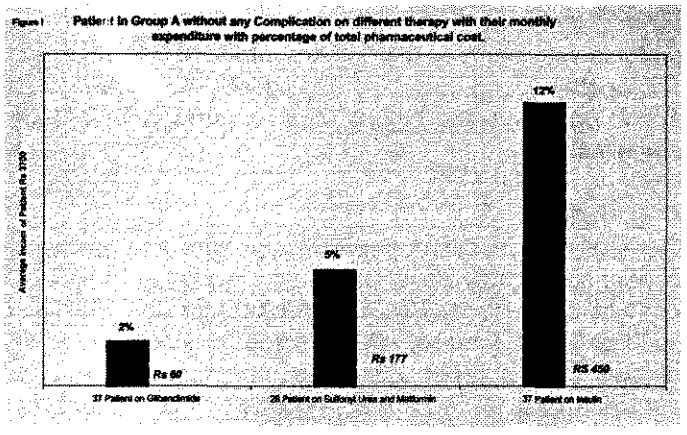
Studies have shown that improving glycemic control leads to reductions in health care utilization's and a decrease in overall cost. Notably, early and aggressive treatment may delay or even prevent many of the complications associated with diabetes, leading to improved quality of life and reduce expenditures in-patient with diabetes[7].

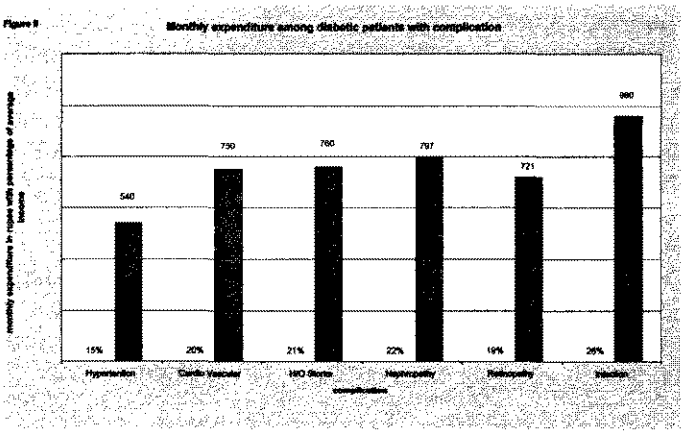
A diabetes mellitus specific risk stratification system related to required care intensity can be used to identify patients with high medical cost and can enable care providers to select patients for case management and transfer into specific programs[8].

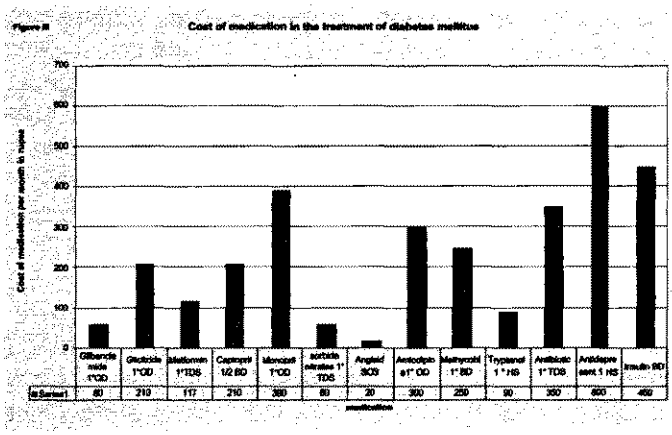
PATIENTS AND METHODS

The study conducted in out patient department of two tertiary care hospitals of pakistan Jinnah Post graduate Medical center and holy family hospital rawalpindi from march 2003 to may 2003.This is non interventional descriptive study and sample is non particular purposive type.

This study relates to pharmaceutical costs for diabetic patient without complication and diabetic patient with 6 major diabetic related complications which are hypertension, ischemic heart disease, sroke, nephropathy, retinopathy and diabetic foot 200 patients with diabetes mellitus were followed in Medical out patient department and divided into two clinical groups, group A consists of patients with good glycemic control without any complicationand group B consist of patient with one or more of the six major diabetic related illnesses. This classification was based on clinical record available related to care of diabetes and its co-morbidities. The study subjects were interviewed personally by physician for collection of data. The medical data recorded thpough the questionnaire that includes the following key data element: patient history, duration of diabetes, monthly income, associated condition laboratory tests, treatment of diabetes and its complication and per day cost of treatment. This was used as a tool to review the medical record of all patients with diabetes mellit,average perday cost for medication to control diabetes and its co-morbdities were calculated and converted into per month expenditure by calculating this per month expnditure to average income of the patient. We estimated the pharmaceutical cost per month for patients both in group A and group B Health expenditures in first and 2nd year following diagnosis were computed for each patient and pharmaceutical cost was identified for 200 patients. (Fig. 1,2,3)







RESULTS

In our study the median income of study sample was 3700. We divide our patients into two groups, Group A consists of 100 patients, In group A 37 patient were taking only single oral hypoglycemic drug and spend only 2% of there average Income. Patient with combination therapy spend upto 12%.

Patients in group B were with 6 major complications. Usually these patients were having 2 or more complications but we targeted the major problem like patient with hypertension and nephropathy were taking captopril which can be used for treatment of hypertension and nephropathy. In group B patients with hypertension spend upto 15%, ischemic heart disease spend upto 20%, patients with history of stoke spend upto 21%, patients with nephropathy spend upto 22%, patients with retinopathy spend upto 19% and patient with diabetic foot spend upto 26% the highest cost is with macrovascular complications.

DISCUSSION

Our study shows that group A patients with good glycemic control spend only 2% of these income on parmaceutical product as compared to a diabetics with complications such as heart disease, hypertension, eye complications, diabetic foot, renal diseases and cerebrovascular complications It has been reported that in diabetic patients with a number of complications, the cost of medical care is increased upto 10 fold[8]. Treatment of complications is a major part of medical care of patients with diabetes, accounting for a large portion of care cost. Models of cost of care in the treatment of diabetes in the developed world suggest that improved glycemic control can lead to a decrease in the economic burden[9].

Although few similar previous studies[10,11] are available, only the hospital discharge and administrative data alongwith the length of hospital stay have been used to show the economic burden on diabetics. This, in our opinion is not truly representative of the financial cost of diabetes care, because recently diagnosed patients and patients without complications were not included. On the other hand, our study utilised records of patients both with and without complications with details of hospitalisations; thereby providing a clearer view of the economic burden of diabetes care in the community.

Our study reflects only the pharmaceutical cost, both in control patients without complications and patients with complications. It does not include the consultation fees, hospitalisation cost and nursing care cost. This study shows that in diabetics with one or more complications, the cost of management substantially increases the pharmaceutical cost, amounting up to almost 10 to 13% of an average income of family. The presence of vascular complications was a high cost indicator in our study.

Because of the non-availability of any local data for comparison, this study of two centres in Pakistan represents homogenously, the cost of diabetes care in this average salary bracket, throughout the country. However, the World Health Organisation's fact sheet No.236 indicates that an average Indian family may spend up to 25% of its total income on adult member with diabetes; while in a child with Type-I diabetes mellitus in USA, the cost may go up to 10% of the average income[6].

In our study patient without complication using oralhypoglycemic agents spending 2-5%of his total income, while patient with one or more complication spending upto 26% of his income which makes ten fold increase in pharmaceutical cost, similarly patients on insulin therapy are spending much higher cost upto 12 % on treatment as compared to patients taking oral hypoglycemic agents. This data is quite comparable with international data which shows that patients with diabetic complication spend upto 25% of average income and patients on insulin therapy spend upto 10% of their average income[6].

CONCLUSION

Our study can reliably predict high future diabetes care cost of pharmaceuticals in diabetis care. The highest cost was associated with macrovascular complications; hypertension, angina and stroke being important clinical indicators, to name a few.

As our study shows that patient without complication spend less amount of their total average income,early intervention and strong education programm can built as mention in recntently published study in pakistan[12] to keep patient near minimal pharmaceutical cost.

We feel that data can be used as a baseline study for

healthcare providers to develop targeted interventions and new approaches for the care of patients without complications. This would not only prevent diabetics from severe and serious disabilities but also cut down the cost of diabetes care; thereby relieving the economic burden on our already deprived society .

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MORNING REPORT IS AN EFFECTIVE TEACHING ACTIVITY: FACULTY AND RESIDENTS PERSPECTIVES

MUHAMMAD TARIQ, SHAHAB ABID, WASIM JAFRI.

ABSTRACT

Objective:

To compare the perspective of faculty and residents on various aspects of morning report.

Design *Cross sectional study*

Place & Duration Of Study

Study conducted in July-August 2002 at the Department of Medicine, The Aga Khan University Hospital, Karachi.

Patients And Methods

A 22-item questionnaire was distributed to residents and faculty. It was meant to examine the perspectives of both groups about objectives and contents of the morning report. The format, person to present, participate and conduct the morning report were also examined in a Likert scale, single best response or open-ended questions.

Results

Forms were distributed to 117 individuals, of whom 84 (72%) responded. Improving presentation skills, problem solving ability and conveying medical knowledge, as the objective of morning report was rated highly.. The faculty (84%) indicated that the chief resident should conduct it whereas the residents (72%) preferred post-call internist to direct the report. Both groups (>90%) preferred that the junior residents should be the presenter. Both groups opted (76%) to discussly selected cases admitted previous night. Contents of morning report (discussion on diagnostic workup, disease process and management issues) was rated by the resident and the faculty as 97%, 70% and 85.5% respectively. The residents (78%) preferred morning report to be directed towards post graduate examination where as the faculty did not favor.

Conclusion

A remarkable similarity was found in residents and faculty for morning report in terms of improving presentation skills, problem solving ability, conveying medical knowledge, discussion on diagnostic workup, disease process and management issues. The residents also want contrary to the faculty that the morning report should be directed towards post graduate examination.

KEY WORDS: - Medical education, Training programme, Residency

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INTRODUCTION

Morning report is one of the most important teaching activities in almost all the residency training programs throughout the world. The purpose of morning report is education, evaluation of quality of service, discussion on ethical issues, evidence-based medicine, improving

presentation skills and evaluation of residents. It can be extremely effective for teaching the principles of diagnosis and management of diseases.[1,2,3] In a multi-institutional study on resident's expectation of morning report it was found that most residents preferred challenging cases presented in a stepwise manner[2] interactive discussion led by the attending physician with a broad spectrum of knowledge.[1,3]

Evolution of morning report in our hospital is interesting. Initially it was conducted by the chairman, Department of Medicine, the cases presented were chosen by the chairman from the list provided to him by the senior resident. Later on post-call attending internist started to conduct the report. This format was followed for quite some time after that the attending internist was replaced by two faculty members to conduct the report. At present morning report is conducted by a single on-call faculty member. This is one-hour session, twice a week focusing on the management of hospitalized patients. The assigned faculty conducts the morning report in which the on-call team presents two to three interesting cases admitted last night. An intern or a resident present the case in a stepwise format, which is followed by discussion, related to the diagnosis and the management of the patient. All the residents, interns, medical officers, chief residents and the interested faculty attend the morning report. In this background we examined the perspective of the faculty as well as the residents at our institution to clarify different aspects of this extremely important teaching activity.

METHODS

Participants and Survey Contents

The participants were categorized as residents and the faculty. The residents group was comprised of the residents, interns, medical officers and the fellows. The faculty comprised of either full-time or non full-time internal medicine and medicine related sub-specialty faculty. A 22-item questionnaire was developed. The questionnaire was divided into multiple stems asking about the perspectives of both groups about objectives and contents of the morning report, format, which person to conduct, who will be the presenter and who should attend. Questions were based upon a five-point Likert scale, single best response and some questions with open-ended answers.

Questionnaire was distributed among all the participants and the response was asked to return in four week's time. Individual responses were kept confidential. Responders were also asked about their interest in subspecialty, qualification, year of post graduation and demographic characteristics.

STATISTICAL METHODS

Data was summarized as the means with standard deviations (for continuous variable) and as frequency and percentage (for categorical variables). Univariate analysis was performed by using the Pearson Chi-square test, and Fisher Exact test, where appropriate. A p-value <0.05 was be considered as statistically significant. These analysis were carried out using the statistical software SPSS (version 10.0)

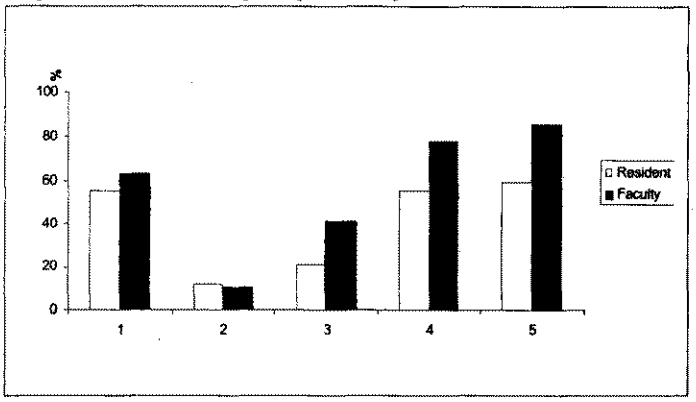
RESULTS

A total of 117 Questionnaires were distributed and 84 (72%) completely filled forms were received. Responses were analyzed under the following categories.

Morning Report Objectives

Improving the problem solving ability as the key objective of the morning report was rated by the residents and faculty as 59% and 86% respectively, The overall positive response was 68%. Improving presentation skills was rated by 78% of the faculty and 55% of the residents as the important purpose of the report. The overall positive response was 63%. Conveying medical knowledge to the residents was rated by 63% of the faculty and 55% of the residents as an essential goal. The overall positive response was 58%. Evaluating resident's performance and inspiring clinical research were not entertained highly by the residents as well as the faculty (Fig.I).

Fig. I - The Morning Report Objectives



1. Conveying medical knowledge to the residents
2. Inspiring clinical research
3. Evaluating Residents Performance
4. Improving presentation skills
5. mproving problem solving ability

Who should conduct the Morning Report

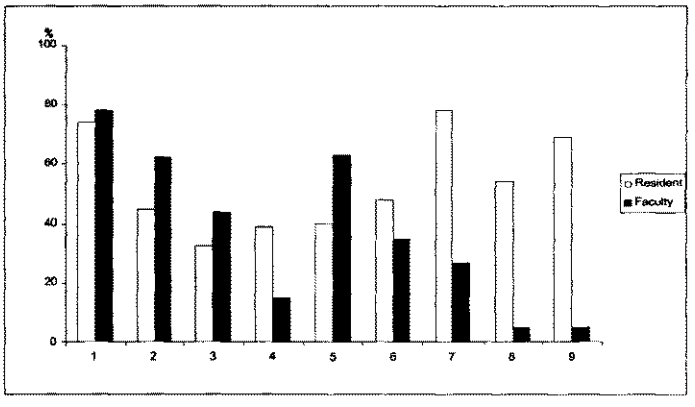
Chief Resident to conduct the Morning Report received 84% positive response by the faculty and 57% by the residents (p=0.072). The overall positive response was 66%. The post-call faculty was favored by 92% residents compare to 41% of the faculty p=0.004. There were similar response rate from the faculty (70%) and the

residents (72%) for an internist conducting the report. Similarly both groups rated low for the Chairman Department of Medicine to conduct the morning report 48% and 40% respectively.

The Format of Morning Report

Resident and Faculty groups favored 78% and 74% respectively to discuss the specific interesting cases. Moreover 62% of the faculty and 45% of the residents want only previous night admission to be reviewed. Free presentation with a time limit had a positive response by 63% of the faculty and 40% of the residents p=0.121. A set format of presentation did not receive a favorable response (Fig.II).

Fig. II - The Format of the morning report



1. Review specific interesting cases
2. Review only last night's admissions
3. Review admissions since last morning report
4. Presentation on a set format
5. Free presentation with time limit
6. Distribute Journal articles
7. Review for postgraduate examination
8. Distribute handouts
9. Bedside teaching.

Residents, feel that Morning Report should be directed towards reviewing cases for the postgraduate examination 78%; handouts distribution 54%; and a component of bedside teaching 69%. In contrast faculty did not favor residents perspective significantly and the positive response rate was 27%, 5% and 5% respectively p=<0.05 (for all three parameters).

Contents of the morning report

To discuss management issues were favored by both groups; residents 92% and the faculty 96%. Diagnostic workup was marked by 100% of the faculty and 95% of the resident as an important element of the morning report. Disease process to be discussed was rated important by 64% of faculty and 76% of residents. Evidence based medicine was again regarded similarly by all the responder with 74% response by the residents and 75% by the faculty. The residents as well as the faculty showed low positive response for; screening and prevention; to discuss medical ethics and research methods (Table I).

Table I. Morning Report-Faculty and Resident's Response

Parameters	Response	
	Faculty n = 28 n (valid %)	Residents n = 56 n (valid %)
Management issues	24 (96)	50 (92)
Diagnostic workup	28 (100)	53 (95)
Disease process	16 (64)	42 (76)
Tests and procedures	20 (77)	39 (72)
Evidence based medicine	21 (78)	40 (74)
Screening and prevention	10 (43)	26 (50)
Medical Ethics	11 (48)	25 (49)
Research methods	03 (14)	16 (33)
The presenter		
Junior Resident	24 (89)	49 (92)
Senior Resident	18 (72)	23 (50)
Intern	11 (48)	41 (79)
Medical Student	04 (18)	05 (12)
Faculty	00 (00)	08 (19)
Who should attend the morning report?		
Residents	28 (100)	55 (98)
Interns	28 (100)	55 (98)
Medical Officers	28 (100)	55 (98)
Fellows	20 (72)	40 (78)
Medical Students	24 (86)	42 (82)
Post-call Faculty	18 (72)	53 (100)
All faculty	07 (30)	21 (45)
Chief Resident	28 (100)	51 (98)

The Presenter

In the present survey 92% of the residents and 89% of the faculty believed that the junior residents should present cases. The faculty marked senior resident to be involved in the presentation by a 72% positive response, whereas 50% residents favored the same. All the participants rated medical students, faculty and the fellows very low, as the presenter in the morning report .

Who should attend the Morning Report

Both groups favored that all residents and interns should attend the morning report. In addition 100% of the residents wanted post call faculty to attend the report, in contrast to 72% of the faculty p= <0.05. There was a similar response rate among the two groups regarding the medical students, fellows and faculty to attend the morning report.

MISCELLANEOUS

In the present survey, majority of both groups (residents 75% and faculty 57%) preferred morning report twice weekly. However 36% of the faculty indicated that it should occur daily. The most suitable time preferred by residents (94%) and faculty (93%) was 8.00am to 9.00am. Both groups (residents and faculty) rated morning report as an overall effective teaching activity by 96% and 93% respectively.

DISCUSSION

Morning report meant patient-based conference, where residents, attending physicians, medical students and others health care professionals meet to present and discuss clinical cases.[1,2,3] During this time-honored teaching activity, on call team on the previous day presents specific interesting cases for discussion [4,5]. The objectives of the morning report have been evolved over the years in different institutions, and it is now conducted for diverse purposes. This includes; conveying medical knowledge, evaluation of residents capability, adverse drug reaction reporting, promoting decision making skills, patient management, self-directed learning and ethical issues.[1,3]

During this survey, we examined the perspective of the residents and the faculty and compared the differences in their opinion. On most of the aspects of the morning report there were remarkable similarities between the groups but in few parameters significant dissimilarities were observed. This survey showed that, the residents and faculty are clear regarding the morning report objectives. However faculty rates higher for the objectives for example improving the problem solving ability, improving presentation skill and conveying medical knowledge although not significantly different from the residents. These findings are similar to the other studies highlighting the same objectives of morning report[2]

Most of the previous studies on morning report perceived medical education as the primary purpose of the morning report,[6-9] Morning report is not a place to inspire clinical research, as it is a case-based clinical teaching activity, which was also evident by our faculty and the resident's negative preferences in the present survey. There was no difference between the two groups on these objectives. One important objective of the morning report outlined in another study was to use the morning report as a forum to evaluate the residents[1]. In the present survey both resident and faculty group did not favor morning report for this objective.

There was a significant difference among the faculty and the residents regarding who should conduct the morning report. Faculty believed that the chief resident should conduct the report, whereas residents want a post-call faculty preferably an internist should conduct the morning report. Residents' perspective was consistent with the other studies which have also reported that internal medicine residents prefer the presence of a generalist physician at morning report[2]. The person leading morning report was either a faculty member (70%) or a chief resident (30%).[1,3] Internist should conduct the morning report is also strengthened by the fact that the cases presented during the morning report are of wide range of internal medicine subjects. Therefore a medical sub specialist or a fellow conducting the morning report did not get good response from the participants.

The selection and the mode of presentation of cases, varied greatly among programs reflecting most often the chief resident's and attending physician's preferences.[6,10] At our institution after presentation of the history, important discussion on the differential diagnosis occurs with relevant thinking process about the laboratory investigations followed by discussion on the management issues. It has been postulated that this approach not only makes the discussion more interesting but also fosters clinical problem solving skills.[11-13] In this survey majority of the responders in both the groups endorsed that discussing management issues as the most important teaching method, They also believed that only specific interesting cases should be reviewed at the morning report. In addition most of them want that only previous night admissions should be discussed and there should be a free presentation with a time limit.

Residents at our institution are preparing for their postgraduate examination either of college of Physicians and Surgeons (CPSP) or Royal college of Physicians (RCP). Majority of them felt appropriate if the discussion during the morning report is directed towards their examination (this include bed side teaching and distribution of handouts as well). Most of the studies done earlier did not emphasize the need of this issue to be discussed in the morning report. Recent advances in postgraduate medical education place greater emphasis on evidence-based curricula and self-directed, learner-centered education and by incorporating evidence based medicine, morning report would become self-directed academic activity liked by the residents.[14] Faculty group in this survey differed significantly from the residents' point of view for inclusion of postgraduate exam oriented format of the morning report.

Residents in the present survey rated diagnostic workup, disease process, and evidence-based medicine very highly as the likely topic for discussion in morning report, which is similar to the finding in other surveys [2,14] Similarly medical ethics and research methods were rated quite low, which is also the case in many previously published studies.[1-3]

The faculty at our survey believed that the junior residents should present the case and the senior residents should be on the backup and present the case when needed. At our hospital in the section of General Internal Medicine there is a team led by a senior resident and two junior residents. During on-call it is usually the junior resident who clerk the patient and discuss different aspects of the case with the senior resident. This includes diagnostic workup and management of the patient. Therefore faculty wanted that the senior resident should be prepared to discuss the case during the morning report. The faculty as well as the residents voted against medical students presenting the case at the morning report.

Both the groups agreed that morning report should be attended by all the residents, medical officers, interns, medical students, fellows, assigned faculty, and the chief residents. The morning report allows residents and the faculty to interact in an intellectually stimulating and comfortable environment; it is an important setting in which residents encounter potential role models.[15-17]

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STAYING FIT AT THE WORKPLACE

A. MOEED KAZI, NABILA SOOMRO

The present day working environment and stressful lifestyle leads to a group of disorders popularly known as cumulative traumatic disorders (CTD), also know as repetitive motion disorders, strain injuries or occupational overuse injuries. They have recently gained more attention throughout the world. These disorders increase at a rapid rate during the mid to late 1980s and early 1990s. Such disorders account for 40-50% of workers compensation claims in the United States. (Table I,II)

Ergonomics is the science behind the design and operation of machines within the work environment. It is defined as the study of the individual within the work environment.

Seven elements contribute to occupational C.T.D.

1. Forceful repetitive exertions.
2. Prolong activities
3. Repetitive gripping motions
4. Posture
5. Localized contact stress
6. Temperature:
7. Vibration

Table I. **Different Occupational Disorders Caused by Misuse of Tools**

Occupation	Tools & Equipment
DOCTORS	Scissors, knife, gloves, electric, tools etc.
TYPIST	Keyboards
CARPENTER	Height of the repetitive assembly lines, undampened pneumatic & electric tools hammers, screw drivers etc.

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Table II. **CUMMULATIVE TRAUMATIC DISORDERS**

Trigger finger
Ganglion cyst
Raynaud's phenomenon
Dequervains tenosynovitis
Epicondylitis
Shoulder impingement
Cervical myofasical pain
Low back pain
Nerve entrapments
Carpal tunnel syndrome
Pronator syndrome
Cubital tunnel syndrome
Thoracic outlet syndrome

Following factors play major role in causing CTD.

A FORCEFUL REPETITIVE EXERTION:
Wearing of gloves increase the force needed during surgery. Poor quality or improperly fitted gloves blunt the sensory feedback, reduce friction between an object and the hand and reduce strength. Forceful activities alongwith repetitiveness produces inflammation of tendons, compression of peripheral nerves and decrease blood flow by as much as 40%.

B POSTURE:
Awkward postures of neck, back, upper limb alongwith abnormal height of work station during surgery can lead to prolong muscle contraction causing muscle fatigue and soreness.

C LOCALIZED CONTACT STRESS:
This leads to compression of soft tissue between the bone and the tools e.g. pen, surgical instruments.

D TEMPERATURES:
At temperature below 20 degree doctors exert as much as 16 pounds of pressure per square inch to complete the task rather than 4 pounds of pressure per square inch.

E VIBRATION:
Exposure to vibration may occur with the use of power tools, percussion tools, prolong driving etc.

Fig I: Range of Motion and Stretching Exercises

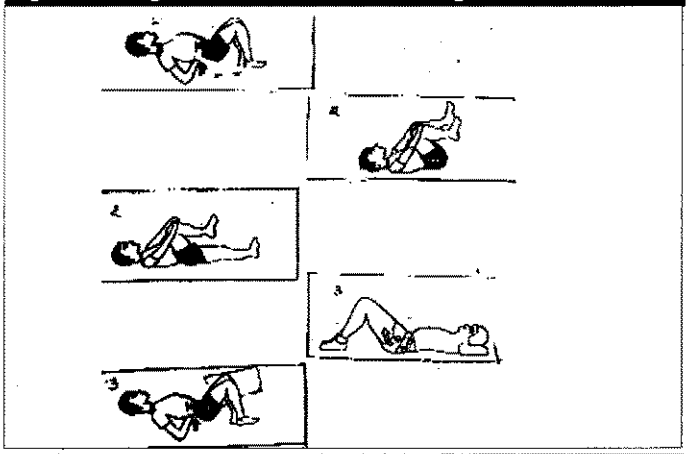


Fig II: Use Larger Muscles At Work Place

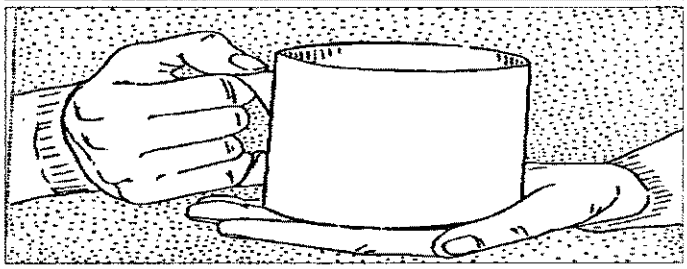


Fig III: Distribute weight by using both hands

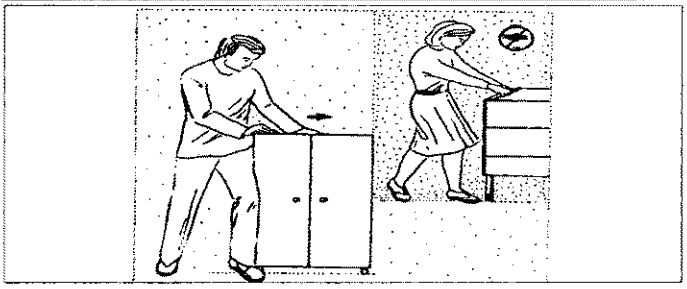


Fig IV (A): Seated Work Station

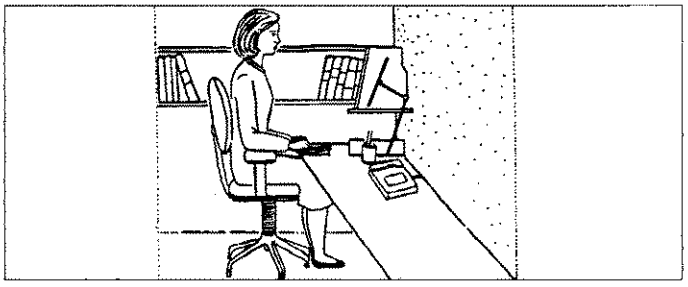
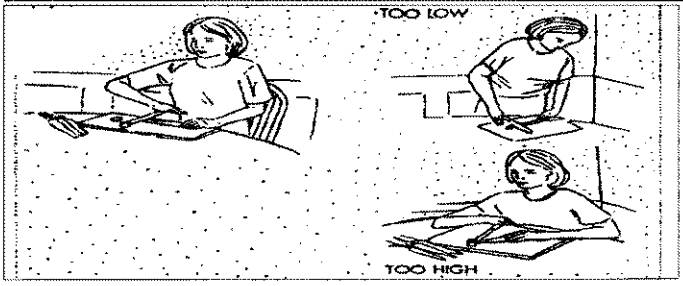


Fig IV (B): Correct work height encourages the use of proper body mechanics



The following postures should be avoided:

- Maintenance of the elbow in the overhead position during repetitive or sustained activities.
- Extreme flexion of the elbow
- Sustained supination or pronation of the forearm
- Extreme flexion or extension of the wrist
- Sustained grip or pinch.
- Maintenance of back posture with loss of normal cervical and lumbar lordotic curve.

Education of working person is essential and mu include:

- Proper use of the body to avoid re-injury.
- Proper placing of seated and standing work height c the job.
- Relaxation and stress management skills.
- Healthy life style.
- maintaining pinching force under 7 pounds
- Alternating among work tasks with a five minute brea every hour encourage synergestic rather tha isolated muscle activity.
- Use dampened machinary to complete portion of th task.

ERGONOMIC DESIGNING OF WORK PLACE

Workplace should be designed as follows:

- Seated Work Station (Fig IV)
- The top of the computer monitor should be in line wi the worker's eye at an angle of 15 degree towards th middle of the screen. This position also allows th worker to maintain the normal lordotic curve of th cervical spine, avoiding the forward head position.
- The optimum distance from the monitor is 12-2 inches.
- Elbows flexed no more than 70-90 degrees.
- The chair height should allow good clearance und the desk/work area while the feet are comfortab placed on the floor or foot rest.
- The knees should be maintained at an angle betwee 90-105 degrees.
- Seat depth should allow 1-4 inches between the kne angle and the front edge of the seat.
- Back rest should be deep enough to support th lumbar curve while maintaining the thoracic spine contact with the chair back.

- For precision work in the upright position, the surface should be between 95 and 105 cm high for a woman and between 100 and 110cm for a man i.e. approximately 7-10cm above the waist line.
- In general, a seated workstation is recommended when:

  Items to be handled are more than 10 lbs.

  Writing or other fine motor tasks predominate the work.

  The task does not require the hands to be more than 6 inches from the work surface.

  All work items are within reach from the seated position.

CONCLUSION

Cumulative trauma disorders are common in our society. The prevalence of industry and computer based occupation may lead to continuing proliferation of these conditions if we are not careful. The mainstay of treatment should be based on correcting the underline causative factors, which encompass equipment, technique, and postural issues and musculo-skeletal overuse be avoided.

Fig IV (C): Use of a raised cushion will de crease (???) at hip and knee joints

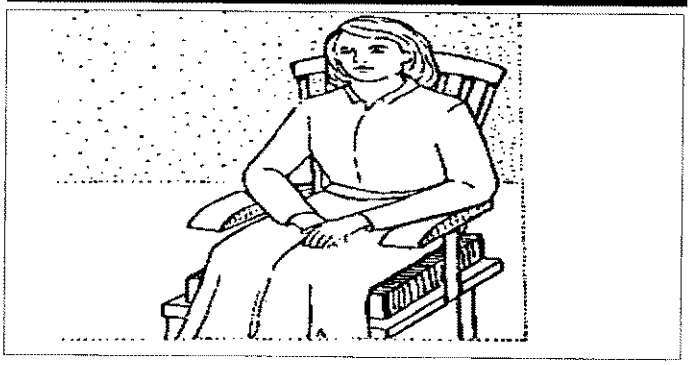


Fig IV (D): An unsultable chair for a disabled person (courtesy of Mr. A chesters, of Hangman Backdrops)

Fig IV (E): Space between chair legs, can move feet back before rising

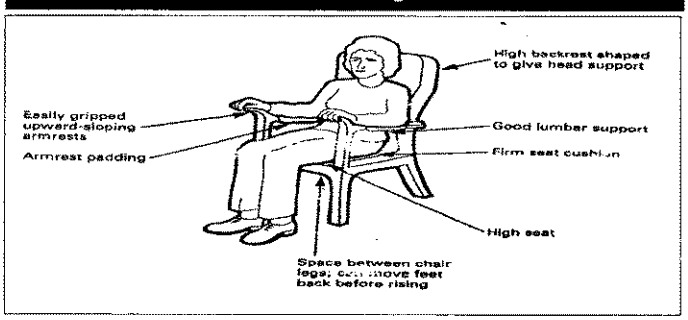
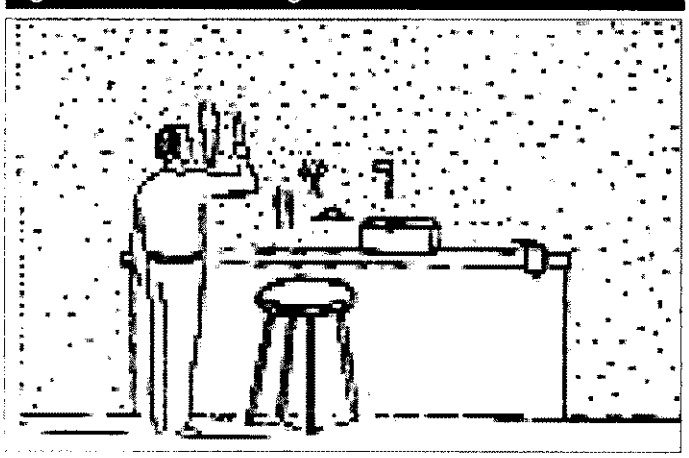


Fig V : Standing Work Station



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GASTRO INTESTINAL STROMAL TUMOR OF STOMACH

A CASE REPORT

KANWAL FATIMA, MOHAMMAD IRFAN DAUDI, MOHAMMAD SHAMIM

ABSTRACT

Gastro intestinal stromal tumors (GISTs) are a subset of GI mesenchymal tumors of varying differentiation. With the advent of immune histochemical staining techniques now available in Pakistan, they are recognized as a distinct group of mesenchymal tumors. This case demonstrates that rare stromal neoplasms have to be taken into account in the differential diagnosis of gastrointestinal tumors even if endoscopic biopsies are negative for neoplastic changes. Because of the uncertain biological behavior of the GISTs an early surgical intervention is recommended.

KEY WORDS:- *Gastro intestinal stromal tumor, Gastro intestinal mesenchymal tumor, Leiomyosarcoma.*

CASE REPORT

A 40 year old house wife presented with complaints of epigastric pain and nausea for three years. The pain was intermittent non-radiating, aggravated by eating spicy food and relieved by taking antacids. Nausea was not associated with vomiting. There was no history of weight loss and upper or lower gastro intestinal bleeding. General examination was unremarkable, but on local examination a firm non-tender mass was palpable in the epigastric region. There was no visceromegaly or palpable lymph nodes.

Routine hematological and all biochemical investigations were within normal limits. Upper GI endoscopy revealed gastritis with H. pylori infection. Ultrasound upper abdomen showed hypoechoeic mass in the epigastrium approximately 7.6_ 5cm in diameter. FNAC. of the mass showed spindle cell lesion. CT Scan showed large heterogeous soft tissue mass lying posterior to the stomach (Fig. I).

She underwent surgery with preoperative diagnosis of GIST. At operation there was no sign of metastasis in the liver or greater omentum. Para-aortic lymph nodes involvement was not visible. The pedunculated mass was

Fig I: CT scan film showing large heterogenous soft tissue mess lying posterior to stomach.

approached through the lesser sac and was excised from the posterior wall of the stomach at the fundus with 3cm healthy stomach wall around the stalk of the tumour. The wound in stomach was repaired.

Histopathology showed interlacing spindle cell tumor with few mitosis Special stain was positive for smooth muscle, suggestive of leiyomyosarcoma (Fig-II).

On immune-histo-chemical examination it was positive for CD34, but not for alpha smooth muscle actin, desmin or S100 protein (Fig-III).

An oncology consult was sought and it was decided that

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Fig: II Histopathology slide showing interlacing spindle cell turnor with mitosis, special stain positive for leiyomyosarcoma.

Fig: III Immune histo chemical slide positive for CD-34.

The patient is being followed up every six months, and there has been no clinical finding suggestive of recurrence during the past year and a half.

DISCUSSION

Sub mucosal tumors of the gastrointestinal tract mainly consist of gastrointestinal mesenchymal tumors, which are distributed in the gastrointestinal tract from the esophagus through the rectum. The term "GIST" is now preferentially used for the tumors that express CD34 and tyrosine kinase (KIT). Twenty to thirty per cent show malignant behavior, including peritoneal dissemination and hematogenous metastasis. GISTS account for 80% of gastro intestinal mesenchymal tumors and total of 1% of gastric malignancies.[1] They manifest as an intra-gastric, extra gastric or intra-luminal lesion and have been documented in all parts of gastrointestinal tract. Majority of which occurs in stomach (60%-70%)[2, 3]. The common presenting symptoms are GI bleeding, pain, fatigue, malaise and a palpable mass [4, 5]. The tumor affects older people, it is rare in children and occurs in young adults who have familial predisposition.

GISTs can be histologically identified as highly cellular spindle cell or epithelial mesenchymal tumors, and morphology is somewhat site-dependent. However, common to all these tumors is expression of Kit (CD117 antigen), which is a major diagnostic criterion; but it is not available in Pakistan. Additionally it is positive for CD34 (70%) as in our case, there are also variable expression of smooth muscle actins (20% to 30%) and S100 protein (10%).

Although the prediction of malignancy in this tumor group is notoriously difficult, tumors that have mitotic activity counts exceeding 5 per 50 high power fields (HPF) or those larger than 5 cm have a high frequency of recurrence. In contrast, tumors smaller than 2 cm and those with mitotic activity counts <5 per 50 HPF are likely to be benign. These diagnostic criteria leave an inevitable gray area in the separation of benign and malignant tumors [3, 6].

With variable clinical patterns it is difficult to plan a correct diagnostic protocol. CT showed high sensitivity and specificity in characterizing and staging this lesion but exhibited rather poor sensitivity in recognizing peritoneal spread [7]. On the contrary direct multiplanar capability of MRI facilitates delineation of relationships of the tumors to the stomach and surrounding organs [6].

Since no generally accepted consensus on the treatment of the GISTs exists for gastroenterological surgeons it is critical to select the most suitable surgical procedure reported experience indicates that local excision is the preferred surgical option [8, 9]. Metachronous metastases should be resected if possible. Depending on tumor stage and prognostic parameters, follow-up with endoscopy and radiological examinations is recommended. Most patients with advanced malignant GISTs achieve clinical benefit and significant anti- tumor responses with Imatinib Mesylate, the first effective systemic therapy in advanced cases [8]. Further studies should be undertaken to elaborate prognostic determinants and stage-adapted treatment [9].

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COLOCOLIC INTUSSUSCEPTION—A RARE ENTITY IN CHILDREN

A CASE REPORT

ANWAR-UL-HAQ, ILYAS BADER, NADEEM AKHTER, ZAHEER ABASSI

ABSTRACT

Colocolic intussusception is an unusual cause of intestinal obstruction in children. We are reporting two cases of colocolic intussusception; one presented with the clinical features of intestinal obstruction but lacking typical history of intussusception and other had a typical presentation of intussusception. Both cases were treated successfully with bowel resection and end-to-end anastomosis.

KEY WORDS: - Colocolic intussusception, Surgical management, Child

INTRODUCTION

Intussusception is a common cause of childhood intestinal obstruction. Intussusception typically occurs in children aged 6 months to 4 years.[1,2,3] In the neonate or those older than 2 years, intussusception has a high incidence of associated bowel abnormality with a lead point.[4] About 90% of intussusceptions are ileocolic and colocolic intussusception is rare.[4,5].

CASE I

An 11 years old male child presented with 4 days history of abdominal distention and bilious vomiting. Vomiting became profuse for the past one day. The patient also had absolute constipation for the last 2 days. There was no bleeding per rectum. The patient was at first treated conservatively and observed for 24 hours. As he was not getting better laparotomy he performed. A cecal mass found which was intussuscepting into the ascending colon up to the splenic flexure which could be reduced manually. There was also mesenteric lymphadenopathy, which were taken for histopathology. Right hemicolectomy and ileotransverse anastomosis was performed. Histopathology report was Burkitt's type of non-Hodgkin lymphoma. Lymph nodes were clear of malignancy. Postoperatively the patient recovered uneventfully. The patient is on chemotherapy and on regular follow up.

CASE II

A 12 years old male child presented in the emergency with severe abdominal pain, frank bleeding per rectum and abdominal distension. The patient also had few episodes of vomiting. On examination the patient was very sick looking, grossly anemic and in severe distress due to pain. A firm and tender mass was palpable in the left paraumbilical area. It was about the size of cricket ball. On rectal examination there was a palpable mass protruding into the rectal lumen. On withdrawl of finger there was fresh bleeding with no stool staining on finger. Plain X-ray abdomen showed dilated gut loops with multiple air fluid levels. Hemoglobin was 6 gm/dl and serum electrolytes were normal. Bleeding profile was also within normal limits. After initial resuscitation and blood transfusion the patient was operated. A colocolic intussusception was found which was reduced manually. Lead point being a mass arising from the transverse colon. The surface of the gut looked inflamed with grossly visible prominent vessels over it. A local gut resection was performed with end-to-end anastomosis. Histopathology report was that of a hemangioma arising from the wall of the gut with a number of inflammatory cells. Postoperative recovery was uneventful.

DISCUSSION

Colocolic intussusception is an uncommon cause of pediatric intestinal obstruction.[6] Colocolic intussusceptions occur in older children.[7] In children older

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than two years and in adults usually there is lead point present.[4] Colonic intussusceptions usually have a malignant lead point but small intestine intussusception most of the time have benign lead point. [8,9] Gastrointestinal haemangiomas make up 0.05% of all intestinal neoplasms. They sometimes lead to intussusception as in our case.[10,11]

Colocolic intussusception gives rise to acute abdominal symptoms. There is usually an intra-abdominal mass, palpable in the left hemiabdomen.[12] Further confirmatory evidence of intussusception is the finding of overt or occult blood in stools.[13] Although usually acute, chronic or recurrent intussusception may occur with typical symptoms. The rate of successful non-operative reduction was higher in these intussusceptions.[7] Colocolic intussusception should be kept in mind as a differential diagnose in case of intestinal obstruction.

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IDIOPATHIC CALCINOSIS OF THE SCROTUM: A RARE PRESENTATION

A CASE REPORT

ARFAN UL BARI, SHAHID MAJEED

ABSTRACT

Idiopathic scrotal calcinosis is a rare disorder of cutaneous deposits of calcium that occurs in the absence of known tissue injury or systemic metabolic defect. We present a case of this rare disease in a middle aged male in whom it was causing a great psychosocial concern and was removed completely with simple surgical excision.

KEY WORDS:- Calcinosis cutis, Idiopathic scrotal calcinosis, Dystrophic calcification

INTRODUCTION

Calcinosis cutis is a term used to describe a group of disorders in which calcium deposits form in the skin. Virchow initially described calcinosis cutis in 1855[1]. It is classified into 4 major types according to etiology: dystrophic, metastatic, iatrogenic, and idiopathic[1]. Idiopathic calcinosis cutis occurs in the absence of known tissue injury or systemic metabolic defect and one of its rare forms is calcinosis cutis of the scrotum and penis[2].

CASE HISTORY

A 47 years old otherwise healthy retired soldier presented with history of slowly progressing multiple nodular swellings over his scrotum for last 20 years. It started as 3-4 small soft nodules, which gradually increased in size and number and slowly coalesced to form two large firm to hard multinodular swellings. Patient remained largely asymptomatic except for occasional itching. About two months back one of the swelling increased in size rather rapidly, became little painful and started discharging chalky white material. The patient then became worried and started consulting various doctors. He received some antibiotics and pain killers with symptomatic relief. On physical examination two large multinodular hard subcutaneous non tender non fixed swellings were found on anterior aspect of scrotum. Skin over the lower swelling was comparatively more erythematous and ulcerated at places (Fig. I).

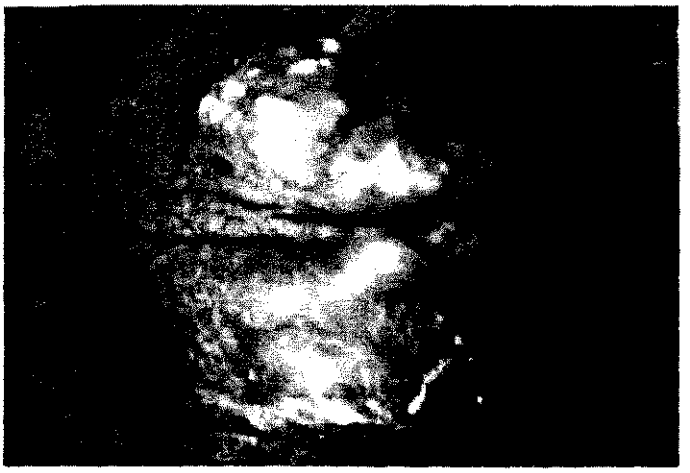

Fig I: Scrotal Calcinosis

There was no associated inguinal lymphadenopathy. Transillumination test was negative. Transepidermal elimination of chalky white material was seen in lower half of the swelling. Patient was told about the possible benign nature of the disease but he insisted on surgical removal of the mass. Surgical specialist was consulted who carried out complete surgical excision by making a large linear incision under general anaesthesia. Wound was stitched. Excised tissue was sent for histopathological studies. Patient made an uneventful recovery Histological studies revealed multiple dense deposits of calcium in the dermis, with a surrounding foreign-body giant cell reaction. Some evidence of epidermal cystic wall was also seen at places.

DISCUSSION

Idiopathic calcinosis of the scrotum is characterized by variable numbers of subcutaneous, hard, marble-like, scrotal nodules. The exact etiopathogenesis of the

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disease is unknown but a proposed pathogenesis is, dystrophic calcification in the smooth muscle (dartoic) of the scrotum, analagous to calcification of uterine fibroids, or dystrophic calcification of epidermal inclusion cysts[3]. Idiopathic calcinosis may be associated with pruritus or a sensation of heaviness or with transepidermal elimination of a white, chalky material. The nodules grow slowly over years to decades. The age of onset is usually the third decade. Clinically, the findings of idiopathic scrotal calcinosis are of a variable number of stone-hard subcutaneous scrotal nodules of varying diameter, which are attached neither to the underlying structures nor the overlying epidermis. When incised and drained, a white paste can be extruded from the lesions. The diagnosis is made on the histologic findings, which differentiates idiopathic calcinosis from calcified epidermal inclusion cysts, calcified onchocercal cysts, and calcified fibromas[1-4]. Soft tissue radiologic examination of the scrotum shows calcified nodules. Histologically, accretions of homogeneous material that stain for calcium are seen scattered throughout the dermal connective tissue, with an inflammatory infiltrate composed of lymphocytes, histiocytes, and giant cells; there is no evidence of a cyst wall[5]. Treatment is the surgical excision of symptomatic single or groups of nodules[4].

Initially this condition was viewed by many to be idiopathic because they could find no evidence of keratin in the dermal tissue immediately adjacent to the calcium deposits by immunohistochemical staining for keratin[5-6]. Recently there have been accumulating evidences that at least some cases of this disease occur in association with dystrophic calcification of epidermal (follicular) cysts[7-10]. Presence of some intact epidermoid cysts and positive immunostaining for cytokeratin suggests that dystrophic calcification, and possibly inflammation and rupture of epidermoid cysts, may be the main pathogenetic mechanism of the disease in most reported cases[8]. In our case, on histopathological examination, evidence of cystic origin was found. Most likely pathogenic mechanism could be repeated scrotal trauma and dystrophic calcification of preexisting epidermal cysts.

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AN ADVANCED EXTRAUTERINE ABDOMINAL PREGNANCY

A CASE REPORT

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ABSTRACT

This paper reports on a 30 years old multigravida with a full term abdominal extrauterine pregnancy.

KEY WORDS: - Extrauterine Pregnancy, Multigravida,

INTRODUCTION

Abdominal pregnancy[1] is an ectopic pregnancy that is implanted outside the uterine cavity. It may be primary or secondary following tubal abortion or rupture[2]. Incidence varies from 1:3000 to 1:10000 deliveries and accounts for 1-4% of all ectopic pregnancies. Even more uncommonly does it reach an advanced stage of gestation[3]. Diagnosis is difficult and often missed[5]. Signs and symptoms such as abdominal pain. Gastrointestinal symptoms. Painful fetal movements, abnormal presentation are considered suggestive of abdominal pregnancy. It is a potentially life-threatening eondition[5].

CASE REPORT

The 30 years old G6 P4 was admitted with history of pain abdomen in left upper quadrant. Her only prenatal care consisted of two sonograms in which radiologists were unable to detect abdominal pregnancy. Both sonograms had shown a single viable fetus with gestational ages of 16 and 28 weeks, adequate amniotic fluid and a placenta that was described as low lying and placenta previa type I respectively. An urgent ultrasound after hospitalization was carried out to rule out placental abruption and revealed viable single pregnancy with breech presentation at 35 weeks, adequate amniotic fluid. And right lateral placenta away from cervical os. She had been adequately managed conservatively as she was unsure of dates. Pain abdomen was intermittent dull in nature, with no localizing sign; there was no tenderness or abdominal distension. Unfortunately patient developed less fetal movements 15 days letter which she failed to report. On clinical examination fetal heart was found to be absent and it was confirmed on ultrasound. To our surprise fourth sonogram revealed major placenta praevia. With a working diagnosis of major placenta praevia and breech LSCS was done.

At laparotomy, upon entering the abdomen via a pfannenstiel's incision a term-size dead fetus was found inside an intact amniotic sac within the abdominal cavity.

No haemoperitoneum was present but multiple adhesions were encountered. The uterus was 12 weeks gestational size. Left tube and ovary was normal in size and shape. The placenta along with the sac had spread all over omentum. The right fallopian tube was distorted. After extraction of the fetus, there was massive obstetric haemorrhage from the fetal surface of the placenta which continued throughout, attempts performed at hemostasis. The right ovary was tennis ball size with bleeding from the surface and pedicle. Compression and intraabdominal packing were used but to no avail. Ultimately, the placenta was removed after right adnexectomy. Most of the portion of amniotic sac removed partial omentectomy done, hemostasis secured and peritoneal toilet done. Gut was found to be normal. During the procedure there was an estimated blood loss of 3000 ml. Patient received four units of whole blood, and six units of fresh frozen plasma. Drain in pouch of Douglas and abdomen closed in layers. The patient's postoperative course was uneventful. She was given MTX therapy, 50 mg/m² I/M stat. Her post-op hemoglopbin, platelet count, coagulation profile, liver & renal function test were normal. On the second postoperative day, the patient resumed normal gastrointestinal fuction, starting diet on the third day. Drain

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removed on 3rd post-op day & intake output was normal. She was discharged after two weeks with advice for follow up. On follow up her condition was unremarkable.

DISCUSSION

Viable advanced abdominal pregnancies are rare, and only a few sporadic cases have been reported in the past 10-15 years[1,2,3]. it compels every clinician to have a high index of suspicion for this condition, and be familiar with its challenging diagnostic and management features[5]. The case presented here was probably missed because this rare entity was not thought of. The fact that, in spite of 4 sonograms, the diagnosis was missed preoperatively, is disturbing but not unusual. The signs and syumptoms suggestive of abdominal pregnancy were non-specific. Even under the best circumstances, and using sonography, the diagnosis is often missed. However, CT scan and magnetic resonance imaging have been used successfully. Once the diagnosis is made optimal management requires immediate operative intervention[5]. Management of advanced abdominal pregnancy poses a great challenge to even the best of clinician. It is often associated with sever blood loss. For which one should be prepared.

The other significant problem at operation is whether or not to remove the placenta. Massive hemorrhage[6] occurs more frequently when attempts are made to remove the placenta. If left in situ, though it is usually the procedure of choice, the morbidity from abscess formation is high. Removal of the placenta should be undertaken if it is safe, depending upon the accessibility of ligation of the maternal vessels supplying the placenta. This reduces hospital stay and morbidity. MTX[4] is given for any retained products. This was done successfully in the present case. The patients should then be followed with sonograms and clinically.

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