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QUARTERLY

# JSP JOURNAL OF SURGERY PAKISTAN INTERNATIONAL

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## **EDITORIAL:**

### **SURGEONS - EVALUATION AND COMPETENCE**

Evaluation is one of the most important components in the training of a Surgeon. It means the final assessment of whether the initial objectives with which training was started have been met in the finished product or not. If evaluation 'passes' a candidate, it is presumed that he/she is in possession of the basic knowledge and skills required for a Surgeon.

There are however, certain reservations to this assumption. It is a common observation that people doing very well in examinations do not necessarily become equally good Clinicians or Surgeons. But they may be regarded as professionally competent by unsuspecting public. It is obvious that any evaluation system lacks the very important ingredient i.e. experience gained along the way, which shapes and moulds a person in such a way that he /she becomes more able to fulfill the needs of the profession and the society at large.

How would a person assess whether a doctor is a good surgeon or not? Obviously, there are no simple answers or solutions, like a cook keeps tasting a dish he is preparing until he is sure the right amount of ingredients have been put in. To my mind there is a combination of various factors which can be taken into account which actually analyzes and helps in understanding the competence of a surgeon:

- His reputation in the Institution in which he works – the opinion of his peers and member of his team.
- The opinion of his patients.
- His interest in Medical teaching, Meetings and Conferences.
- Whether he has published articles in Medical Journals esp. of repute.
- His availability and approachability especially in off hours.

For anyone looking for a competent Surgeon, it is advisable to spend some time, if possible, in gathering the information required so that he/she gets the best possible professional help. This expenditure of time and effort may well give excellent returns in the long run to the unsuspecting patients.

However, a more scientific way to assess and evaluate the surgeons ability is to pass them through structured, objective, competence and evidence based training programs before the final evaluation and assessment. Once such a person has gone through this drill, only then should he be declared fit to shoulder the responsibilities of a professional surgeon. This will guarantee the safety of the patients and make certain that their services to the community are of a high standard and benefit the society he/she is serving.

**DR. IRSHAD WAHEED**  
**Professor of Surgery**

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# ROLE OF PERITONEUM AS INTERPOSITION TISSUE IN THE MANAGEMENT OF VESICO VAGINAL FISTULA

ASIF ABBAS KHAWAJA, RIAZ AHMED AND RAFIQUE ANJUM.

## **ABSTRACT**

### **Objective**

To study the relative efficacy and results of the use of peritoneum as interposition tissue between vesical and vaginal repair in the management of VVF and compare the results with omentum pedicle flap.

### **Design**

It is a comparative study.

### **Place & Duration**

The study included twenty patient of VVF, who were operated in the Dept of Urology Nishtar Hospital Multan, from 30<sup>th</sup> June 2003 to 30<sup>th</sup> July 2004.

### **Subject And Methods**

In 10 patients (Group I), omentum was used as interposition tissue between the vesical and vaginal suture lines and in 10 patients; (Group II) peritoneum was used as interposition tissue between the two repairs.

### **Results**

The study included 20 patients of VVF with mean age of 27 years. The leading cause of hysterectomy was the dysfunctional uterine bleeding in 8 patients (40%). Fifteen patients (75%) came from rural areas and 5 patients (25%) were referred from gynecological units of Nishtar Hospital Multan. In group I patients, with omentum as interposition tissue, two patients (20%) developed high-grade fever, three patients (30%) developed persistent vomiting, two patients (20%) needed blood transfusion, four patients (40%) developed UTI. One patient (10%) developed leakage of urine per vagina on 18<sup>th</sup> postoperative day and one patient (10%) developed intestinal obstruction. In group II patients, one patient (10%) developed high-grade fever, one patient (10%) developed persistent vomiting, three patients (30%) needed blood transfusion, three patients (30%) developed UTI. None of the patients developed any leakage of urine or intestinal obstruction.

### **Conclusion**

The study showed that peritoneum is equally good as omentum for use as interposition tissue in transabdominal repair of VVF. It is also easy to mobilize with a comparable complication rate.

**KEY WORDS:-** Vesicovaginal fistula, Omentum , Peritoneum.

.....

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## **INTRODUCTION**

Urinary fistula to the vagina has been described since the beginning of written record. In his textbook 'Al Kanoon' the celebrated Percian physician Avicenna (980-1037) was the 1<sup>st</sup> to recognize that urinary incontinence after difficult

labor was due to communication between the bladder and vagina.<sup>1</sup> In developed countries these fistulas are usually unfortunate complications of gynaecologic or other pelvic surgery.<sup>2</sup> Birth trauma remains the major cause of urinary fistula in many underdeveloped nations with limited medical resources.<sup>3</sup> Once the diagnosis of VVF is confirmed, surgery remains the main stay of therapy for large mature VVF. Historically at least three months waiting period is recommended before doing definite repair.<sup>4</sup> Abdominal approach is suitable for high fistulas after hysterectomy with simultaneous advantage of ureteral reimplantation or bladder augmentation if needed.<sup>5</sup> Omental flap is placed between vaginal and posterior bladder wall if there is any concern about the quality of vaginal tissue, integrity of closure or in cases associated with prior radiation therapy or previous failed attempts at repair.<sup>6</sup> However it needs mobilization and tailoring with preservation of its blood supply to make it long enough to place without tension.

In this study we compared use of peritoneum as an interposition tissue with omentum.

## PATIENTS AND METHODS

This study comprised of 20 patients, who were referred to urology Dept of Nishtar Hospital Multan from 30<sup>th</sup> June 2003 to 30<sup>th</sup> July 2004. Fifteen (75%) patients were referred from rural areas and 5(25%) patients from gynaecology unit of Nishtar Hospital Multan. Ages of patients ranged from 21 to 40 years. The duration of VVF after hysterectomy ranged from 3-6 months.<sup>7</sup> All patients had their initial workup, history, examination and other relevant investigations done. IVU, ultrasound and cystoscopy were done routinely in all patients before surgery. Ciprofloxacin 500mg BD was started in all patients 48 hours before surgery and 3<sup>rd</sup> generation cephalosporin (Ceftriaxone 1gm) was given half hour before surgery and continued with metronidazole up to 6<sup>th</sup> post operatively.

Transabdominal repair of VVF was done in all cases with vaginal suture line closed transversely and vesical suture line vertically in two layers. All suture lines were tension free and continuous. In 10 (50%) patients (Group I) omentum was mobilized and flap was made, based on right gastro-epiploic artery. The flap was placed between the two suture lines and anchored with two stitches of catgut 2/0. In other 10 (Group II) patients, adjacent peritoneum was mobilized; flap was made and placed between the two suture lines. In all patients suprapubic and perurethral catheters were placed and two drains were placed in the pouch of Douglas.

Both group of patients were monitored closely. The drains were taken out on 5<sup>th</sup> and 6<sup>th</sup> postoperative days respectively. The stitches were removed on 8<sup>th</sup> postoperative day and patients were discharged on oral quinolones (ciprofloxacin 500mg) for five days after taking out perurethral catheter.

All patients were called for follow up after two weeks for evaluation and urine examination with culture sensitivity was done. Cystogram was done in all patients before removing their suprapubic catheters. The patients were again called after eight weeks for urine examination with culture sensitivity and ultrasound abdomen was also done.

## RESULTS

The mean age of the patients was 27 years (Range 21years-40 years). All fistulae followed hysterectomy done for various reasons. None of the patients had any previous attempts of repair of their V.V.F. The average duration of repair of fistula was between 3-5 months. All the patients under study had supra-trigonal urinary fistula with average size between 0.5 to 2 cm and none of the patients had any associated ureteric injury.

In group I patients with omentum as interposition tissue, two patients (20%) had temperature, 102 F on third post-operative day. Three patients (30%) developed persistent vomiting and required nasogastric tube aspiration for 4 days. Two patients (20%) needed blood transfusion. Four patients (40%) had persistent pus cells in urine on first follow up and required one-week course of oral antibiotics after culture sensitivity. One patient (10%) developed leakage of urine per vagina on 18<sup>th</sup> postoperative day and required repair after four months. One patient developed fever, vomiting and abdominal distension two months after repair. Exploratory laparotomy was done after one week of nasogastric aspiration. Dense adhesions were found between gut loops and band of omentum. These adhesions were separated and patient became all right after two weeks. Renal function remained normal in all patients and none developed any complications of wound. In group II patients with peritoneum as interposition tissue, one patient (10%) had temperature, 102° F on third postoperative day and required oral quinolones for one week. One patient (10%) developed persistent vomiting and required nasogastric tube aspiration for 4 days. Three patients (30%) needed blood transfusion. Three patients (30%) had persistent pus cells in urine on first follow up and required one-week course of oral antibiotics after culture sensitivity.

None of the patients developed any leakage of urine. Renal function remained normal in all patients and none developed any complication of wound.

The student t-test was used to calculate standard error of the difference for total complications number. The t value was 1.180, which was greater than the value derived from table, thus p is smaller than 0.05.

## DISCUSSION

The 19<sup>th</sup> century was the dawn of new era of surgical treatment of VVF. In study of 303 patients at Mayo clinic, in 225 patients (74%), the fistula results from gynecologic

surgery for a benign condition most commonly fibroids, dysfunctional uterine bleeding, prolapse, incontinence, carcinoma insitu, endometriosis and ovarian cysts.<sup>9</sup> Fistula results most often due to over vigorous blunt dissection of bladder from the uterus and cervix resulting in an unrecognized tear. Necrosis due to clamp or suture injury may also be responsible. The post hysterectomy fistula is usually located above the inter-ureteric ridge medial to both ureteral orifices. Unlike obstetric fistulae massive tissue loss is uncommon. Birth trauma remains the major cause of urinary fistula in many under developed nations.<sup>10</sup>

Most patients with VVF presents with continuous discharge of urine from the vagina after gynecologic surgery. The discharge becomes apparent immediately postoperatively or becomes apparent several days to weeks after offending surgery. Through vaginal examination and cystoscopy, one localizes the exact site of fistula, its size, number, location and relation to trigone. IVP and retrograde pyelography is performed to assess upper tracts and rule out associated ureterovaginal fistula.

Once the VVF is confirmed, a trial of conservative therapy including uninterrupted catheter drainage of bladder with antibiotics cover is given.<sup>11</sup> Surgery remains the main stay of therapy for large mature VVF undertaken after waiting period of 3-6 months, to allow healing of any inflammation and oedema. Abdominal, vaginal and combined abdomino-vaginal approaches have been described for the repair of VVF. Abdominal approach is suitable for high lying fistula with advantage of ureteral reimplantation or bladder augmentation if needed. The technique involves bisection of bladder to the level of fistula. The bladder is widely mobilized from the vagina, avoiding ureteral injury by catheterizing them before mobilization. All suture lines should be tension free, uninfected and dry.<sup>12</sup>

Historically omental pedicle graft is recommended as interposition tissue to allow for reinforcement of repairs but it needed following qualities.

1. It should be long enough to reach the pelvis without tension.
2. Mobilization of omentum from transverse colon requires ligation and division of short gastric branches.
3. To avoid complications due to contact of urine with permanent suture material, absorbable suture material should be used.
4. There is also increase risk of bleeding and injury to the gut during mobilization of omentum.
5. There is also risk of developing adhesions and band formation resulting in intestinal obstruction.

In our study of 20 patients, we mobilized adjacent peritoneum and placed as interposition tissue between the two repairs. The benefits are:

1. Easy mobilization due to its adjacent location.
2. Good blood supply with results showing similar efficacy as omentum.

3. There is also less handling of gut resulting in less chance of injury to gut.
4. There is also decrease incidence of postoperative vomiting and nasogastric drainage.
5. No risk of adhesions and bands formation thus avoiding intestinal obstruction.

## CONCLUSION

Based on clinical evaluation and follow up, in all patients with VVF resulting from hysterectomy due to benign causes, adjacent peritoneum is a useful alternative to omentum and our study shows its efficacy.

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# ESTIMATION OF GESTATIONAL AGE OF THE FETUS BY MEASURING PLACENTAL THICKNESS

MUHAMMAD HANIF KHATRI, ABDUL GHAFFAR AND RASHID MAHMOOD.

## **ABSTRACT**

### **Objective**

*To determine the gestational age of fetus on ultrasound by measuring the placental thickness.*

### **Design**

*An observational, cross-sectional study.*

### **Place & Duration**

*P.N.S. Shifa Hospital, Karachi between July 2003 to July 2004.*

### **Subject And Methods**

*The study included one hundred pregnant females. The gestational age was > 12 weeks. Examination was done by Aloka SSD 1400 with 3.5 MHz convex probe throughout.*

### **Results**

*It was observed that the placental thickness increased from 16mm at 12 weeks of gestation to 39mm at 40 weeks.*

### **Conclusion**

*The measurement of the placental thickness is an important parameter for estimation of fetal age along with other parameters especially in the late mid trimester and early third trimester, where the exact duration of pregnancy is not known.*

**KEY WORDS:-** Placental thickness, Gestational age.

---

## **INTRODUCTION**

The placenta is a fetal organ with important metabolic, endocrine and immunologic functions besides being responsible for nutrition, respiration and excretion for the fetus. Lastly acting as a barrier, it has a role in protecting the fetus from noxious agents. Placental formation begins in the later half of the 2<sup>nd</sup> month of the pregnancy and is usually completed by the 4<sup>th</sup> month. It reaches its maximum growth at term.<sup>1</sup>

The normal antenatal follow-ups include ultrasonographic examination to determine any developmental anomalies

as well as to estimate the gestational age of the fetus. Ultrasound (US) is a safe, non-invasive and the most reliable modality in the present era to assess the pregnancy. Then timely determination assists the clinician to take necessary decisions concerning pregnancy status during the antenatal examinations.<sup>2</sup>

With the new advances in grey scale and doppler sonography<sup>3</sup>, we are able to study the placental US appearance and its relationship to uteroplacental blood flow measurement and intrauterine growth. Presently the most effective way to date pregnancy is by the use of US.<sup>4</sup> Several US derived fetal parameters used to date pregnancy, include fetal crown - rump length biparietal diameter (BPD), head circumference, femoral length (FL) and abdominal circumference. Placental thickness<sup>5</sup>

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measured at the level of the umbilical cord insertion can be used as a new parameter to estimate gestational age of the fetus.<sup>6</sup> The present study was undertaken to evaluate the relationship between placental thickness and gestational age of the fetus.<sup>7</sup>

### PATIENTS AND METHODS

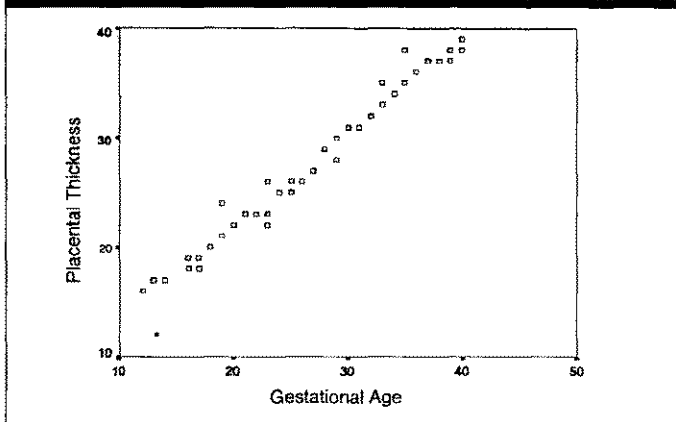
The study included one hundred pregnant females. Patients with pregnancy induced hypertension, diabetes mellitus, intra uterine growth retardation (IUGR), hydrops fetalis, twin pregnancy, congenital malformations, placental tumors and haematoma were excluded. US was done with Aloka SSD-1400 model with an attached printer. The convex probe with frequency of 3.5 MHz was used. The patients were scanned with a full bladder in a supine position. The gestational age was determined by measuring the biparietal diameter (BPD) and femoral length. The placental thickness was measured at the level of cord insertion. Data was recorded on a pre- designed proforma and the data was analysed using SPSS ver. 10.0. Mean values for gestational age, femoral length (FL), BPD and placental thickness were calculated. Correlation between gestational age and the placental thickness at the insertion of umbilical cord was also noted.

### RESULTS

The ages of the patients were between 20 to 40 years with history of more than 12 weeks amenorrhea. Mean duration of the pregnancy among the studied females was 25.78 weeks and the mean gestational age was 25.96 weeks. Biparietal diameter, a valid tool to estimate the gestational age of the fetus was recorded and the mean value was 63.07mm and the femoral length (FL) was 48.30mm.

The Placental thickness at the insertion of umbilical cord was also calculated for different gestational ages from 12 week to the 40 weeks. It was observed that the placental thickness increased from 16mm at 12 weeks of gestation to 39mm at 40 weeks of gestation. (Fig. 1 & Table I). The value of mean placental thickness increased with advancing gestational age. The mean value was 27.02mm.

**FIGURE - 1** RELATIONSHIP OF PLACENTAL THICKNESS AND THE GESTATIONAL AGE



**TABLE-I** MEAN PLACENTAL THICKNESS AMONG STUDY PATIENTS WITH RESPECT TO THE AGE OF GESTATION

Gestational Age (weeks)	No. of cases	Mean Placental Thickness (mm)
12	5	16
13	4	17
14	2	17
15	0	0
16	7	18.5
17	5	18.6
18	2	20
19	4	21.75
20	1	22
21	4	23
22	2	23
23	5	23.4
24	7	25
25	4	25.5
26	1	26
27	2	27
28	4	29
29	5	29.2
30	3	31
31	1	31
32	2	32
33	5	33.4
34	2	34
35	5	35.6
36	3	36
37	4	37
38	3	38
39	4	37.75
40	4	38.75

### DISCUSSION

The placental thickness is now a days considered an additional method to find out gestational age of the fetus along with other parameters. It has been observed from the new studies that the placental thickness gradually increases from 16mm at eleven weeks of gestation to 37.5mm at 39 weeks. The measurement is taken at level of insertion of umbilical cord, which can easily be seen on US.<sup>8</sup>

Traditional US scans are two-dimensional (2D). Over past thirty years, computer technology has enabled US imaging to evolve to the current high-resolution gray scale display. More recently, three-dimensional (3D) US has emerged and expectant parents awestruck by the life like images. However whether 3D US can provide more information than a standard 2D scan remains to be seen.<sup>9</sup>

Since during pregnancy, the growth of placenta is smooth, progressive and convenient to see on the US, it is used to determine the gestation age may be of great significance if other parameters are affected during pregnancy. Besides the placenta being a highly vascular organ and very much resistant to different stress and strains of pregnancy, its thickness may become more reliable and accurate parameter for gestational age<sup>10</sup> calculation. Hooja has worked on placental thickness and calculated that placental thickness from 22 week to 35 week of gestation coincides almost exactly with the gestation age.

## CONCLUSION

The study concludes that the measurement of placental thickness can be used as an important additional parameter for estimation of fetal age specially in cases where the exact duration of pregnancy is not known. It has been seen in the present study that the placental thickness correlates well with the gestational age.

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# ANTIBIOTIC SENSITIVITY PATTERN IN BURN WOUND CULTURES

TAYYABA BATOOL, JAMSHED AKHTAR, SOOFIA AHMED, FARHAT MIRZA, SHAZIA JALIL,  
AQIL SOOMRO, NASIR SALEEM, YAQOOT JEHAN, M.ALI SHAIKH AND RAEES TAQVI.

## **ABSTRACT**

### **Objective**

*To find out the pattern of microbial flora and their sensitivity to antibiotics in burn wounds cultures.*

### **Design**

*Descriptive study.*

### **Place & Duration**

*During year 2003, at Burns unit, National Institute of Child Health, Karachi.*

### **Subject And Methods**

*Twenty-five consecutive patients were included in the study and pattern of most common pathogens was studied with special reference to their antibiotic sensitivity. The bacterial cultures were taken at different intervals during the hospital stay, first on the second day of admission and then subsequently, following every 7-10 days. Antibiotic sensitivity pattern was correlated to the antibiotic the patients were receiving.*

### **Results**

*Our results revealed that the most frequent isolate was pseudomonas (80%) followed by staphylococcus aureus (40%), klebsiella (28%), proteus (16%) and streptococcus (8%). Time related changes showed that the bacterial isolates were predominantly gram negative rods (70%). in the first culture taken on the 2nd day of admission and remained high throughout the hospital stay and was up to 90% in the final culture.*

### **Conclusion**

*There is a specific pattern of burn wound microbial colonization, with time related changes in dominant flora. Antibiotic sensitivity profile is helpful to make guidelines for dealing with the burn wound at the outset and for which antibiotic to start with. Following this protocol the morbidity and the resistant flora could be avoided.*

**KEY WORDS:-** Burns wound culture, Microbial flora, Antibiotic sensitivity.

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## **INTRODUCTION**

Burn is not an uncommon injury in paediatric population in our part of the world.<sup>1</sup> It has great bearing on patient and the family, both in short term and as a long-term sequel. Burn injuries still remained a formidable challenge for

health care professionals. Once the patient has recovered through the initial insult and stabilized haemodynamically, with adequate resuscitation, the next goal is to achieve a sound control over wound infection, which is the foremost challenge when dealing with burn victims. Burned tissue is non viable and provides a reservoir for the colonization of bacteria and fungi. The patient's own surface bacteria or endogenous intestinal flora normally serves as their pool of potential contaminants<sup>2</sup> but the nosocomial infection can not be overlooked in our setup. There are different methods of controlling these bacterial flora i.e. topical agents or systemic antibiotics, but none of them is effective for all contaminants of burn wounds.

It is important to have periodical look at bacterial isolates of burns unit so as to know which of the organisms predominate and what is their sensitivity pattern to antibiotics. It is crucial for every burn institution to determine the specific pattern of burn wound microbial colonization, the time-related changes in the dominant flora, and the antimicrobial sensitivity profiles. This would enable early treatment of imminent septic episodes with proper empirical systemic antibiotics, without waiting for culture results, thus improving the overall infection-related morbidity and mortality.<sup>3,4</sup>

In this study we analyzed the pattern of microbial flora of burn wounds admitted to our Burns unit. Such studies will help in devising a protocol of antibiotic regimen which will thus help in reducing morbidity and mortality rate.

## PATIENTS AND METHODS

This study was carried out in Burns Unit, National Institute of Child Health, Karachi, during the year 2003. Twenty five patients who came with either scald or flame burns requiring hospital admission were included in the study. Wound cultures were taken serially in all these patients, first being on second day of admission followed by subsequent cultures every 7-10 days. The number of patients on ensuing weeks from this cohort decreased, as they got treated and subsequently discharged or died during the stay. Microbial flora report obtained was analyzed and antibiotics switched according to the sensitivity report. Pattern of change of pathogenic isolates also analyzed during this period.

## RESULTS

A total of 25 patients made the cohort of the study group. Fifteen were males and 10 females. The type of burns encountered were either flame or scald with total burn surface area (TBSA) ranging from 10-60%. The predominant isolate remained constant in all the 4 cultures, that was pseudomonas while staphylococcus aureus ranked second followed by klebsiella, proteus and streptococcus (table I).

Time related changes revealed gram-negative organisms to be the predominant flora throughout the hospital stay as compared to gram positive organisms. Table II. shows that no matter what antibiotic was used related to the sensitivity, the dominant organism remained unchanged.

Pseudomonas was most susceptible to carbapenems (72%) and quinolones (32%), whereas staphylococcus to vancomycin (60%) and carbapenems (40%). The total number of 19 (76%) patients found improved at the end of the study, while 2 patients developed highly resistant strain of MRSA and 5 (20%) patients expired secondary to septicemia.

<b>TABLE-I BURNS WOUND BACTERIAL ISOLATES (N 25)</b>	
<b>ISOLATES OF FIRST CULTURE: (Total 25 Patients)</b>	
Organism	Number
Pseudomonas	12
Staph aureus (MRSA)	5
Staph aureus (MSSA)	2
Klebsiella	4
<b>ISOLATES OF SECOND CULTURE: (Total 10 Patients)</b>	
Organism	Number
Pseudomonas	8
Staph aureus (MRSA)	2
Staph aureus (MSSA)	2
Klebsiella	2
Proteus	1
<b>ISOLATES OF THIRD CULTURE: (Total 8 Patients)</b>	
Organism	Number
Pseudomonas	4
Staph aureus (MRSA)	2
Klebsiella	2
Proteus	3
<b>ISOLATES OF FOURTH CULTURE: (Total 5 Patients)</b>	
Organism	Number
Pseudomonas	4
Staph aureus (MRSA)	1
Klebsiella	3
Proteus	2
<ul style="list-style-type: none"> <li>• Only 5 patients remained admitted till the end of study (4 weeks)</li> <li>• More than one organism grew in single culture.</li> </ul>	

<b>TABLE-II BURN WOUND ORGANISMS DISTRIBUTION</b>		
<b>1<sup>st</sup> Culture:</b>		
Gram - ve	organisms	69.5%
Gram + ve	organisms	30.4%
<b>2<sup>nd</sup> Culture:</b>		
Gram - ve	organisms	73.3%
Gram + ve	organisms	26.6%
<b>3<sup>rd</sup> Culture:</b>		
Gram - ve	organisms	81.8%
Gram + ve	organisms	18%
<b>4<sup>th</sup> Culture:</b>		
Gram - ve	organisms	90%
Gram + ve	organisms	10%

## DISCUSSION

Compared with other natural disasters, burns exert a catastrophic influence on people in terms of human life, suffering, disability, and financial loss. Serious burn injuries occur most commonly in males (67%).

The highest incidence of serious burn injury occurs in young adults followed by children younger than 9 years. For children younger than 2 years, liquid scalds and hot surface burns account for nearly all serious burn injuries. After age 2 years, flame burn is the most common cause of serious burn injuries, accounting for nearly one third of all serious burns.<sup>5</sup>

The most serious burns result from flames and this is the major cause of mortality in relation to type of burns.<sup>6</sup> Most of the deaths occurring later during the illness are due to sepsis that develop subsequently in the burn patients. Most of the organisms gain access as a part of hospital acquired infection. Infection control thus becomes a priority in the management of patients with burn injuries. It is important to conduct frequent survey regarding the type and nature of organisms from burn unit so as to define antibiotic protocols and to rationalize their use. A retrospective study was conducted at Government Medical College and Hospital, Chandigarh to analyze the bacterial isolates from the wounds of patients admitted to the Burns unit and to determine the sensitivity pattern of the commonly cultured organisms over a 3-year period from May 1997 to May 2000. A total of 336 samples were analyzed, with 293 positive samples yielding 324 isolates. The isolates obtained from the culture of wound swabs were single in the majority of cases (78.0%). *Pseudomonas* was the most commonly cultured organism (54.2%) followed by *Staphylococcus aureus* (20.8%).<sup>7</sup>

In another study from India, *Pseudomonas* (31%) and *Staphylococcus aureus* (22%) were the most common pathogens followed by *Klebsiella* species (19%). When they compared their present results with the previous one, *Pseudomonas* spp. was still the commonest pathogen in the burn unit. However, isolation of this organism and other gram-negative organisms had decreased in comparison to previous years.<sup>8</sup> The infection of burn wounds with multiple organisms, with the superadded problem of drug resistance, necessitate the institution of a drug policy by the hospitals for burn patients.<sup>9</sup> In a study from Italy the most frequent isolates observed in burn patients were also in the same order of prevalence.<sup>10</sup>

In another study conducted to examine the bacterial isolates from the burn patients and to compare the antibiograms of the predominant bacteria isolated from 51 patients hospitalized at least 3 weeks or more, a prospective study was undertaken which revealed coagulase-negative staphylococci (CNS, 63.0%) and *Staphylococcus aureus* (19.7%) as the most prevalent isolates in admission cultures. During the subsequent weeks, these bacteria were superseded by mainly *Pseudomonas aeruginosa*. Between admission and 21st day, the rates of MRSA strains increased steadily.<sup>11</sup> In a study from Nigeria only 15 per cent of staphylococci were sensitive to cloxacillin. Most of the organisms cultured (93.5 per cent) were sensitive to ceftazidime.<sup>12</sup>

In our study, we observed *Pseudomonas* (80%) to be the main isolate, from culture at admission to the last culture taken at 4<sup>th</sup> week. The predominance of organism was alike majority of the studies conducted in patients of burns at different centers but in a much higher rate. This we believe is due to local clinical microbial flora (nosocomial) as it was isolated even in first culture. This is contrary to usual assumption that gram positive cocci dominate in initial cultures and usually empiric antibiotics are directed against them. The antibiotic in this set up probably is counterproductive and is waste of resources. This demands observation of surgical principles especially in terms of space to be allocated for each patient, adequate nursing staff particularly one nurse for each patient, washing hands before and after attending each patient, adequate ventilation, special care at change of dressing etc.

The clinical relevance of microbiologic diagnostics is related to the establishment of epidemiological knowledge and the basis for empiric therapy. Microbiologic data should be obtained on per-hospital basis if adequate initial therapy is to be chosen. The usual practice of taking wound culture within 24 hours, have been challenged. In one study the collection of routine cultures during the first 24 hours after admission to the hospital was not found cost-effective and according to the results it rarely altered or provided therapeutic direction. The authors found that an estimated \$14,000 per year decrease in charges could be achieved by the elimination of cultures taken during the first 24 hours of admission to the hospital.<sup>13</sup> Although in our study even cultures taken within 48 hours were positive for organisms. It is revealed in one study that microbial colonization in severe burn patients was endogenous in nature and there were no cross infections. They suggested that strict isolation was not necessary in burn centers, except during outbreaks of multi-resistant microorganisms.<sup>14</sup>

The rationale for antibiotic therapy conventionally is sensitivity related but it nevertheless ends up with inadequate control of the infection in burn wounds as antibiotic alone does not suffice. When using antibiotics, the principle of starting narrow spectrum antibiotics in critically ill patient even at start is being questioned. A principle of De-escalation therapy has been put forward where in critically ill patient as one in ICU setting or in HDU with life threatening infection or in relation to burns, a patient with major burns, is started on broad spectrum antibiotic. There are 2 important features of this protocol;

- An initial broad spectrum with high probability of covering the likely pathogens, and
- Subsequent (48-72 hours) reduction of the spectrum on the basis of sensitive antibiotics.

The objective of de-escalation therapy is to provide the best possible treatment for the patient with the lowest practical risk of developing bacterial resistance. In relation

to burn wound flora isolation, one point should be kept in mind and that is mere presence of organism does not mean a patient will always need systemic antibiotic, it is presence of systemic signs that will dictate use of parenteral antibiotic. Local wound care should be given high priority rather than using antibiotic irrationally as it will only promote emergence of highly resistance organisms.

Current techniques of burn wound care have significantly reduced the incidence of invasive burn wound infection, altered the organisms causing the infections that do occur, increased the interval between injury and the onset of infection, reduced the mortality associated with infection, decreased the overall incidence of infection in burn patients, and increased burn patient survival.<sup>15</sup> Overall, it appears that rates of infection and associated mortality have decreased in some patient populations; progress in this regard can be attributed to improvements in antimicrobial therapy, wound management, and nutrition combined.<sup>16</sup>

## CONCLUSION

The nature of microbial wound colonization, flora changes, and antimicrobial sensitivity profiles should be taken into consideration in using empirical antimicrobial therapy of burn patients. The concept of de-escalation therapy can well be utilized to deal with burns patients in achieving control over nosocomial flora.

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# SAGITTAL DISCREPANCY IN CENTRIC RELATION AND CENTRIC OCCLUSION POSITIONS IN PRETREATMENT ORTHODONTIC PATIENTS

AMBREEN AFZAL, AFREEN SHAMEEM AND S.A RAUF SHAH

## **ABSTRACT**

### **Objective**

*To compare the centric relation (CR) – centric occlusion (CO) discrepancy in sagittal (antero-posterior) plane as determined by the differences in overjet.*

### **Design**

*Comparative; cross sectional study.*

### **Place & Duration**

*Orthodontic out patient department, Karachi Medical & Dental College. The study period was 18 months.*

### **Subject And Methods**

*Eighty patients were divided into 3 groups according to Angle's classification. Leaf gauges were employed for muscle deprogramming. Bimanual manipulation technique was used to guide the mandible in centric relation. Softened red modeling wax was used to obtain the centric bite registration. The study caste were trimmed in centric relation using bite registration. Overjet was recorded in centric relation and centric occlusion by dial caliper on castes.*

### **Results**

*A statistically  $p\text{-value} < 0.05$  was found for CR-CO discrepancy in overjet values.*

### **Conclusion**

*CR-Co discrepancy can occur regardless of age and gender. Its importance should be emphasized during the examination of every patient.*

**KEY WORDS:-** CR-CO discrepancy; Diagnosis; Overjet.

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## **INTRODUCTION**

McNeill<sup>1</sup> cited that dental occlusion is much more than the physical contact of the biting surfaces of opposing teeth or their replacements. Occlusion is thus, more biologically defined as the coordinated functional interaction between

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the various cell populations forming the masticatory system as they differentiate, model, remodel, fail, and repair. The ideal occlusion described by orthodontists today, is based upon the work of Angle<sup>2</sup> and Andrews<sup>3</sup> to judge the final outcome of the orthodontic treatment. It was generally assumed that an ideal occlusal relationship is compatible with an ideal functional occlusion.<sup>4</sup> However, all does not accept this concept<sup>5</sup> and it was

stated that where skeletal disproportion and tooth-size discrepancies exist, achievement of an excellent functional occlusion might be more difficult than anticipated if only Andrews's six keys are considered.<sup>6</sup> Roth<sup>7</sup> further elaborated this aspect by stating that if the orthodontist can finish cases with the centric relation coinciding with centric occlusion, and all the six keys of static occlusion being satisfied only then, Stuart's<sup>8</sup> goal of functional occlusion can be fulfilled.

Gnathologists and restorative dentists have suggested using centric relation as a guide to reconstruct the dentition.<sup>9</sup> Many orthodontists advocate similar concepts but importance of occlusion varies among clinicians.<sup>10</sup> However, recent emphasis is being put on the condylar position (CR) as the desirable treatment goal. It is said that the condylar position is directly related to how the teeth come together because the condyles and teeth are connected with each other and move in tandem. Therefore, due to malocclusions, the condyles may not be located in CR in orthodontic patients before treatment.<sup>11</sup>

The definition of centric relation has been a point of controversy throughout the years. Moreover, misconceptions about this term have led to the loss of its importance.<sup>12</sup> But, present knowledge strongly indicates that CR is the most superior anterior position of the condyles against the posterior slope of the eminentia.<sup>13</sup>

From an anatomical point of view, the condyles cannot move forward or backwards from centric relation without moving downwards, therefore, a "centric slide" results in a downward displacement. Most often there is distal component with the downward displacement of the condyle as the mandible fulcrums over the most posterior tooth and rotates the mandibular body in a forward direction to achieve maximum intercuspation or centric occlusion.<sup>14</sup> Such occlusal interferences produce proprioceptive reflexes, which guide the mandible away from these hindrances. The path of closure from centric relation to centric occlusion in such scenarios becomes deviated producing a centric slide or as normally called "CR-CO discrepancy". By definition, centric slide is an anterior shift of the condyles from CR to CO because in the mouth, the mandibular teeth tend to shift forwards.<sup>15</sup> In an ideal situation, the path of closure only possesses a rotary condylar movement making the CR equal to the CO but when hindrance is present, a translatory component is added resulting in the formation of a slide.<sup>16</sup> It is generally accepted that in most individuals with a natural dentition, there is a short path of movement between the retruded contact position and the intercuspal position in an antero-posterior direction, and that both these occlusal positions are used frequently during function.<sup>17</sup> Numerous studies<sup>18,19</sup> have shown that a discrepancy of 0.5–1.5 mm exists between the retruded contact position and the intercuspal position as measured at the lower incisor point

in adults. Certain studies<sup>20</sup> state that this difference can be acceptable within a range of 1-2mm. Since the centric condylar position is said to be a major determinant of the overbite-overjet relationship of anterior teeth and canines, and the major determinant of posterior tooth positioning and archform<sup>13</sup>, therefore it can be assumed that a centric slide can not only change the molar relationship but also affect the overjet and overbite. Foley and Karl<sup>21</sup> also support the increase in overjet found in 3 out of 39 patients. Slavicek<sup>22</sup> and Roth<sup>7</sup> have reported that with the increase in overjet, there is decrease of overbite in reference to CO. Qamruddin<sup>23</sup> has clearly demonstrated the effects of the centric slide on the esthetics and the Angle's classification. He showed that if the direction and amount of the centric slide is not determined, the appearance and the treatment results could be drastically compromised. The statement stands particularly true for cases of Pseudo-class III and dual bites.

Thus, the basic aim of this study was to reveal that a significant CR-CO discrepancy existed in most of the patients reporting to the daily orthodontic OPD. If this aspect was ignored during the examination process, it can have drastic effects on the treatment outcome and esthetics of the patient. Further, to date, there is no literature found that might identify the existence and the range of the centric slide in the Pakistani patients undergoing orthodontic treatment. Thus, the present study can serve as a platform to formulate a local range of norms for such values.

## PATIENTS AND METHODS

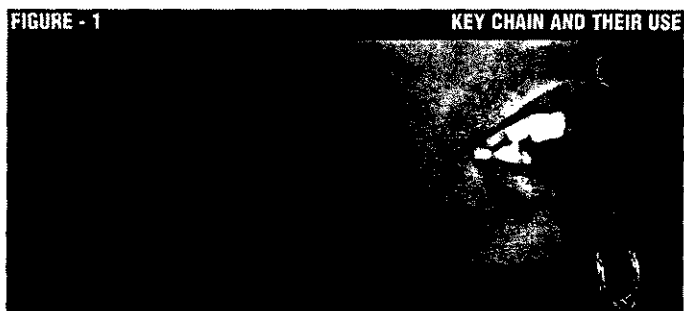
This cast-based study was conducted at the Department of Orthodontics, Karachi Medical and Dental College, Karachi. The study design was comparative; cross sectional and the sampling technique was non-probability, convenience. Total 80 patients with a mean age of 16.2±4.7 years were selected. The sample had 69 females and 11 males.

The inclusion criteria were patients in late mixed dentition and permanent dentition state, patients with dental cross bites or functional shift of mandible and patients with pseudo-class III and dual bite.

The exclusion criteria were patients with previous orthodontic treatment, asymmetric faces, severe craniofacial anomalies, true skeletal class III malocclusions, temporomandibular joint disorders, and with missing first maxillary or mandibular molars.

This study included pretreatment records that were made from alginate impressions poured in hard die stone. The jaw relationship record was taken in centric occlusion and centric relation but the study casts were trimmed and polished in the centric relation or retruded contact position.

The mandible was guided into centric relation after neuromuscular deprogramming with the help of leaf gauges placed between the maxillary and mandibular incisors. Originally, a book of ten acetate leaves was described. Recently, an American company has marketed these leaf gauges in form a disposable papers.<sup>24</sup> In the present study, these gauges were made from exposed radiographic films,<sup>25</sup> which have been through the developer. After removal of emulsion and processing solution, these films were cut into small leaves of specific size (1x5cm). A key chain was made from these cut leaves (Fig I).



These leaves were placed between incisors in such a manner that a new leaf was continuously added until the posterior teeth lost contact. During this procedure, the patient was supposed to bite on posterior teeth evenly on both sides. The patient was asked to maintain this position for five minutes as after this the mandibular condyles are considered to be in a muscle-dictated centric relation position.

The leaf gauges work by forming an anterior stop, which separates the posterior teeth and allows neuromuscular deprogramming and, eliminating tooth interferences that could guide the mandible into maximum intercuspation. This has been referred to by Woelfel as a neuromuscular guided CR relationship.<sup>26</sup>

After the deprogramming the bimanual manipulation technique was employed to seat the mandibular condyles in the centric relation position. This method utilizes the superior guidance to the mandible while at the same time, the operator applies a downward pressure with thumbs attempting to seat the condyles in the most superior position. This method has shown to have the most consistent reproducibility.<sup>27</sup> A softened red modeling wax was used to record the first or initial tooth contact that occurred at the centric position. This wax record was utilized for trimming the plaster models in centric relation then the overjet was recorded on the casts in both centric occlusion and centric relation. A dial caliper was employed for recording these millimeter measurements.

Data analysis was conducted by Independent t-test using the Windows 10.0 SPSS software. The significance value was set at less than 0.05.

## RESULTS

Overjet was principally analyzed variable to note the antero-posterior CR-CO discrepancy. The mean and standard deviation values for the centric relation, centric occlusion and CR-CO discrepancy in overjet measurements as shown in Table I depicted that the centric slide was found to be within the acceptable range. A statistically significant p value of .000 was found for overjet from centric occlusion to centric relation as shown in Table II.

**TABLE-I** VALUES FOR MEAN AND STANDARD DEVIATION OF CO-CR DISCREPANCY

	Mean values (mm)		
	Centric Relation	Centric Occlusion	CO-CR Discrepancy
Overjet	7.753 ±3.9	5.750± 3.7	2.078

**TABLE-II** COMPARISON BETWEEN CENTRIC RELATION AND CENTRIC OCCLUSION VALUES

	Centric Relation	Centric Occlusion	T-value	df	Significance Interval (p-value)
Overjet	7.753	5.750	-13.63	79	.000

## DISCUSSION

Orthodontists have long been interested in the multitude of differences in the diagnosis and treatment planning of various case types. More recently, many of the orthodontists have become interested in treating to a seated condylar position or centric relation and have made it a prudent part when planning and executing orthodontic treatment. It is critical to identify the patient's proper centric relation before any orthodontic treatment is initiated, rather than to see it surface halfway through the treatment. Clinically, some cases clearly demonstrate an immense change of occlusion during the orthodontic treatment, if the correct mandibular position was not recognized. These changes, for example unexplained increase of overjet, do not relate to any of the treatment strategies and can compromise the treatment results as well as the esthetics.<sup>28,29</sup> As the position of teeth is altered with orthodontic appliances, the patient's centric occlusion adapts continuously, and the only reliable reference point is centric relation in such a scenario.

Thus, the basic aim of this study was to reveal that a significant CR-CO discrepancy existed in most of the patients reporting to the daily orthodontic OPD. If this aspect was ignored during the examination process, it can have drastic effects on the treatment outcome and esthetics of the patient. Although, the centric slide or CR-CO discrepancy can occur in all three planes of reference i.e. sagittal, vertical and transverse, the current study focused upon recording the sagittal discrepancy by overjet.

The Table I narrates that a significant centric slide was present in all the selected patients. The mean CR-CO



discrepancy value of  $2.07 \pm 1.2$  mm for overjet suggested that this variable was highly sensitive towards the changes in the mandibular position. Roth<sup>3</sup> has validated this aspect by suggesting that the condylar position of centric relation basically determines the true overjet and overbite relationship of teeth. Foley and Karl<sup>21</sup> had similar results for overjet and overbite values in their study however; they instigated the use of anterior jig rather than leaf gauges. In the present study, the mean value of overjet for CO i.e. 5.75mm and for CR i.e 7.75mm was suggestive of a significant sagittal centric slide. The table II showing the p value of 0.000 for overjet in CR and CO could narrate the significance of the centric slide. Furthermore, the mean value of 2.07 mm for CR-CO discrepancy in overjet indicated that the discrepancy was very slightly beyond the acceptable range of the slide i.e. 2mm. However, McLaughlin in a commentary has suggested that a discrepancy of 4mm or more needs careful analysis. Williamson<sup>30</sup> also stated that a difference of less than 3mm could be recorded through a wax wafer however; a discrepancy of more than 3mm is in need for articulation. The models for cases in which centric relation was recorded with wax wafer, the study casts were trimmed in centric relation utilizing the wax record. The present study has utilized the same method for recording the centric relation. However, the need for articulation was alleviated because the study design was basically focusing on the simpler objective of noting the existence of CR-CO discrepancy.

Roth<sup>14</sup> in providing the reason for the horizontal discrepancy has pointed that the centric slide is an anterior shift from CR to CO because in the mouth, mandibular teeth tend to move forwards. However this shift is basically due to the molar fulcruming effect<sup>14</sup> in which the premature occlusal contact tends to thrust the mandible forward in an antero-posterior direction. This molar fulcrum is provided by the premature occlusal contact that tends to occur when the condyles are being seated in the centric relation as shown in the present study. The initial first point contact that is established when condyles are in CR forms this fulcrum that reveals a lateral and anterior open bite. Further the condyles must descend downwards and backwards in glenoid fossa to allow maximum intercuspation whereby the interfering tooth contact acts as a fulcrum and pushes the mandibular teeth forwards. The larger this fulcrum effect, the greater the condylar distraction from CR to CO. If the neuromusculature does not allow condyles to distract enough to achieve MI then, only the condyles often seat. Wood and Elliot<sup>31</sup> believe that this is the reason for the unexplained increase in overjet, development of an anterior open bite and possibly TMJ symptoms during the orthodontic treatment in some Angle's class II patients with a significant CR-CO discrepancy.

On the contrary, Graber<sup>16</sup> has explained that during the closing path from CR to CO, the mandible tends to follow a rotary and a translatory condylar movement. In normal non-treated patients, rotary condylar movement predominates the translatory movements. But in many instances, when the translatory movement predominates then, the larger than normal ( $> 2$ mm) horizontal discrepancy results. Neuromuscular compensations, occlusal mal-relationships and skeletal discrepancies have been regarded as the causes for such discrepancy. Literature review has suggested that if the CR-CO discrepancy is significantly increased then, this might lead to the development of TMJ-related functional disturbances and the onset of temporomandibular joint dysfunction syndrome (TMDS).<sup>32</sup>

## CONCLUSION

The findings of this study conclude that;

1. The large CR-CO discrepancy can occur irrespective of age, gender and Angle's classification.
2. Both overjet had a statistically significant centric slide ( $p < 0.05$ ).

Henceforth, the present study instigates the incorporation of recording the centric slide during the evaluation of every orthodontic case. Further, if the distance of the centric slide exceeds the acceptable limit of 2mm then, a more comprehensive evaluation should be done to add in this slide within the treatment plan.

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#### ERRATA

In article by Hussain et al, published in Vol 9/4, 2004 issue, add "private hospital" in first line of Patients & method section in addition to JPMC.

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# CAUSES OF INTESTINAL OBSTRUCTION: A STUDY OF 257 PATIENTS

ZAHID MEHMOOD, ADNAN AZIZ, MAZHAR IQBAL, IRFAN SATTAR AND ASADULLAH KHAN.

## **ABSTRACT**

### **Objective**

*To find out the common causes of intestinal obstruction in our practice.*

### **Design**

*Descriptive study.*

### **Place & Duration**

*The study was conducted in Surgical Unit-I, Ward-3 of Jinnah Postgraduate Medical Centre, Karachi, Pakistan between February, 2000 to January, 2004.*

### **Patient And Methods**

*In this study we included only those patients of intestinal obstruction who underwent exploratory laparotomy. Total of 257 patients of intestinal obstruction were diagnosed on the basis of clinical history, examination, radiological findings and investigations. After resuscitation exploratory laparotomy was performed to confirm the diagnosis and relieve the obstruction.*

### **Results**

*The most common cause of intestinal obstruction was tuberculosis, 38.13% followed by obstructed/strangulated hernia 26.84%, post-operative adhesions 17.12%, large gut malignancy 10.09%, volvulus 6.22% and small gut malignancy 0.77%.*

### **Conclusion**

*The causes of intestinal obstruction are variable in different parts of world. Tuberculosis is one of the leading cause of intestinal obstruction in Pakistan.*

**KEY WORDS:-** *Intestinal obstruction, Tuberculosis.*

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## **INTRODUCTION**

Intestinal obstruction implies that there is interference with normal forward progression of intestinal contents.<sup>1</sup> Intestinal obstruction accounts for at least 20 percent of all admissions to a surgical services. More than 9000 deaths result from intestinal obstruction and operation

annually.<sup>2</sup> The cardinal feature of intestinal obstruction is abdominal pain, abdominal distension, vomiting and absolute constipation.<sup>3,4</sup> The purpose of the study was to find out the common causes of intestine obstruction in our setup.

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## **PATIENTS AND METHODS**

This descriptive study was conducted at surgical Unit-I, Jinnah Postgraduate Medical Centre, Karachi from February, 2000 to January, 2004. A total of 257 patients of

intestinal obstruction above the age of 12 years were included in this study. Patients were diagnosed on the basis of clinical history, examination and investigation like blood complete picture, serum electrolytes and serum urea, creatinine and x-ray abdomen. Simultaneously, resuscitation was started. After resuscitation exploratory laparotomy was performed to confirm the diagnosis and relieve the obstruction.

## RESULTS

During this study period, 257 patients were admitted in surgical ward with the diagnosis of intestinal obstruction. Abdominal pain was present in 257 (100%) patients, abdominal distension in 213 (82.87%), absolute constipation in 236 (91.8%) and vomiting was in 204 (79.37%) patients. Out of total 257 patients, 143 (55.64%) were male and 114 (44.35%) were female with male to female ratio was 1.25:1. The age of the patients ranged between 12 – 73 years. The small bowel was involved in 187 (72.76%) patients, large bowel was in 44 (17.12%) and both small and large bowel were involved in 26 (10.11%) patients. One hundred twenty one (47.08%) of there were less than 25 years of age. Seventy eight (30.35%) patients were between the ages of 25 to 50 years. Fifty eight (22.56%) patients were of the age above 50 years. The mean age was 41.4 years.

The most common cause of intestinal obstruction was tuberculosis as mentioned in Table-I.

Causes	No. of patients	percentage	95% C.I
Tuberculosis	98	38.13%	32.3 – 44.1
Obstructed/strangulated hernia	69	26.84%	21.6 – 32.5
Post-operative adhesions	44	17.12%	12.8 – 22.0
Large gut malignancy	28	10.89%	7.5 – 15.1
Volvulus	16	6.22%	3.7 – 9.7
Small gut malignancy	2	0.77%	0.1 – 2.5

## DISCUSSION

The mean age in this study was 41.4 years. The mean age reported by Manzoor A and Muhammad AM<sup>8</sup> was 42.5 years and Alvi AR<sup>9</sup> was 44.5 years. In this study all 257 (100%) patients were presented with abdominal pain, 213 (82.87%) patients with abdominal distension, 236 (91.8%) with absolute constipation and 204 (79.37%) patients with vomiting. These findings are comparable to Manzoor<sup>8</sup> which reported pain in 100%, vomiting in 90%, absolute constipation in 83.3% and abdominal distension in 71.8%. The male to female ratio was 1.25:1 in our study which is similar to Adesun Kanmi AR et al<sup>10</sup> 1.7:1.

Tuberculosis was most common cause of intestinal obstruction. Ninety eight (38.13%) patients were

presented with tuberculous intestinal obstruction. The incidence of tuberculosis is increased all around the world. In developed countries re-emergence of tuberculosis is due to Human Immunodeficiency Virus (HIV), while in Pakistan multidrug resistant tuberculosis,<sup>11</sup> poor compliance of patient, malnutrition, poverty and illiteracy may be the contributing factors. Tuberculous intestinal obstruction was 9.91% as reported by Alvi,<sup>9</sup> 15% as reported by Malik,<sup>12</sup> 10% as reported by Hasnain,<sup>13</sup> 18.18% as reported by Atiq,<sup>14</sup> 44.6% as reported by Abdullah<sup>15</sup> and 20.7% as reported by Manzoor.<sup>8</sup>

Obstructed /strangulated hernia was the second most common cause of intestinal obstruction. Sixty nine (26.84%) patients presented with obstructed strangulated hernia which is similar to Sufian<sup>16</sup> 25.17%, Lee<sup>17</sup> 25%, Alvi<sup>9</sup> 27.02%, Atiq<sup>14</sup> 27.7%, Manzoor<sup>8</sup> 28.3%, Malik<sup>12</sup> 32% and Abdullah<sup>15</sup> 31.9%. Savage<sup>18</sup> reported 4.97% hernia causes intestinal obstruction. In contrast to Savage, Chiedozi<sup>19</sup> reported 76.58% hernia causes intestinal obstruction. The lowest percentage was recorded by Savage who conducted the study in United Kingdom and highest percentage was recorded by Chiedozi who conducted the study in Nigeria. This marked difference was due to the provision of health facilities and awareness about the disease. The studies conducted in Pakistan almost have equal percentages of hernia causing intestinal obstruction.

Forty four (17.12%) patients presented with intestinal obstruction caused by postoperative adhesions. It is comparable to 12.64% as reported by Lee<sup>17</sup> 19% as reported by Malik<sup>12</sup> and 15.31% as reported by Alvi.<sup>9</sup> This percentage is half as compared to Savage<sup>18</sup> 36.65%, Sufian<sup>16</sup> 37.41% and Chiedozi<sup>19</sup> 35% and one third as compared to Mutch<sup>20</sup> 50 – 70%. This may be due to decrease incidence of tuberculosis in these developed countries and number of operation are more as compared to our setup.

Thirty (11.66%) patients were presented with intestinal obstruction caused by malignancy. Twenty eight (10.89%) patients have malignancy in large gut and 2 (0.77%) patients have malignancy in small gut. It is similar to Alvi<sup>9</sup> 12.61% and Manzoor<sup>8</sup> 8.3%. The incidence of malignancy causing intestinal obstruction was higher in UK as reported by Savage<sup>18</sup> 29.81% and USA as reported by Sufian<sup>16</sup> 21.10%. This may be due to low fibre diet, environmental factors and genetic predisposition.

Sixteen (6.22%) patients presented with volvulus of colon which is comparable to Alvi<sup>9</sup> 5.4%, Abdullah<sup>15</sup> 4.3% and Lee<sup>17</sup> 3%. The highest percentage of volvulus reported by Manzoor and Mohammad<sup>8</sup> was 21.7%, which may be due to high residue diet.

## CONCLUSION

Acute intestinal obstruction is one of the most commonly by encountered emergency in surgical department. The causes of intestinal obstruction are variable in different parts of world. Tuberculosis is one of the leading cause of intestinal obstruction in our study.

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# RUPTURE OF GRAVID UTERUS

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## **ABSTRACT**

### **Objective**

*To study the maternal morbidity and mortality and fetal outcome in cases of rupture of gravid uterus.*

### **Design**

*Descriptive study.*

### **Place & Duration**

*July 2001-June 2004 at Civil Hospital Karachi.*

### **Subject And Methods**

*Seventy two women with uterine rupture diagnosed on history, examination and ultrasound scan were included in the study. Outcome measures recorded included parity, gestational age, previous caesarean delivery and its indication, previous evacuation of uterus and any other uterine surgery induction or augmentation of labour, duration of labour, mal presentations, type of delivery and birth weight of baby.*

### **Results**

*4800 deliveries were conducted over a period of three years. out of which 72 patients had uterine rupture with a prevalence of 1.5%. 46 patients (63.8%) were grand multigravidae and 61 (84.7%) were non booked referrals. Previous caesarean scar was found in 44.5% of patients. 52 patients had a peripartum hysterectomy complication like hypovolemic shock (66.7%), hemorrhage (69.4%) and disseminated intravascular coagulation (25%). Four maternal deaths occurred Perinatal mortality was 72.2%.*

### **Conclusion**

*Maternal and fetal complications can be avoided and outcome improved by early diagnosis, intensive perioperative monitoring, immediate laparotomy and proper post operative care and management of complications.*

**KEY WORDS:-** Uterine Rupture, Perinatal Mortality, Previous Caesarean Scar.

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## **INTRODUCTION**

Uterine rupture is an uncommon but grave obstetric event. It is associated with a high maternal morbidity and mortality and a high incidence of perinatal deaths worldwide. The key factor in the cause of rupture is

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presence of scar in the uterus. Rupture of an unscarred uterus is uncommon, usually traumatic however injudicious use of oxytocics or prostaglandins in labour and malpractice in labour may also lead to rupture of uterus. Rupture of scarred uterus is more common than an unscarred uterus and often occurs when a trial of labour is given to a patients with previous caesarean section.<sup>1</sup> The risk of uterine rupture increases with the number of caesarean sections. It has been noted that two

previous sections carry a 3-5 fold, increase risk over one previous caesarean section.<sup>2</sup>

Rupture of unscarred uterus is rare, when it occurs it is an acute emergency which can threaten the life of both mother and fetus. It can happen during induction of labour with oxytocin or prostaglandins or in case of neglected prolonged obstructed labour due to cephalopelvic disproportion, malpresentations, malposition, instrumental deliveries especially in grand multiparas.<sup>3,4</sup>

Uterine rupture can occur at any time during pregnancy.<sup>5</sup> The incidence of uterine rupture varies among institutions and countries and reflects the standard of health delivery system. Incidence is low in developed countries due to modern and readily available health facilities and is very high in under developed countries as a result of poor obstetrical care. Incidence varies from 1 in 9,980 deliveries in USA<sup>6</sup> to 1 in 2500 deliveries in Thailand<sup>7</sup>, to 1 in 425 deliveries in developing countries<sup>8,9</sup> like Guinea, Uganda, Nigeria, Libya and Pakistan.

Early diagnosis of uterine rupture is necessary as it enables appropriate and timely management and reduces maternal and perinatal mortality. Diagnosis of rupture of uterus in majority of cases is made by clinical assessment alone as these patients present as acute emergencies. Continuous Cardiotocography with intra uterine pressure measurements may help to identify scar rupture early. Factors contributing to rupture of gravid uterine and its associated complications include lack of antenatal care, multiparity, late presentation, inadequate resuscitation, delayed surgery and poor perioperative and anesthesia management.<sup>10</sup> Hemorrhage, Disseminated intra-vascular coagulation, sepsis and later genito urinary fistulae are grave maternal complications of ruptured uterus. There is a high perinatal mortality associated with ruptured uterus with still birth rate of 75-100% in several studies.<sup>11</sup> Rupture of gravid uterus requires an immediate laparotomy whether a hysterectomy or a repair is required depends on age, parity, cultural background, general condition of patients, presence of infection and type, site and extent of rupture.

This study was performed to assess the maternal morbidity and mortality and fetal outcome in cases of rupture of gravid uterus.

## PATIENTS AND METHODS

The study was conducted in the Department of Obstetrics and Gynaecology, Dow University of Health Sciences and Civil Hospital Karachi. 72 women with rupture of gravid uterus over a period of three years were included in the study. All Booked and non booked women with uterine after 28 weeks of gestation were included. Congenital anomalies of fetus affecting fetal outcome were excluded from the study group. Uterine rupture was diagnosed on history and examination.

Risk factors including parity, gestational age, previous caesarean delivery, previous indication for cesarean section, previous evacuation of the uterus, induction and or augmentation of labour, duration of labour, type of delivery, birth weight neonatal Apgar score, still birth, neonatal death and neonatal ICU admissions were recorded.

Statistical analysis was computer based. Computer software SPSS10 was used for analysis. Frequency distribution and percentages were calculated.

## RESULTS

A total of 4800 deliveries were conducted over a period of three years in the department of Gynaec/ Obstetrics Unit-1, Civil Hospital Karachi. Out of these, 72 patients had uterine rupture. The prevalence of uterine rupture was 1 in 66. 61 patients were nonbooked and 11 patients were booked. The prevalence of uterine rupture was high in multigravida, 46 patients (63.88%) were grand multipara. No primigravida had uterine rupture.

A previously scarred uterus was the most common cause of uterine rupture (44.5%). Twenty patients (27.8%) had uterine rupture following obstructed labour. Ten patients (13.8%) had malpresentation mainly neglected transverse lie and brow presentations. Injudicious use of oxytocics mainly intramuscular injections by TBA's was the cause in 5 patients. Three patients had uterine rupture following traumatic instrumental deliveries. No cause was found in 2 (2.8%) of patients. Regarding the type of surgery, 20 patients (27.7%) with complete or incomplete scar rupture had repair of previous caesarean scar while 52 patients had hysterectomy (72.3%).

Maternal complications seen in the study include hypovolaemic shock in 48 patients (66.7%), hemorrhage of more than 1500cc in 50 patients (69.4%). Eighteen patients (25%) went into disseminated intravascular coagulation. Puerperal pyrexia with sepsis was found in 12 patients (16.7%), 14 patients (19.4%) had wound infection. Post operative anemia was common in spite of blood transfusions in 46 patients (63.9%). Four maternal deaths occurred mainly due to multiple organ failure and disseminated intravascular coagulation. Six patients (8.3%) developed vaginal fistulae.

Fetal complications included intra uterine deaths in 37 patients (51.4%), low Apgar score <5 in 20 patients (27.8%), prematurity in 10 patients and neonatal deaths in 15 (20.8%) patients.

## DISCUSSION

Civil hospital Karachi is a tertiary care referral centre receiving complicated obstetrical cases from outskirts of the city and from maternity units of Karachi. Our prevalence rate was one in 66 births. The rate being very high than the quoted values of < 0.1% in other studies

carried out in developed countries.<sup>12-13</sup> Other studies in Pakistan quoted a prevalence of 0.34% by Najmi RS<sup>14</sup> and 0.44% Qadeer S.<sup>15</sup> The main cause of high rate being patients coming with uterine rupture as referrals with complications already set in. Lack of vigilant obstetric care coupled with delayed referral and poor facilities for transport of patients also accounted for high rate of uterine rupture. The main etiological factor in the study was previous caesarean delivery undergoing trial of labor. Twenty patient had scar dehiscence which was easily repaired at laparotomy.

Peri partum hysterectomy was required in 52 patients with complete and extensive rupture of gravid uterus. Most of these patients were multigravida with previous scar or had obstructed labour. Hysterectomy was carried out as the treatment of choice in those patients in whom family was complete as this leads to removal of the damaged and infected organ and less post operative morbidity. The rate of caesarean hysterectomy in our study was high 72.8% as is evident from other studies also, with rate of caesarean hysterectomy of 42.8% & 47% in Pakistan and Qatar.<sup>16,17</sup> There was marked difference between rates of caesarean hysterectomy among developed and developing countries.

Complications like shock, hemorrhage and disseminated intravascular coagulation were encountered in our study at a high rate, the reason again being delayed diagnosis, delay in referral and a delay in reaching to a tertiary care centre, where expert surgical and anaesthesia facilities are available. Four maternal deaths occurred over a period of 3 years due to rupture of gravid uterus after 28 weeks of pregnancy. All of them had irreversible disseminated intravascular coagulation leading to multiple organ failure and they did not respond to extensive resuscitative measure and intensive care.

Perinatal mortality rate of 72.2% was found in the study. The rate being very high again being due to delay in diagnosis. Results of this study have shown that uterine rupture still represents a grave obstetrical complication with high rate of maternal and fetal morbidity and mortality associated with it. Vigilant care during labour, use of partogram, early detection and intervention, efficient perioperative and intensive care monitoring and immediate laparotomy, under skilled anaesthesia can prevent most of the major complications and leads to better maternal and perinatal outcome.

Delivery specially in cases of previously scarred uterus and multiparity should be conducted in well equipped health institutions by experienced personal and high standard neonatology unit is required for newborns. Modern trends in obstetrics should be followed. This can be achieved by improving standard of health care, health education and creating awareness among people.

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# TUBERCULOSIS OF BREAST

G M KHAN BALOCH AND FAKHRA ANWAR.

## **ABSTRACT**

### **Objective**

*The aim of this study was to analyze the clinical presentation and results of the therapeutic procedures in patients suffering from tuberculosis of breast.*

### **Design**

*It was a descriptive study.*

### **Place & Duration**

*Surgical Unit II, Nishtar Hospital, Multan from January 1999 to December 2003.*

### **Subject And Methods**

*All sixty four patients having clinical suspicion of breast tuberculosis admitted through surgical outpatient department were subjected to various investigations to confirm the diagnosis and were treated according to the modes of presentation.*

### **Results**

*Most of the patients were young females of low socio-economic status. These patients presented with chronic breast pain, painful lump, nipple discharge or recurrent breast abscess with vague ill health, fever and weight loss. Patients were investigated by microscopic examination of nipple discharge, Z-N staining and FNAC was done in those patients presenting with lump. Anti tuberculous drugs were prescribed in all patients along with surgical procedures such as incision drainage of abscess and biopsy of the curettage or excision of lump. All patients responded well to this treatment.*

### **Conclusion**

*Presentation of the breast tuberculosis was variable. Successful treatment includes antibiotic therapy with removal of infected breast tissue or lump.*

**KEY WORDS:-** Tuberculosis, Breast, Management.

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## **INTRODUCTION**

Mammary tuberculosis was a common lesion and Sir Astley Cooper was the first to report tuberculous infection of breast.<sup>1</sup> Mammary tuberculosis now is a rare disease even in countries where the incidence of pulmonary and extra pulmonary tuberculosis is high. World wide 1-2

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billion people suffer from tuberculosis involving different systems.<sup>3</sup> Due to its multi-faceted presentation, the clinicians may confuse tuberculous mastitis with either carcinoma or pyogenic breast abscess. Similarly there may be diagnostic problems on mammography and ultrasound. The diagnostic criteria are the presence of granulomatous infiltrates and tubercles with central caseation, seen on histological examination and bacteriological culture of the aspirate.



## PATIENTS AND METHODS

This descriptive study was conducted in the Surgical Unit II, Nishtar Hospital Multan, for a period of five years from January 1999 to December 2003. Sixty four female patients were diagnosed and confirmed as suffering from mammary tuberculosis. Their age ranged from 18 years to 65 years, but majority were under 40 years. Duration of symptoms varied from 6 months to one year.

Diagnosis of the disease was made by either FNAC or examination of nipple discharge and Z-N staining. Patients were managed by anti tuberculous therapy along with surgery, either incision drainage & biopsy of the inflammatory lesion or the excision of lump. All patients were followed up.

## RESULTS

All the sixty four patients in this study were female and were non lactating at the time of presentation. The youngest patient was 18 years of the age and the eldest was 65 years old. Thirty six patients (56.2%) presented with breast pain and vague ill health and signs of chronic inflammation. Firm ill defined breast lump was present in 10 patients (15.6%). Eighteen patients (28.1%) presented with nipple discharge. Axillary lymph nodes were palpable in ipsilateral axilla in forty patients (62.5%).

Patients were assessed clinically and subjected to diagnostic investigations. Thirty six patients (56.2%) presenting with chronic breast abscess were subjected to I&D and biopsy of the abscess wall. While in eighteen patients (28.1%) microscopic examination of the nipple discharge was carried out which confirmed the presence of typical cells. FNAC was done in 10 patients (15.6%) who presented with lump. All the patients under study were prescribed antituberculous therapy for 9 months along with different surgical procedures.

## DISCUSSION

Mammary tuberculosis is an uncommon disease because breast is relatively resistant to tuberculosis as are the skeletal muscles and spleen.<sup>4</sup> Although Astley Cooper was the first to report the tuberculosis of breast in 1829,<sup>5</sup> Klossner reported 50 patients of mammary tuberculosis in 1946,<sup>6</sup> the overall incidence is less than 0.1% of all breast lesions detected in developed countries and about 3-4% in developing nations.<sup>4,7</sup> The breast gets infected by hematogenous, lymphatics routes and sometimes directly from pleura and chest wall.<sup>8,9,10</sup> Although no age is immune for this disease, it more commonly affects women between 20-40 years of age.<sup>1,8</sup> Most of our patients were also in the same age group (n=38, 59.3%). Predisposing factors for mammary tuberculosis are young age, multiparity, trauma, lactation, suppurative mastitis, poor general health and stress of child bearing. Commonly breast tuberculosis may be primary where the breast lesion may be the only manifestation of the disease, as in

our study 60 patients (93.7%) were having no clinical feature of tuberculosis elsewhere. The breast may be involved secondarily in patients, usually from pulmonary lesion or from tuberculous lymphadenitis before being involved. In our study 2 patients (3.1%) were having previous history of pulmonary tuberculosis, and 2 patients (3.1%) had tuberculous cervical lymph adenitis in the past.

Pathologically, tuberculous mastitis is classified into three groups, nodular, disseminated or diffuse and sclerosing.<sup>11</sup> In all our patients histological examination of the curettage and the excised lump was done. Thirty six patients (56.2%) were reported to be suffering from diffuse type of the disease, while 2 patients (3.1%) were reported to have nodular type and 6 patients (9.3%) had sclerosing type of tuberculosis. Most of the patients under study (n=62, 96.8%) were having unilateral disease while only 2 patients (3.1%) were having simultaneous involvement of both breasts.

Involvement of the male breast in tuberculosis is very rare, although few cases have been reported,<sup>3</sup> however no male patient suffering from this disease presented to us during this period. Early diagnosis of mammary tuberculosis is very difficult because of the non-specific clinical presentation. Examination of the nipple discharge, biopsy of the curettage of the abscess wall and FNAC helps to certain extent. Diagnosis can only be confirmed by excisional biopsy.

Before the discovery of antituberculous drugs, simple mastectomy was done in most patients suffering from breast tuberculosis.<sup>12</sup> Antituberculous drugs along with limited surgery in the form of incision & drainage of the abscess or excision of the lump is the management of choice in such patients now a days.<sup>9</sup>

## CONCLUSION

Mammary tuberculosis is not uncommon in underdeveloped countries. Mammary tuberculosis should be considered in patients having recurrent breast abscess especially in non lactating periods and in painful tender indistinct breast lumps. Such patients should be thoroughly examined for tuberculous lesion elsewhere and subjected to relevant investigations to exclude or confirm mammary tuberculosis.

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# CARCINOMA OF RECTUM

KHEO RAM DHOLIA, KHALID AHSAN MALIK, ATTA HUSSAIN SOOMRO  
AND SIKANDAR ALI SHAIKH

## **ABSTRACT**

### **Objective**

*To document our experience of management of carcinoma of rectum.*

### **Design**

*Descriptive study.*

### **Place & Duration**

*Chandka Medical College Hospital, of five years duration.*

### **Subject And Methods**

*The Study spread over a period of 5 years from 1998 to 2003. The data was recorded on a structured Performa.*

### **Results**

*Fifty patients of rectal carcinoma were diagnosed and managed at Chandka Medical College Teaching Hospital Larkana over a period of 5 years. The male to female ratio was 3.2:1, 80% patients presented with bleeding per rectum. On digital rectal examination (DRE), in 70% the tumor was at lower rectum, 20% at middle rectum and 10% at upper rectum. On histopathology, 90% cases were reported as adenocarcinoma. According to Duke's classification, 50% were in stage-III. 60% (30 patients) were managed with abdomino-perineal resection. The mortality was 4%.*

### **Conclusion**

*We conclude that carcinoma of rectum can be diagnosed at early stage in patients presenting with symptoms of ano-rectal conditions when examined properly including DRE, proctoscopy and biopsy of suspected lesions.*

**KEY WORDS:-** Rectal carcinoma, Diagnosis, Management.

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## **INTRODUCTION**

Colorectal carcinoma is 3<sup>rd</sup> most commonly diagnosed malignancy in U.K and 2<sup>nd</sup> most in USA. This makes it 2<sup>nd</sup> most common cause of cancer death in U.K.<sup>1,2</sup> It is also one of the common cancers in Pakistan.<sup>3</sup> The disease is distributed worldwide and seems to be related to industrialization and socioeconomic status. The incidence

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is high in industrialized part of world and low socioeconomic group.<sup>3</sup>

All the age groups can be affected but the incidence increases after the age of 50 years. Males and females are equally affected but in distal colon and rectum, males are affected more than females.<sup>1a</sup> Most of the patients present at late stage of disease as the symptoms mimic with benign diseases of the anorectum. One fourth of all the distal colon and rectal cancers can be reached with

digital rectal examination.<sup>5,6</sup> Although most of the patients are of old age and present at late stage.<sup>4</sup> Surgery is the best treatment according to stage of disease.

## PATIENTS AND METHODS

The study was conducted from February 1998 to January 2003 at Chandka Medical College Hospital Larkana, which is 1200 bedded peripheral teaching hospital of upper Sindh catering the patients from upper Sindh, lower Punjab and Balochistan. Fifty patients who presented with different symptoms of ano-rectal disease were admitted through outpatient department. Detailed history was taken and clinical examination including DRE and proctoscopy was performed in all patients. Routine investigations like blood CP, ESR, blood sugar, urea and x-ray chest were carried out. Other investigations included barium enema, to see the site and extent of lesion, ultrasound of the abdomen for secondaries in the liver. Sigmoidoscopy was performed to find out any synchronous lesion. Colonoscopy could not be performed because of its non-availability. A biopsy was taken from all the cases during endoscopic examination.

After biopsy the tumor were staged according to Duke's classification. All the patients were prepared for surgery by correcting the anemia and fluid and electrolyte imbalance. The assessment of cardiac function was made in all the patients. Operative procedure including stoma formation was explained to the patient and an informed consent was taken.

## RESULTS

A total of 50 patients were operated, the youngest was of 11 years and the eldest of 75 years, mean age was 42.5 years. 38 patients were males and 12 females, making male to female ratio of 3.2:1. The different presenting symptoms are given in table I.

TABLE-I SYMPTOMATOLOGY		
Symptoms	No of Patients	Percentage
Bleeding Per-rectum	40	80%
Mucus discharge during defecation	20	40%
Pain during defecation	20	40%
Constipation	20	40%
Alteration of bowel habit	15	30%
Tenesmus	8	16%
Lower abdominal pain	5	10%

In 5 patients the tumor was palpable only on the tip of the finger at DRE while in 10 patients the tumor was palpable 6cm away from anal margin. In 5 patients, the tumor was palpable 3cm away from the anal margin and involved 3/4 of circumference of the rectum. In 10 patients, the tumor was palpable 2cm away from anal margin involving 1/2 of the circumference of rectum. In 20 patients, the tumor was palpable upto outer anal margin and whole circumference of rectum was involved.

Ultrasound of abdomen of 5 patients showed multiple secondaries in the liver and 3 patients, who had secondaries in the liver also had ascites. In 45 patients the biopsy report suggested the adenocarcinoma. In 4 patients the biopsy report showed squamous cell carcinoma while in 1 patient the biopsy revealed malignant melanoma. The involvement of lymphnodes by tumor was found in 25 patients. The patients were distributed as per Duke's classification into different stages (Table II).

TABLE-I DISTRIBUTION OF PATIENTS IN DUKE'S STAGES

Stage of tumor	No of Patients	%
Stage I	5	(10%)
Stage II	15	(30%)
Stage III	25	(50%)
Stage IV	5	(10%)

On clinical basis most of our patients were of stage II, but when operated they were found in stage III. The different surgical procedures were performed according to site and extent of tumor. Abdominoperineal resection with permanent colostomy was done in 30 patients, as the tumor involved the lower rectum and anal canal. In 10 patients the anterior resection was done in whom the tumor involved the rectosigmoid junction and upper 3<sup>rd</sup> of rectum. In 7 patients, tumor involved whole peritoneal cavity and not resectable therefore the loop colostomy was made. In 3 patients the Hartmann's procedure was done as they were unfit for major procedure.

The postoperative complications were chest infection (10), abdominal and perineal wound infection(6), paralytic ileus(5), prolapse of colostomy(5), retraction of colostomy(6), and urethral fistulae(1).

## DISCUSSION

Rectal carcinoma is supposed to be the disease of old age but in our study, the younger patients were also affected. This is supported by a study of O'Connell JB, et al.<sup>9</sup> In our study males were affected more than the females, this is also reported by Thygesen LC.<sup>7</sup> The patients reported in late stage as the presenting symptoms were similar to the benign anorectal diseases. This late presentation were also noted by Al-Sanea N et al.<sup>8</sup> In our study one patient was diagnosed as suffering from malignant melanoma. Probably this tumor started in the anal canal and then involved the rectum. Anorectal melanoma is also reported in the literature<sup>9</sup>. In our study it was noted that 25(50%) patients presented at stage-III. This is in contrast to the study of Bhatti<sup>4</sup>, Abdullah<sup>10</sup>, Gao JD<sup>11</sup>, where majority of patients presented in stage-II.

We performed different surgical procedures depending upon stages and resectability of tumor. The tumor resectability is comparable to the study of Adrian L<sup>12</sup>, Gall FP<sup>13</sup> and Lockart-Mummary HE.<sup>14</sup> As reported in

international literature<sup>11</sup> the common surgical procedure done was anterior resection. Due to late stage and the lower rectal tumor, we did abdomino-perineal-resection (APR) in most of the cases.

The post-operative complications including chest infection, abdominal wound infection, perineal wound infection, are comparable to the study of Abdulla<sup>10</sup> and Ampleby HC et al.<sup>15</sup> The mortality rate was 4% which is higher than reported in literature (0.7 - 0.9%).<sup>10,11,12</sup>

## CONCLUSION

It is concluded that rectal carcinoma should be suspected at younger age in patients presenting with symptoms of ano-rectal conditions. They should be diagnosed at early stage by performing proper examination including DRE, and proctoscopy to get benefit of curative and sphincter saving surgery including low anterior resection.

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# COMPARISON OF PREOPERATIVE ULTRASONOGRAPHIC FINDINGS WITH OPERATIVE FINDINGS IN HEPATOBILIARY SURGERY

SAJIDA QURESHI, NAHEED SULTAN AND RABIA UROOJ.

## **ABSTRACT**

### **Objective**

*To compare preoperative ultrasonographic findings with operative findings in hepatobiliary surgery.*

### **Design & Place of study**

*A descriptive study was conducted at Unit II, Dept. of Surgery, CHK.*

### **Place & Duration**

*The study was conducted in Surgical Unit-I, Ward-3 of Jinnah Postgraduate Medical Centre, Karachi, Pakistan between February, 2000 to January, 2004.*

### **Patient And Methods**

*Hundred patients admitted over a period of two years from January, 2002 to December 2003, for hepatobiliary diseases were included in the study. Ultrasonography for their basic problem was done. All these patients underwent surgery. Operative findings were compared with preoperative ultrasonography findings and the accuracy of ultrasonography in hepatobiliary diseases was evaluated.*

### **Results**

*In 34 cases, ultrasonographic findings as compared to operative findings were inaccurate while in 55 patients these were comparable to operative findings.*

### **Conclusion**

*Generally accepted overall accuracy rate of ultrasonography in hepatobiliary diseases is 86%. Accuracy rate in this study was only 66% showing that ultrasonography is an operator dependant procedure.*

**KEY WORDS:-** *Ultrasonography, Hepatobiliary surgery.*

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## **INTRODUCTION**

Hepatobiliary pathology is a common general surgical referral problem. For diagnosis, ultrasound of hepatobiliary tree is commonly used. While pancreas may

be inaccessible to ultrasound owing to its deep position behind the upper gastrointestinal tract, the liver, gallbladder and biliary tract are generally visualized ultrasonographically. It remains unclear who may be best trained and qualified person to use the equipment<sup>2</sup>, as the accuracy of the procedure depends upon the experience of operator.

Ultrasound is the best method of investigation, as it is the

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simple, noninvasive, painless, complication free and inexpensive. The aim of the study was to determine the accuracy of first examination ultrasonography in diagnosis of hepatobiliary pathology by comparing the preoperative ultrasonography with operative findings.

### PATIENTS AND METHODS

A descriptive study was conducted at Unit II, Dept. of Surgery, Civil Hospital Karachi over a period of two years from January 2002 to December 2003. A total of 150 patients were admitted with hepatobiliary problems. A performa to collect data pertinent to the study was filled for each patient. Hundred patients admitted and subsequently operated for hepatobiliary disease with complete data, were included in the study. 50 patients were excluded on the basis of exclusion criteria (obesity, ascites, previous surgery, acute cholecystitis and pancreatic diseases n=66).

Ultrasonography for their basic problem was done from Civil Hospital Radiology Department or from outside (n=34). Several of these patients had undergone ultrasonography more than once, but only the first ultrasonography report was considered. All the patients were subsequently operated and preoperative ultrasonography findings were compared to operative findings and accuracy rate of ultrasonography in hepatobiliary disease was evaluated. Data was analyzed using the SPSS descriptive statistics.

### RESULTS

In two years, 100 patients were managed, with mean age of 44 years (Range 18-70 years). Male to female ratio was 1:2.8. In 66 patients ultrasonographic findings were comparable to operative findings and in 34% the findings were inaccurate, 71.2% ultrasonography reports from Civil Hospital Radiology Dept. were accurate as compared to 55.8% from outside.

Accuracy of ultrasonography in various pathologies of hepatobiliary system revealed that out of 70 patients with cholelithiasis, ultrasound diagnosed 57 patients (81%) and was inaccurate in 13 cases (18.5%). 10 patients had choledocholithiasis of whom in 2 (20%) diagnosis was made on ultrasonography. Only one patients (12.5%) out of 8 with mucocoele gall bladder was picked by ultrasound. Ultrasound was accurate in diagnosing liver abscess in 80% of the patients (4 out of five patients). Only one patient (20%) out of 4 with carcinoma gallbladder was picked by ultrasonography done from outside. Two of them had repeat ultrasound, which revealed suspicion of growth. One patient with absent gallbladder was given ultrasound report of gallstone. (Table I).

**TABLE-I** **DISTRIBUTION OF DISEASES IN STUDY**  
**POPULATION**

Diagnosis	Total	Males	Females
Cholelithiasis	70	13	57
CBD Stones	10	03	07
Mucocoele	08	00	08
Liver Abscess	05	05	00
Ca. Gall Bladder	04	03	01
Hydatid Cyst Liver	02	01	01
Absent Gall- Bladder	01	01	00

### DISCUSSION

Ultrasonography is an excellent modality in the assessment of hepatobiliary disease in expert hands. It is a gold standard for detection of cholelithiasis as gallbladder is a fluid filled structure and is amenable to ultrasound which will show stones in greater than 96% cases on first examination. Stones are echo dense on ultrasound with posterior acoustic shadowing. All the stones larger than 3mm demonstrate a shadow, which is due to high reflectivity of near surface of the gallstone and absorption by the stone of the remainder of sound that is reflected.<sup>3</sup> The principles of diagnosing stones in the common bile duct or elsewhere in the biliary tree are similar. It is also best test for demonstrating bile duct stones. Lower end is often obscured by gas in duodenum which lies anterior to it. Ultrasound is good for demonstrating the level of obstruction and the cause e.g. stone impacted in common bile duct along with dilatation of biliary tract above. More often the cause can not be seen, mainly because associated inflammation causes localized ileus of duodenum and bowel gas then obscures the common bile duct. The over all accuracy of ultrasonography in hepatobiliary disease in our study was 66% as compared to over all accepted figure of 86%. If we look at the accuracy rate of sonography in common disease entities separately we find figures far below than what has been shown in international studies. In cholelithiasis, accuracy rate of 96% and false negative rate of 3% are accepted.<sup>3</sup> In our study this figure came out to be 81% and if we sub evaluate for Civil Hospital Radiology Dept. this figure was 85.1% and from other diagnostic centers and ultrasound clinics this figure was 73.9 gallstones.

The incidence of common bile duct stones in patients with gallstone disease varies between 5 to 15%, with an incidence of unsuspected stones upto 5%.<sup>4</sup> Although common bile duct stones may be silent, the development of complications, such as cholangitis and acute pancreatitis, is associated with major morbidity and mortality, therefore, detection and treatment of common bile duct stones is mandatory. The role of ultrasound in diagnosis of choledocholithiasis is less certain. One international study showed the diagnostic accuracy of 89% in choledocholithiasis.<sup>5</sup> Other studies revealed that 30% of common bile duct stones may not be visualized at

ultrasonography.<sup>6,7</sup> In our study the accuracy rate was 20% which is not in correlation with the figure of international and national studies. Diagnostic accuracy of ultrasonography done for choledocholithiasis from unauthentic ultrasonography clinic in our study was zero while from Civil Hospital Radiology Dept. it was 28.4% on first sonographic examinations.

World wide the application of ultrasound has transformed the diagnostic approach in jaundice. Normal extra hepatic and major intrahepatic ducts are readily identifiable in nearly all subjects. Limitations of sonographic access results in poor detection rates for calculi in extra hepatic ducts (70 %– 80%). The figures in our study are far lower than other. Carcinoma gallbladder is a highly lethal disease. It is the most common malignant lesion of the biliary tract. 1-2% of the patients undergoing operations for cholelithiasis have diagnosis made incidentally at the time of surgical exploration. five year survival rate for carcinoma gallbladder is 0-10%.<sup>8</sup> Early carcinoma undergoing surgery has 5 year survival of 100%.<sup>9</sup> It is now clear that early carcinoma gallbladder may be detected by ultrasonography recognized by the presence of a polypoidal mass projecting into the lumen (fixed not associated with acoustic shadowing) complex mass filling the lumen and thickening of the wall. The diagnostic accuracy of ultrasound is over 80%.<sup>10</sup> In our study 4 patients had final diagnosis of carcinoma gallbladder, one was picked up by first examination ultrasonography done from outside.

Two patients had strong suspicion of malignancy picked up by subsequent ultrasonography done by experienced sonologist and CT scan. In these two patients ultrasonography had revealed gallstones with common bile duct dilatation with stones. In other, ultrasound revealed gallstones only. The diagnostic accuracy in our study was 20%. In patients with liver abscess and hydatid cyst the accuracy rate was 80% and 100% which is not very dissimilar to those of other studies.

## CONCLUSION

1. Diagnostic accuracy rate of ultrasound in our study was far less than generally accepted.

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2. Ultrasound is an operator and machine dependent procedure.
3. In hands of untrained and inexperienced it can lead to unnecessary psychological and physical morbidity and drain of resources.

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# EVALUATION OF THE PREDISPOSING FACTORS AND CAUSATIVE ORGANISMS OF CHRONIC OSTEOMYELITIS

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## **ABSTRACT**

### **Objective**

*To determine the important predisposing factors and common organisms responsible for chronic osteomyelitis in our area.*

### **Design**

*It is a descriptive study.*

### **Place & Duration**

*The study was conducted at the Department of Orthopaedic Surgery, Liaquat University Hospital, Jamshoro, Hyderabad between July, 2001 to June, 2002.*

### **Subject And Methods**

*All the patients, irrespective of age and sex, admitted in the orthopaedic surgery ward with the diagnosis of chronic osteomyelitis were included in the study. On arrival a thorough history was taken, physical examination and investigations were performed. Radiological examination of the affected part was also done to note the features of chronic osteomyelitis such as sequestra, involucrum and sclerosis etc. The specimens which were sent for culture and sensitivity testing consisted of either or a combination of purulent fluid, sequestra, soft tissue, bone curettings or tissues surrounding an implant.*

### **Results**

*A total of 61 patients were included during one year period. The disease was more common in males around the age of 30 years. Adults were mainly affected by non-hematogenous osteomyelitis as compared to children who were mainly affected by hematogenous osteomyelitis. The commonest predisposing factor was trauma due to road traffic accidents and firearm injuries. Post-operative infection also resulted in chronic osteomyelitis in a number of patients. Staphylococcus aureus was found to be the commonest organism involved.*

### **Conclusion**

*As trauma was found to be the most common type of pre-disposing factor, steps should be taken to provide early and proper medical management to victims of trauma, to keep the wounds free of infection. Bacteriological samples should be routinely taken before the start of antibiotic therapy.*

**KEY WORDS:-** Chronic osteomyelitis, Infection, Etiology.

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## **INTRODUCTION**

Bone and joint infection remains a difficult challenging problem for the orthopaedic surgeons. Bone has certain peculiar characteristics that make it more susceptible than

other tissues to chronic infection. The resultant abscess is difficult to treat and eradicate.

The term osteomyelitis is now widely used in the English language to describe any infection involving bone. It appeared first in the French literature in the mid-nineteenth century,<sup>1</sup> prior to which a range of other terms notably necrosis were employed.<sup>2</sup> The term osteomyelitis can be defined as inflammation of bone and its contained marrow caused by an infecting organism.<sup>3</sup> The word is derived from two root words, osteon (bone) and myelo (marrow) combined with-itis (inflammation).

Factors which make the disease difficult to treat are the rigid structure of bone with less soft tissue stroma, blood supply of the bone favouring necrosis, poor vascular status of the lesion so that antibiotics and antibodies do not reach the area<sup>4</sup> and emergence of antibiotic resistance. The dead part of the bone is poorly reabsorbed and acts as a nidus for the growth of bacteria. Moreover the chronic illness, malnutrition and inadequacy of the immune system may be other factors that cause the persistence of bone infection.

In a developing country like Pakistan, and especially in the remote areas of the country, people are malnourished, frequently treated by local bone setters and are far from major hospitals. All these factors in association with ignorance, lack of awareness and poverty result in increased number of cases of chronic osteomyelitis seen in our hospitals. Recognizing these unique characteristics of bone infection, the best course is prevention.

The aims of this study were to determine the important predisposing factors and common organisms responsible for chronic osteomyelitis in our area.

## PATIENTS AND METHODS

The study was conducted at the Department of Orthopaedic surgery, Liaquat University Hospital, Jamshoro, Hyderabad from July 2001 to June 2002.

Patients of all ages and both sexes were included in the study. The patients attending orthopaedic OPD, casualty department and those admitted in the ward with a diagnosis of chronic osteomyelitis were included in the study. The criteria being:

1. Clinical and radiological evidence of infection with duration equal to or more than six weeks.
2. Radiological evidence of sequestrum formation or sclerosis.
3. Recurrence following a course of antibiotic, suspected to be active against the causative organism.
4. Infection associated with foreign body and surgical implants, diabetes mellitus or non-unions.

The exclusion criteria were patients with

1. acute osteomyelitis.
2. tuberculous osteomyelitis.

3. syphilis.
4. tumours.
5. pathological fractures.

On arrival of the patient a thorough history was taken including. Fever, pain, discharge from the lesion, swelling deformity and any trauma. besides any local or systemic disease. A thorough physical examination, specially local examination of the affected part was performed.

Radiological examination of the affected part was also done to note the features of chronic osteomyelitis such as sequestra, involucrum and sclerosis etc. The specimens which were sent for culture and sensitivity testing consisted of either or a combination of purulent fluid, sequestra, soft tissue, bone curettings or tissues surrounding an implant. This was accomplished in most cases by debridement or surgical operation e.g. sequestrectomy, saucerization or incision and drainage.

## RESULTS

During this study 61 patients were collected during one year period. Twenty (32.7%) of these were less than 15 years of age. Twenty six (42.6%) patients were between the ages of 15 to 30 years. Nine (14.7%) patients were between the ages of 31 – 50 years. Six (9.8%) patients were of the age above 50 years. The mean age was 23.4 + 15.1 years. Out of total 61 patients admitted with chronic osteomyelitis, 39 (63.9%) were male and 22 (36.1%) were female. Tibia was the most commonly affected bone by chronic osteomyelitis. It was affected in 27 (44.2%) cases. Femur was the second most common bone involved 16 (26.2%) patients. Right side was more affected than the left side with 38 (49.6%) patients. Fifty three (86.8%) patients complained of pain at the time of presentation. Forty nine (80.3%) patients had one or more discharging sinus. Twenty three (37.7%) patients complained of swelling, 12 (19.6%) patients complained of deformity and 10 (16.4%) complained of fever. Thirty seven (60.6%) patients had the complains for one and a half to three months. Eighteen (29.5%) patients had complains for 3 to 6 months. Six (9.9%) patients had the complain from 6 to 8 months. The mean duration was 3.4 + 1.6 months. 61 patients admitted due to chronic osteomyelitis, 20 (32.7%) gave history of different forms of trauma, 25 (40.9%) were victims of road traffic accident, 8 (13.1%) had sustained firearm injuries. Six (9.8%) patients had developed chronic osteomyelitis following surgery, 2 (3.2%) were known cases of diabetes mellitus, 15 (24.6%) had developed chronic osteomyelitis via hematogenous route (hematogenous osteomyelitis). Forty six (75.4%) had developed non-hematogenous type of osteomyelitis which became chronic.

Out of total 61 patients studied, culture of 54 (88.5%) patients was positive. In 7 (11.4%) patients, no growth was obtained from the culture. Nine (16.7%) cases showed mixed culture with more than one organism.

*Staphylococcus aureus* was the commonest organism identified and it was isolated from 24 (44.4%) cases. *Eschericia coli* was the second most common organism and was cultured from 10 (9.2%) cases. *Streptococcus pyogenes* was isolated from 2 (3.7%) cases. *Proteus* was isolated from 2 (3.7%) cases. *Morgnella morgagni* and *serratia* were isolated from 1 (1.85%) case each. (Table I).

TABLE-I ORGANISMS ISOLATED		
Organism	No. of patients and percentage	95% confidence interval
Positive culture	54 (88.5%)	78.6 – 94.8
No growth	7 (11.4%)	5.1 – 21.3
Mixed	9 (16.7%)	8.4 – 28.3
Staph Aureus	24 (44.4%)	31.6 – 57.8
E.Coli	10 (18.5%)	9.8 – 30.5
Pseudomonas	5 (9.2%)	3.4 – 19.3
Streptococcus Pyogenes	2 (3.7%)	0.6 – 11.7
Proteus	2 (3.7%)	0.6 – 11.7
Morganeilla Morgagni	1 (1.85%)	0.0 – 8.8
Serratia	1 (1.85%)	0.0 – 8.8

$P = 0.001$ , Chi-square = 22.62

## DISCUSSION

Upon analysis of the data collected regarding age wise distribution of the disease it was found that the disease is more common in the age group between 15 – 30 years with 42.6% patients belonging to this age group. This is well correlated with other studies carried out in the country by Malik F<sup>5</sup> and Alam SI et al.<sup>6</sup> In the study carried out by Malik F, 38% of the cases of chronic osteomyelitis were reported in the age group 15 – 29 years of age. In the study carried out by Alam SI et al,<sup>6</sup> the majority of the patients suffering from chronic osteomyelitis, belonged to the ages between 11 – 30 years of age.

The present study shows less number of cases of chronic osteomyelitis in children as compared to adults. The child adult ratio was calculated to be 1:2. The reason for this discrepancy may be the fact that healing potential in children is far greater than in adults who exhibit slow bone healing with advancing age. Another reason for the less number of cases in children may be that children are comparatively less exposed to severe trauma like road traffic accidents, firearm injuries and direct blows as compared to adults.

According to sex wise distribution of the disease, the data interpretation depicts that disease is more common in males with 63.9% cases as compared to 36.1% cases in females. In the study carried out by Malik F,<sup>5</sup> out of total 150 patients, there were 105 males and 45 patients were females. In the study by Alam SI et al,<sup>6</sup> they also noted predominance of male patients.

Among individual bones it was found that tibia was the commonest bone involved. This may be explained by comparatively poor blood supply of this bone and a lack of well developed soft tissue envelope. Tibia is also the most common site of an open fracture.<sup>7</sup> The study carried out by

Zinberg EM, found that the subcutaneous location of the tibia makes it vulnerable to direct injury and extensive soft tissue damage, which in combination makes the tibia a common site of post-traumatic osteomyelitis.<sup>8</sup> Femur was the second commonest bone involved with 26.2% cases while humerus followed with 11.4% cases.

Data analysis of our study shows that the non-hematogenous type of osteomyelitis was more common than the hematogenous osteomyelitis, 24.6% cases of chronic osteomyelitis developed following hematogenous seeding of bacteria while 75.4% cases follow non-hematogenous infection. Children were the main victims of hematogenous osteomyelitis. In adults non-hematogenous osteomyelitis was the common type.

The major cause of non-hematogenous osteomyelitis was found to be trauma. History of different types of trauma was present in 86.7% cases. Road traffic accidents were the most common type of trauma from which patients with non-hematogenous osteomyelitis suffered. Firearm injuries were responsible for 13.1% cases, ranking second while post-operative infection was the third commonest cause of non-hematogenous type of osteomyelitis with 9.8% cases. Early and aggressive management of trauma is needed to keep the wound free of infection.<sup>9</sup>

The study which was carried out by Alam SI<sup>6</sup> on the aetiology of chronic osteomyelitis in Karachi, had polymicrobial cultures in 8.8% of cases out of total 125 cases of chronic osteomyelitis while 89.5% cases were monomicrobial. The commonest organism responsible for chronic osteomyelitis in their study was *staphylococcus aureus*, responsible for 68.6% cases. *Streptococcus pyogenes* was positive in 7.4% cases while *pseudomonas aeruginosa* was found in 6.7% cultures.

Mousa<sup>12</sup> and Malik F<sup>5</sup> reported in their studies a slight predominance in the isolation rate of enterobacteriaceae. Enterobacteriaceae are increasingly common nosocomial pathogens. The slight predominance of enterobacteriaceae may be due to blind antibiotic therapy for presumptive staphylococcal aetiology, thus eliminating some such cases. More over the post-traumatic and post-surgical cases acquire gram negative bacterial infections. *Pseudomonas aeruginosa*, which is a significant bone pathogen is related to nosocomial type of osteomyelitis. It remains a severe complication of hospitalization.<sup>13</sup>

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# LAPAROSCOPIC DRAINAGE OF RUPTURED LIVER ABSCESS

G. ASGHAR CHANNA AND AZMAT SIDDIQUI.

## ABSTRACT

### Objective

*To assess and analyze the therapeutic efficacy of laparoscopic drainage of ruptured liver abscess as a treatment modality, in terms of hospital stay, pain and other complications.*

### Design

*Descriptive study.*

### Period

*The study was conducted in the Department of General Surgery Ward-26, Jinnah Postgraduate Medical Centre, Karachi over a period of 4\_ years from January, 1998 to June, 2002.*

### Methods

*This study included 12 patients, with clinical features of peritonitis and evidence of leaking liver abscess or free fluid in the peritoneum.*

### Results

*All the patients undergoing laparoscopic drainage recovered completely with no mortality. Mean stay in hospital was 12-days. Pleural effusion and residual abscesses were seen in two patients who had to stay in the hospital for 20 days.*

### Conclusion

*Laparoscopic drainage of ruptured liver abscess is an effective mode of treatment and we recommend its use as an alternative to laparotomy.*

**KEY WORDS:-** Liver abscess, Drainage, Laparoscopy .

## INTRODUCTION

In our part of the world amoebic liver abscesses still figures prominently amongst the group of infective diseases of surgical importance,<sup>1</sup> being commoner than pyogenic abscess on global scale.<sup>2</sup> Liver abscesses especially amoebic are potentially curable, inevitably fatal if over looked and are most likely to be readily overlooked.<sup>3</sup> Liver abscess has been recognized since 400 BC. Hippocrates linked the prognosis to the type of

fluid within the lesion. In 1890 Osler<sup>1a</sup> documented the amebae in an abscess and stool of same patient.<sup>3</sup> We have come a long way since Ochsiner and DeBakey in 1938 presented their classical work on open surgical drainage of liver abscess.<sup>4</sup> During the last 15 – 20 years management approach to ruptured liver abscess has undergone important refinement and improvement. Ultrasound guided percutaneous aspiration combined with medication has emerged as the principal mode of treatment for loculated abscess.<sup>5,6,7</sup> Rupture or leaking of hepatic abscess is common complication where surgical intervention becomes inevitable. The first case of laparoscopically drained ruptured amoebic abscess was

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reported in 1991<sup>8</sup> followed by another in 1993 by Cappuccino.<sup>9</sup> Several more studies on laparoscopic drainage of ruptured liver abscess<sup>10,11,12,13</sup> concluded that it is safe and successful. This prompted us to assess the therapeutic efficacy of this mode of surgical treatment in our working environment and setup.

## PATIENTS AND METHODS

This study was conducted from January 1998 to June 2002 in Ward-26, Jinnah Postgraduate Medical Centre, Karachi. It included 12 patients selected on the basis of inclusion and exclusion criteria. Eight patients were admitted through Accident and Emergency Department and four were referred from other units with attempted aspiration under ultrasound guidance. All the patients underwent initial resuscitation, baseline investigation and liver function tests followed by laparoscopic drainage. In non emergency set up, it is considered mandatory to differentiate pyogenic from amoebic liver abscess but in emergency set up we did not perform laboratory and other test to differentiate.

Particulars about the patients age, sex, duration of symptoms, comorbid condition, if any and ultrasound findings, site of abscess, complications, time taken for wound healing, fever, pain hospital stay and follow up in outpatient department upto 6 months were the variables studied.

### Inclusion criteria

- All patients of adult age group of either sex with clinical and ultrasound evidence of ruptured liver abscess.
- Post percutaneous aspiration leakage into the peritoneal cavity

### Exclusion criteria

- Patients with operated colonic carcinoma and secondaries presenting with liver abscess.

All the procedures were done under general anaesthesia, 10 mm ports sites were made after pneumoperitoneum. Suction and irrigation was done through different ports, 10mm port in right iliac fossa was used to leave the 30Fr size drain. After proper irrigation suction and re-examination ports were removed.

## RESULTS

In this study out of 12 patients 10 were male and 2 females. Their ages ranged from 18 to 70 years. The mean age was  $34.8 \pm 15.81$  (from 18 to 64 years). The operation time in laparoscopic drainage of liver abscess was noted after induction. The creation of pneumoperitoneum, lavage and removal of ports and leaving the drains took  $42.10 \pm 4.71$  minutes (mean).

Pleural effusion and residual abscesses were seen in 2 patients. These complications were detected during post-operative ultrasound examination. These patients responded with percutaneous aspiration of collection,

under ultrasound guidance. Fever and pain was relived with no need or demand of antipyretic and analgesic within mean period of  $52.8 \pm 8$  hours. In majority of patients the hospital stay was less than 10-days, minimum 5 to maximum 15 days. However in two patients condition complicated by residual abscess, hospital stay was upto 20-days. Patients who did not develop the complications, resumed their routine work by an average of  $28.60 \pm 3.81$  days.

## DISCUSSION

Amoebic liver abscess is seen in patients of all age groups (16 – 70 years). In contrast to pyogenic liver abscess seen commonly elderly people. The disease has male preponderance with male to female ratio of 6:1. This finding has also been recorded by various authors.<sup>6-12</sup> The main stay of the treatment of liver abscess is amoebicidal drugs and radiologically guided percutaneous aspiration. Open surgical drainage is reserved for the patients with large leaking and perforated abscess. Many authors advocate aggressive surgical treatment for all types of complicated amoebic liver abscess, including partial hepatectomy associated with high mortality and morbidity.<sup>14</sup>

Perforation of liver abscess is a known complication, some times resulting in the internal drainage of pus to adjacent organs including stomach pericardium and thorax.<sup>1</sup> Patient with internal drainage into the adjacent organs was not recorded in our group of patients.

In this study free perforation and leak was found in the peritoneal cavity; without obvious involvement of the adjacent viscera. In the liver the site of involvement was seen in segment VI, VII and VIII (80%), segment II and III were involved in 20% patients. The same findings have been recorded by other authors also.<sup>6</sup> The determination of site and detection of early leak is possible because of diagnostic accuracy of ultrasound and C.T scanning.

Open surgical drainage has the advantage of direct approach to both abscess cavity and the peritoneal cavity, however this approach is associated with high morbidity and mortality as reported by Balasegaram and his associates.<sup>15</sup> In order to avoid morbidity and mortality, some authors have recommended aspiration of peritoneal cavity even after the ruptures of abscess in the peritonium.<sup>16</sup> Laparoscopic technique is fast replacing laparotomy in many diseases. The laparoscopic intervention in the uncomplicated liver abscess may be difficult because of the presence of dense adhesions and deep localization of the abscess. In case of ruptured liver abscess in the peritonium laparoscopic technique can be used successfully. This technique like laparotomy gives adequate access to the localized site of rupture of the abscess and the whole peritoneal cavity. Laparoscopic drainage of liver abscess is an alternative to open surgical drainage with visualization of whole peritoneal cavity. Drainage of the site and wash is also available with 10mm size ports.

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# THYMOLIPOMA IN A CHILD

## A CASE REPORT

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### ABSTRACT

A 2 year old male child with history of mild respiratory difficulty and repeated chest infection on CT scan, found to have an anterior mediastinal mass, which pre operatively was suspected as thymolipoma. Through median sternotomy mass was removed in toto. Histopathology confirmed the pre operative diagnosis. Post operative recovery was uneventful. At 6 months follow up there was no recurrence.

**KEY WORDS:-** Thymolipoma, Child, Tumor.

### INTRODUCTION

Thymolipoma is a benign tumor which to some is also a type of hamartoma. It is a rare lesion infrequently reported in paediatric population in literature.<sup>1</sup> It usually remains asymptomatic till it achieves a large size.<sup>2</sup> It is a benign lesion with excellent prognosis. In this report we describe our experience of one such lesion in a toddler. Presence of this tumor at this age is quite unusual.

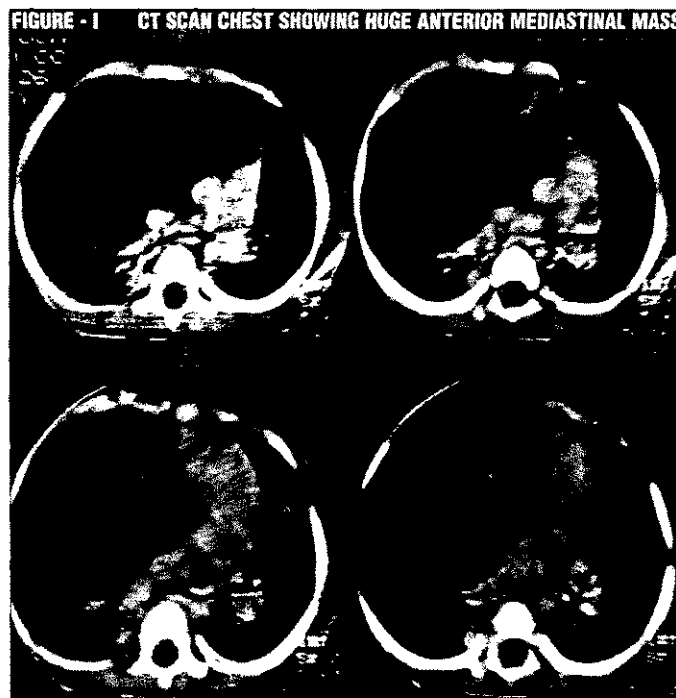
### CASE REPORT

A boy of Iranian origin, aged 2 years, presented with recurrent chest infections and respiratory distress of 4 weeks duration. He was initially treated with antibiotics and supportive treatment to which he did not give any response. X ray and CT scan chest done in his country revealed a huge mediastinal mass. Surgery was advised but parents did not agree and brought the child to Pakistan.

On examination the child was healthy looking with tachypnoea and mild respiratory distress. On auscultation chest was full of crepitations with decreased air entry anteriorly bilaterally. The mass on CT scan was of fatty density (Fig 1). The mass was more on right side with displacement of heart to the left. He was admitted and put on antibiotics, humidification and chest physiotherapy.

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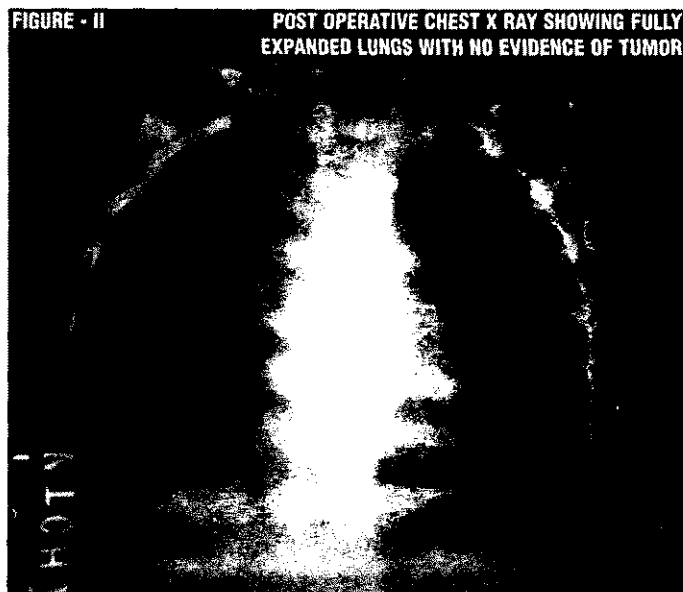
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After getting anesthesia fitness he was operated upon. Median sternotomy was performed. A fatty mass was found on separating sternal halves. It was diffusely spread in superior and anterior mediastinum. It was non capsulated and removed in piecemeal. During the procedure pleura on right side was inadvertently opened which was closed. The mass was removed and drain kept



and wound closed with steel wire for manubrium and polypropylene suture for sternal body. Post operative recovery was uneventful. Biopsy report was that of thymolipoma. At 6 months follow up stitch granuloma found at wound site which was due to polypropylene suture and removed. No recurrence found (Fig. II).



## DISCUSSION

Thymolipoma is a benign tumor of thymic origin. It constitutes 2% - 9% of all the thymic tumors. Till 1997 about 140 cases are reported in all age groups. Our patient is one of the youngest reported so far. According to Gregory it was first reported in 1916. The term thymolipoma was first used by Hall in 1948.<sup>2</sup> In a review of 33 cases of thymolipoma in all age groups, Moran et al found almost an equal sex distribution and majority of tumors were asymptomatic.<sup>3</sup> Rarely it may be associated with myasthenia gravis.<sup>4</sup> Our patients had minimal symptoms to begin with but then their intensity increased.

Computed tomography and/or magnetic resonance imaging demonstrate a mixture of fat and soft tissue elements in these tumors.<sup>5</sup> Grossly, the tumors are usually well-circumscribed, soft, yellowish, fatty tumors with focal solid areas. Histologically, they are characterized by the presence of abundant mature adipose tissue admixed with areas containing remnants of thymic tissue. The fatty tissue consists of mature adipocytes devoid of atypia, and the thymic tissue component vary from strands of atrophic thymic epithelium to large areas containing thymic parenchyma showing the typical mixed epithelial / lymphocytic architecture with numerous Hassall's corpuscles.<sup>3</sup>

Median sternotomy provided excellent approach in dealing with the tumor in our case which was present diffusely in anterior mediastinum with marked extension onto the right side. The tumor does not infiltrate surrounding structures that is the reason why we were able to remove it although in piecemeal, as it had no definite capsule. No morbidity occurred related to median sternotomy in immediate post operative period and at follow up.

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# NON HEALING GENITAL ULCER IN A YOUNG WOMAN

## A CASE REPORT

ARFAN UL BARI AND SHAHID MAJEED

### ABSTRACT

*A case of a young married female is reported here, who was treated with various topical and systemic medicines for non healing ulcer over labia majora. A faint scaly rash was noted over her face in addition to genital ulcer. On suspicion of secondary syphilitic rash, serological tests for syphilis were carried out which confirmed the diagnosis. She was then treated accordingly. The genital ulcer and the rash, both settled in about four weeks.*

**KEY WORDS:-** Early syphilis, Female genital ulcer, Venereal sore.

### INTRODUCTION

The World Health Organization (WHO) estimates that there are 12 million new cases of syphilis each year, with more than 90 percent occurring in developing nations.<sup>1</sup> The disease has been arbitrarily divided into several stages. The primary stage is defined by a chancre at the site of inoculation. The secondary stage is characterized by a polymorphic rash, lymphadenopathy, and other systemic manifestations. A variable asymptomatic latent period follows, which for epidemiologic purposes is divided into early (<1 year) and late (>1 year) latent stages. The early stages (primary, secondary, and early latent) are potentially infectious. Unlike many other bacteria causing infectious diseases, the organism remains sensitive to penicillin, and this remains the mainstay of therapy.<sup>1,4</sup> In women, the commonest locations of the lesions, in order of decreasing frequency, are the labia majora, labia minora, fourchette, and perineum. The chancre usually heals within 4-8 weeks, with or without therapy but occasionally can stay for months if get infected or in appropriately treated.<sup>4,6,7</sup> We report this case because of the unusual persistence and progression of the genital ulcer and failure to diagnose the case early in a young female.

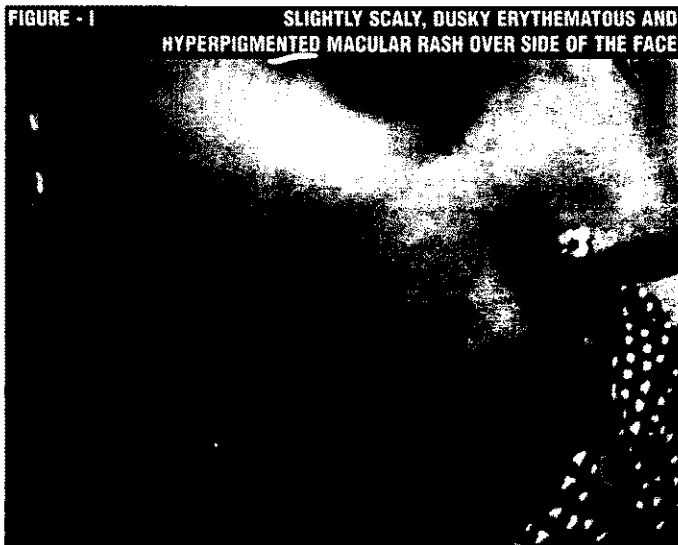
### CASE REPORT

A 23 years old female presented in skin outdoor with 10 weeks history of a non healing ulcer over her external

genitalia. To start with, ulcer was of small coin sized, asymptomatic and localized on right side of the external genitalia. She was treated initially by a local lady medical practitioner. Afterwards she consulted gynecologist, who treated her with topical antiseptic creams, oral erythromycin (500 mg) and metronidazole (400 mg) X 8 hourly, but she showed no improvement after using these medicines for about 10 days. The ulcer size, was progressively increasing and it was also producing mild to moderate pain and discomfort for last about a week. Considering no response to topical as well as systemic medication, she was then referred for dermatological consultation. There was no history of fever, myalgia, arthralgia or fatigue. She was married and had one kid and was not pregnant at that time. She denied any history of similar lesions or rash elsewhere. On inquiry, she was not sure of any genital ulcer or rash of her husband during recent past. Her husband was a truck driver. On dermatological examination, faint pityriasiform, dusky erythematous and slightly hyperpigmented rash was seen bilaterally over her face Fig.1. Genital examination revealed a fairly circumscribed, partially crusted, indurated oval ulcer measuring 5 X 3 cm in size located over right labia majora and extending inwards to vagina. It was tender on palpation. Bilateral inguinal and cervical lymph nodes were palpable. Right inguinal lymph nodes were larger and tender as compared to the left side. Rest of the nodes were discrete, non tender and mobile. Systemic examination was unremarkable. Her blood complete picture, urine analysis and metabolic profile were within normal limits and chest x-ray also revealed no

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abnormality. Serum VDRL (venereal disease research laboratory test) was positive in 1:32 dilution and TPHA (Treponema pallidum hemagglutination assay) was positive in 1:8 dilutions. HIV screening was negative. Keeping in view the clinical presentation and positive serology (both treponemal and non treponemal tests) she was diagnosed as a case of early syphilis exhibiting both primary and secondary lesions at a time. She was treated with two shots of benzathine penicillin 2.4 million units I/M at weekly interval. Her genital ulcer as well as skin lesions started improving after first dose and were completely vanished in with 4 weeks. Her husband was also contacted and his serological tests for syphilis were also found to be positive but he did not have any skin lesion at that time. He was also treated subsequently. He probably contracted the disease from some prostitutes. He was counseled to avoid such exposures and to follow methods of safe sex in future.

## DISCUSSION

Genital ulcers are not that common in women as in men. Broadly these are categorized as venereal and non venereal ulcers. Women who are in a low socioeconomic status are most vulnerable to genital ulcer disease (both venereal and non venereal). Genital ulcer disease is recognized as an important co-factor for acquisition of HIV. The common causes of venereal ulcers include; herpes simplex virus-2 (HSV-2), syphilis and chancroid. There can be a number of etiologies of non venereal ulcers in women such as contact dermatitis, abuse of vaginal tampons, traumatic, Crohn's disease, Behcet's disease, fixed drug eruptions and infectious (non sexually transmitted infections). Syphilitic ulcers are usually less commonly seen in females as compared to males but recently there has been a resurgence of syphilis worldwide making a way for appearance of even atypical

syphilitic ulcers in females.<sup>8-9</sup> Women with a history of sexual assault are also significantly more likely to have sexually transmitted infections (STIs) and genital ulcers due to multiple male sex partners, greater rates of unprotected vaginal intercourse, lower rates of condom protected anal intercourse and more sexual contacts involving blood. There is a close connection between sexual assault and women's risks for STIs and HIV.<sup>10</sup> Our patient probably had a classical syphilitic chancre which was not timely diagnosed and properly managed by lady medical practitioner as well as the gynecologist. She was given oral erythromycin which has a role as second line drug in treatment of syphilis and it did not work in this particular case. Delay in appropriate therapy led to persistence and progression of the genital ulcer.

## CONCLUSION

In case of any genital ulcer in females, a high index of suspicion is required for diagnosis of syphilis. When diagnosed, this should always be treated earlier with first line therapy i.e. penicillin, if there are no absolute contraindication for its use.

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