Original Article

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INTESTINAL TUBERCULOSIS PRESENTING AS ACUTE ABDOMEN

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ABSTRACT

Objectives: To study the outcome of intestinal tuberculosis presenting as acute abdomen.

Study design: Descriptive Study.

Place and Duration: Bolan Medical Complex Hospital (BMC) Quetta and Combined Military Hospital (CMH) Quetta from Nov 2003 to Nov 2005 from Bolan Medical Complex and from Nov 2005 to Nov 2006 in CMH Quetta.

Material and Method: Thirty seven patients of acute abdomen presenting with intestinal obstruction were admitted; 28 from emergency department and 9 from out patient department. Twenty seven patients were from BMC and 10 from CMH Quetta. Patients were diagnosed as having abdominal tuberculosis on the basis of operative findings and histopathological reports.

Results: Out of 37 patients presenting with acute abdomen due to intestinal obstruction, 54% were male and 46% were female with M: F ratio of 1: 1.2. Age of the patient ranged from 20 to 50 years, with maximum frequency between 30 to 40 years. Abdominal pain was the commonest presenting feature in all patients followed by constipation in 81.1% patients. Peritonism was seen in 27% patients. Different operative procedures performed were adhesionolysis 65.8%, segmental resection 7.9%, right hemicolectomy 10.5%, stricturoplasty 7.9% and ileostomy 1.3%. Mesenteric lymph node biopsy 40.8%.

Conclusion: Intestinal tuberculosis is still a very important surgical problem in our country presenting as acute abdomen. A suspicion must always be kept during laparotomy and adequate tissue histopathology should supplement the diagnosis.

Key words*:* Acute abdomen, Intestinal obstruction, Intestinal tuberculosis, Stricture intestine.

INTRODUCTION

Tuberculosis can involve any part of the body and the gastrointestinal tract is no exemption. The peritoneum and the pancreaticobilary system. It is the sixth most frequent site of extrapulmonary involvement. *Mycobacterium tuberculosis* reaches the gastrointestinal tract via haematogenous spread, ingestion of infected sputum, or direct spread from infected contiguous lymph nodes and fallopian tubes. The gross pathology is characterized by transverse ulcers, fibrosis, thickening and stricturing of the bowel wall, enlarged and matted mesenteric lymph nodes, omental thickening, and peritoneal tubercles. Peritoneal tuberculosis occurs in three forms: wet type with ascites, dry type with adhesions, and fibrotic type with omental thickening and loculated ascites.[1]

The most common site of involvement of the gastrointestinal tuberculosis is the ileocaecal region. Ileocaecal and small bowel tuberculosis presents with a palpable mass in the right lower quadrant or complications of obstruction, perforation or malabsorption especially in the presence of stricture[2]. Surgery is indicated for intestinal obstrruction or perforation. Illeocecal resection and right hemicolectomy are now the standard operations for illeocecal disease and the results are excellent provided that chemotherapy is maintained for appropriate period of time after surgery. For the disease in regions other than the terminal ileum and caecum, segmental resection of the bowel with end to end anastomosis is performed. More recently stricturoplasty has been introduced to deal with fibrotic strictures. Again this must be performed under anti tuberculosis drug therapy.[3]

Tuberculosis is rampant in Pakistan and the disease load is specially considerable in the far flung and the underdeveloped areas. These areas have a high incidence of malnutrition as well. The draining hospitals thus receive a bulk

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of these patients. CMH Quetta and Bolan Medical Complex are cardinal points in the management of patients of tuberculosis.

PATIENTS AND METHODS

This was a bicentric descriptive study of 37 patients of intestinal tuberculosis presenting as cases of acute abdomen with intestinal obstruction or pertonism on admission. This study was conducted in Bolan Medical Complex Hospital (BMC) Quetta and Combined Military hospital (CMH) Quetta. The duration of study was from Nov 2003 to Nov 2005 from Bolan Medical Complex and from Nov 2005 to Nov 2007 in CMH Quetta. The study was over a span of three years in two tertiary care hospitals of the same city. The patients admitted were both from the Emergency Department and the Out Patient Department. Patients were diagnosed as having abdominal tuberculosis on the basis of history, clinical examination, laboratory tests, radiological assessment and operative findings at exploration; the diagnosis was supplemented with histopathological reports of the tissues taken. Only those patients were included who presented as acute abdomen with intestinal obstruction, had to undergo exploratory laparotomy and had their diagnosis confirmed on tissue histopathology. Patients with malignant disease and redo laparotomy were excluded. Adhesionolysis, segmental resection, right hemicolectomy, stricturoplasty and ileostomy were the different operative procedures performed. All patients were placed on four drug regimen for six months with an advice to followup at nearest T.B. centre. All data recorded and analyzed using statistical functions of Microsoft excel.

RESULTS

We recorded 37 patients in total, 27 patients were from BMC Quetta and 10 from CMH Quetta. Twenty (54%) were Male and 17 (46%) were female with M : F ratio of 1:1.2. Age of the patient ranged from 20 to 50 years, with maximum prevalence between 30 to 40 years. Out of these 37 patients, 28(75.7%) were admitted from emergency department and 9 (24.3%) from Out-Patient Department. All of them presented as acute abdomen due to intestinal obstruction. Six of the patients (16.21%) had evidence of pulmonary tuberculosis, while remaining 31 (83.8%) had primary abdominal tuberculosis. Common clinical features were abdominal pain in all patients 100% seconded by constipation which was in 30(81.1%) patients (Table-1) Operative findings are listed in table 2 and the operative procedures undertaken are mentioned in table 3

Table No.1: Clinical Features of patients under study n=37

	No of patients	**Percentage**
SYMPTOMS		
Abdominal Pain	37	100
Constipation	30	81.1
Abdominal distension	26	70.2
Anorexia	24	64.9
Weight loss	23	62.1
Vomiting	22	59.4
Fever	21	56.8
Diarrhea	7	19
SIGNS		
Abdominal Distension	30	81
Peritonism	10	27
Abdominal mass	8	21.6
Periumbilical mass	2	5.4

Table No. 2 – Operative Findings in patients operated for abdominal tuberculosis n=37.

	Number	Percentage
Mesenteric lymph nodes	31	83.8%
Multiple adhesions	24	64.9%
Tubercle studded over gut and peritoneum	19	51.4%
Ascites	17	45.9%
Single stricture (small bowel ileum)	13	35.1%
Ileoacecal mass	6	16.2%
Multiple strictures	5	13.5%
Perforation	5	13.5%
Plastered abdomen	4	10.8%
Omental phlegmon	2	5.40%

DISCUSSION

Tuberculosis (TB) is rarely seen in Western countries, but it is a common disease in the

developing world.[4] In India, around 3 to 20 per cent of all cases of bowel obstruction are due to tuberculosis[5,6]. In a large series of 348 cases of intestinal obstruction, tuberculosis was responsible for 54 (15.5%) cases. Amongst this subgroup of 54, 33 (61.11%) cases were small bowel and 21 (38.89%) large bowel obstruction. In our series the small bowel was involved in 29 (78.3%) patients. The association of abdominal tuberculosis with other sites is also of importance. Evidence of tuberculosis on chest X-ray and a history of sub acute intestinal obstruction are important clues. Hassan *et al* and Wang[7] *et al* has shown concomitant tuberculosis to be 24% and 29% of patients respectively. Our study revealed 16% association with pulmonary tuberculosis. All patients undergoing laparotomy for clinical diagnosis of abdominal tuberculosis must also have adequate sampling of the appropriate

Table No. 3 – Operative procedures under taken (n=76)

	No	Percentage
Adhesionolysis(Thick Fibrous)	50	65.8%
Mesenteric lymph node biopsy	31	40.8%
Right hemicolectomy (6 illececal mass & 2 stricture at illeocecal region)	8	10.5%
Segmental resection End to end anastomosis for multiple stricture	6	7.9%
Stricturoplasty	6	7.9%
Segmental resection with Proximal Ileostomy	1	1.3%

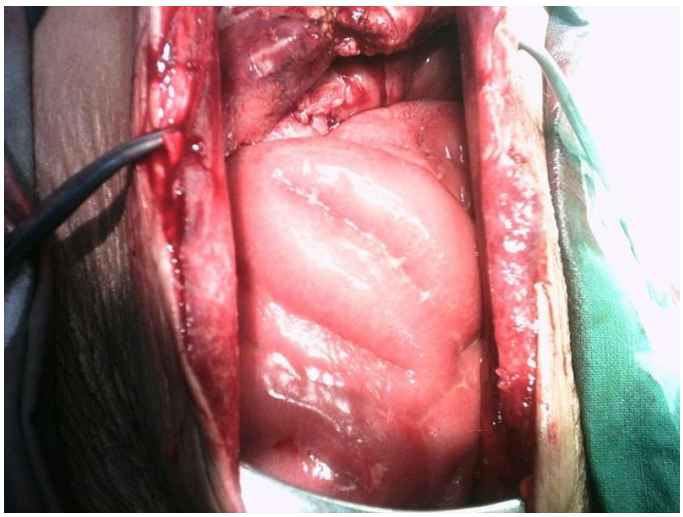

Fig. 1: Organized matted adhesions in abdomen

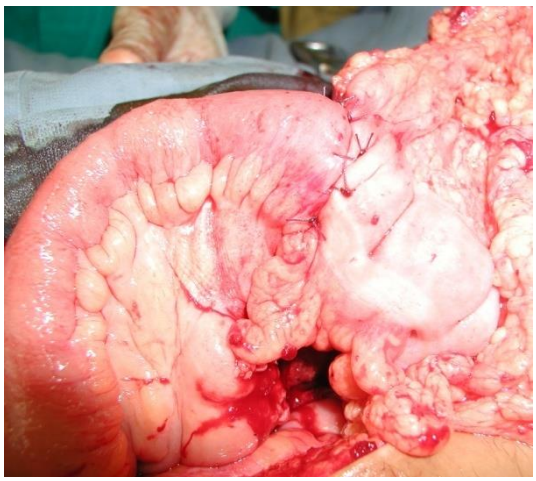

Fig. 3: Right Haemicolectomy for cecal mass with end to end illeocolic anastomsis.

abdominal tissue. We took biopsy from lymph node in 31 patients, gut specimen was taken in 14, peritoneal biopsy in 13 patients and 2 had omental phlegmon biopsy.

Most common finding in a tuberculous abdomen is mesenteric lymphadenopathy and adhesions. In our study 24 patients with multiple adhesions required adhesionolysis. In 4 patients with matted abdomen (Fig.1), adhesionolysis was not done due to high risk of injury and resultant fistula formation, the gut in three patients was nonobstructive and in fourth patient ileostomy was done to overcome the obstruction. Next to tropical sprue, tuberculosis is the most important cause of malabsorption syndrome[6]. At the same time in a patient with malabsorption, a history of abdominal pain suggests the diagnosis of tuberculosis.[8] The cause of malabsorption in intestinal tuberculosis is postulated to be bacterial overgrowth in a stagnant loop, bile salt deconjugation, diminished absorptive surface due to ulceration, and involvement of lymphatics and lymph nodes.

Strictures which reduce the lumen by half or more and which cause proximal hypertrophy or dilation are treated by stricturoplasty.[9] This involves a 5-6 cm long incision along the anti-mesenteric side which is closed transversely in two layers. A segment of bowel bearing multiple strictures or a single long tubular stricture may merit resection. Resection is segmental with a 5 cm margin. In our patients multiple strictures in ileum needed resection and end to end to end anastomosis. This procedure was adopted in 6 patients. Thirteen patients had a single stricture and stricturoplasty was done in 11 patients while in two the strictures were too close to the ileocaecal valve and hence required limited colectomy single Stricture incidence in this study was 35% compared with 41% in the study conducted by Hassan and 48% by Ahmed M and Shoaib[10] and 30% by Ha *et al*.[11]

Acute tubercular peritonitis without intestinal perforation is usually an acute presentation of peritoneal disease but may be due to ruptured caseating lymph nodes.[12] Tuberculosis accounts for 5-9% of all small intestinal perforations in India, and is the second commonest cause after typhoid fever.[13,14,15] Hassan *et al*[16] in his 22 patients observed that 55% presented with intestinal obstruction and 45% with tuberculosis peritonitis. In our study 27% had peritonitis. Five of our patients had perforation in ileum, debridement of the edges were done and primary closure was performed in 3 and 2 had distal stricture which required resection and anastomosis.

Six patients having ileoceacal mass had to undergo limited colectomy with primary end to end ileocolic anastomosis (Fig.2), two of them required limited colectomy because of close proximity to ileoceacal valve. Complications were in the form of wound infection which was noted in 8 patients (minor 5 and major 3) with later incisional hernia, chest infection in 5, wound dehiscence in 1 and 4 patient had enterocutaneous fistula which was managed conservatively in 3 because of low out put, one had to be reoperated as he developed faecal peritonitis. Unfortunately he could not be saved and later died of sepsis and multiple organ dysfunction.

CONCLUSION

Tuberculosis affects ileum more commonly than the colon. Most of the times the disease can be managed with easy surgical maneuvers however one should always carry out the more advanced procedures to achieve a good gastrointestinal continuity and maximum available gut

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