ORIGINAL ARTICLE

Abdominal Tuberculosis: Presentation, Post Operative Complications & Management

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ABSTRACT

Objective: The main purpose of conducting this study was to determine different ways of presentation of intestinal tuberculosis in emergency and out-patients department. This study was also carried out to describe the outcome of different surgical techniques as well as to highlight the post operative complications in the management of intestinal tuberculosis.

Design: Descriptive case series.

Place of Study: This study was conducted in the Surgical Unit II of the Abbasi Shaheed Hospital and Karachi Medical and Dental College, Karachi.

Duration of Study: From June 2005 To March 2007.

Patient and Methods: All cases of intestinal tuberculosis proved by histopathology of specimen removed during operation with no age or sex discrimination, irrespective of emergency or elective presentation were included in this study.

Results: Total 35 patients were included in this study. 25 patients presented with intestinal obstruction. The cause of obstruction was adhesions in 10 patients, bands in 5 patients, mass in RIF in 5 patients, stricture in 5 patients, perforation in 5 patients and abdominal distension and pain but without peritonitis in 5 patients. 30 patients underwent surgery and 5 patients were managed conservatively. Ileostomy was formed in 15 patients. 10 patients developed complications e.g. skin excoriation in 9 patients, recurrent fistula in 3 patients; retraction of stoma in 2 patients and bleeding from stoma in one patient. Resection anastomosis was done in 5 patients; 2 patients developed fistula and 1 developed abscess. Division of bands and adhesions was carried out in 5 patients with no complications Simple closure of perforation was done in 3 patients. All 3 patients developed faecal fistula and sepsis and 2 died. Stricturoplasty was done in 2 patients with no complications.

Key Words: **Abdominal Tuberculosis, Ileosotomy, Stricturoplasty .**

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Introduction

Gastrointestinal Tuberculosis (TB) is a major health problem in many underdeveloped countries. A recent significant increase has occurred in developed countries, in association with HIV infection. Autopsies of patients with pulmonary tuberculosis before the era of effective treatment demonstrated intestinal involvement in 55-90% of fatal cases. The previously noted frequent association between pulmonary TB and intestinal TB no longer prevails, and only patients with abdominal TB have abnormal chest radiographic findings in <50% of cases. However, approximately 20-25% of patients with gastrointestinal tuberculosis have pulmonary tuberculosis. Any part of the GI system may be infected, although the ileum and colon are common the sites. [1]

In the last decade, it proved to be an important surgical emergency even in developed counties. Goksay treated 38 cases of abdominal tuberculosis and he needed an emergency laparoscopy in

10 cases[2]. Kawakami in 1993 reported 12 case at Tokyo National Chest Hospital and he had performed emergency laparoscopy in 6 of them.[3]

In Pakistan, the number of admissions for the non-pulmonary tuberculosis in surgical wards has increased 3 times during the last 5 years. [4]

In patients who present with acute abdomen and on exploration findings are suggestive of abdominal tuberculosis, causing acute intestinal obstruction or perforation of intestine, one stage procedure like closure of perforation and resection and anastomosis is often associated with postoperative complications, like leakage, burst abdomen and septicemia. To avoid these complications, some surgeons opt for a two-stage procedure, which includes ileostomy at first stage and closure of ileostomy later at second stage.

Materials and Methods

This study was performed in Surgical Unit II, Abbasi Shaheed Hospital, Karachi.

All cases of intestinal tuberculosis proved by histopathology of specimen removed during operation with no age or sex discrimination, irrespective of emergency or elective presentation were included in this study.

The routine investigations included complete blood count, ESR, urinalysis, random blood sugar, serum urea and creatinine, serum electrolytes, chest X-rays and plain X-rays abdomen. Specialized investigations were barium enema, barium follow-through, ultrasonography, laparoscopy, Mantoux test. Colonoscopy and polymerase chain reaction (PCR) were other possible investigations, but could not be performed owing to non-availability.

Results

In this study, we included 35 patients admitted in Surgical wards of Abbasi Shaheed Hospital. There were 9 male and 26 females, age in male ranges form 18 – 50 years and in females 17 – 35 years, mean age in all patients was 23.6 years, Hb% ranged from 6.5 – 12 with average 9.4mg%. ESR ranged from 10 – 60 with average of 33. The results were tabulated and presented with the help of SPSS version 10.0.

Out of 71% (n=25) patients who presented with sign and symptoms of intestinal obstruction, 40% (n=10) were with adhesions, 20% (n=5) with bands, 20% (n=5) with mass in right iliac fossa and 20% (n=5) with strictures.

14% (n=5) patients presented with signs and symptoms of perforation.

14% (n=5) patients presented with the abdominal distension and pain but without sign and symptoms of peritonitis. Table-1 shows different types of presentation.

Table 1: *Presentation of patients (N = 35)*

Presentation	No. Patients	%
Intestinal Obstruction	25	71.4%
Perforation	5	14.3%
Abdominal Distention	5	14.3%

Five types of procedures were done on 30 (86%) of patients and 5 (14%) patients were managed conservatively. Table-2 shows different types of procedure and their percentages.

Table 2: *Procedures Performed (N = 30)*

Procedure	No. Patients	%
Ileostomy	15	50%
Resection Anastomosis	5	16.7%
Division Of Band	5	16.7%
Primary Closure	3	10%
Stricturoplasty	2	6.6%

Out of 15 patients who underwent ileostmy 10 (67%) patients developed complications and 5 (33%) patients recovered uneventfully.

9 (60%) patients developed skin excoriation, 3 (20%) patients developed recurrent fistula formation from some other part of small gut, 3 patients (20%) developed problems of ileostomy bag application. Retraction of stoma developed in 2 (14%) cases. Bleeding of stoma occurred in 1 (7%) case.

2 of these patients who developed recurrent fistula died due to septic complications after several re-explorations. Refashioning was done to treat retraction and all the remaining patients of ileostomy were managed successfully.

After resection and anastomosis, 3 patients (60%) developed complications. Among them 2 (40%) developed fistula formation and 1 (20%) developed abscess with continuous discharge of pus.

In 2 cases (40%) who developed fistula formation, ileostomy was done after re-exploration. In 1 (20%) patient who developed abscess, drainage of abscess was done after re-exploration and no further treatment was required.

There were no complications in 5 patients who had division of bands and adhesion.

All patients who underwent primary repair of perforation developed faecal fistula formation and sepsis. Among them 2 (67%) patients died.

No complication was noticed after strictroplasty in 2 patients.

Similarly, those patients who were admitted in emergency with abdominal distension and pain abdomen but without sign and symptoms of acute intestinal obstruction or peritonitis, were managed conservatively and did not require surgery in emergency.

Discussion

Instestinal tuberculosis a quite a common entity. Majority of patients in our study presented with intestinal obstruction. This coincides with many other studies like that of Das and Shukla,[6] Bhansali,[7] Paustian and Marshall, and Paustian,[8] which state that, intestinal obstruction is the most common complication of intestinal tuberculosis. Many authors claim that intestinal tuberculosis often occurs in the ileocecal region (52%-85%)[5,6,8,]. Hypertrophic form is the most common type, and because it tends to constrict the lumen,[8,9] it causes intestinal obstruction. Our results correlated with these reports except that presentation with intestinal obstruction was more common in our setup.

In our study, the percentage of intestinal obstruction was 70%, this is in accordance with a study conducted in Civil Hospital Karachi, by Abdullah Iqbal et al[10], Palmer[11] and Aston[12]. This is quite contrary to western studies where commonest cause of intestinal obstruction was adhesions.[13,14,15]

In the largest group of patients, where the presentation was acute on chronic intestinal obstruction, there was no previous history of abdominal operation, inconsistent history of low grade fever, history of weight loss about 10% to 15% over a period of up to 8 months and abdominal pain, which was "crampy" generalized associated with diarrhea of and on.

On examination most of the patients were dehydrated, anaemic and aesthenic. Abdominal distention was a constant feature, along with generalized tenderness occasionally a mass was felt in the right iliac fossa. Tympanic abdomen was a frequent finding upon percussion, free intraperitoneal fluid was an infrequent finding in this group, barborygmy was noted in the patients who reported late while neglected patients has sluggish gut sounds.

Patients were managed along the general lines of fluid and electrolyte resuscitation and nasogastric aspiration. After adequate volume and electrolyte replacement, exploratory laparotomy was done in all the cases of this group. A midline incision was used in all the cases and one layer closure with prolene No:1 was done as a routine.

Besides certain general operative findings, like, serosal nodules, peritoneal exudates of varying quantity and quality and enlarged rubbery mesenteric lymph-nodes, following were the specific peroperative findings of this group of patients:

10 patients had multiple fibrous adhesions, sometimes around the lumen on its serosal surface constricting the lumen to the point of obstruction. Sometimes they were between the serosal surfaces of two adjacent loops resulting

in kinking and obstruction. Invariably they were multiple with a predilection for terminal ileum.

5 patients had bands extending from ileum to peritoneum. They were thick cord like structures. Some felt gritty when cut with scissors.

5 patients had a mass in right iliac fossa. This mass was at the ileocaecal junction encircling the terminal ileum, resulting in proximal distension. A variable length of the wall of ileum, proximal to the site of obstruction, was thickened and hypertrophied. Tuberculosis of ascending, transverse, descending and sigmoid colon or rectum was not observed. A young woman suspected as a case of tuberculosis of the ascending colon, on clinical and preoperative assessment, turned out to be adenocarcinoma of ascending colon. This case was not included in the study.

5 (20%) patients presented with multiple strictures of ileum. The length of strictures varied form 1-5cm, the intervening portion of ileum was normal in appearance.

Resection anastomosis was done in cases where multiple strictures were found in a small segment of gut or where iatrogenic injury to a segment of the bowel was inflicted during enterolysis.

Proximal ileostomy was done in almost all of the cases where anastomosis of the gut was required. In recent study ileostomy was fashioned in 25% of cases[16]. In few of the cases where this was not done, leakage occurred. Some minor complications like, skin excoriation, retraction and bleeding also occurred, increasing the morbidity of patients. This was well within the limits of the observed complications from western studies. [17,18]

Right hemicolectomy was not done due to prevailing poor health of the patients and ileotransvers bypass was not done due to fear of blind loop syndrome in an already malnourished patient.

The second group of 5 patients, who presented with signs and symptoms of perforation, laparotomy was performed. Peritoneal cavity was full of pus which was greenish yellow in color and thin in consistacy. Flimsy fibrinous adhesions were found between loops of gut, which were easily separable. Pus was mopped by suction, followed by simple closure of perforation with vicryl "0". Initially, proximal ileostomy was not done in 3 cases considering the perforation to be either enteric or very small, but the eventual outcome in these cases was unsatisfactory than those in which proximal ileostomy was done. In the former group of cases, complications like, abscess, leakage, fistula formation, abdominal dehiscence and septicaemia occurred. 02 patients from this group died of complications. In view of this mortality, we revised our policy of primary closure in subsequent cases of intestinal perforation due to tuberculosis. We started making proximal ileostmy instead of primary closure. Two patients who were dealt in this way did not develop any septic complication. This showed the importance of proximal ileostomy in prevention of morbidity and mortality after such procedures. Andersons and Dumore also advocated proximal ileostomy in such conditions.[18,19]

The last group of patients who presented with vague abdominal pain without sign and symptoms of acute intestinal obstruction and peritonitis can also be considered as a sub group of first group. Mostly, these patients were having signs and symptoms of colicky abdominal pain for a variable period extending from 8 to 18 months. These patients had a vague history poor health, loss of weight, loss of appetite along with low grade fever off and on. They usually presented with tenderness in right iliac fossa and paraumbilical region. Tubercle bacillus has predilection for this region because of apparent affinity of the tubercle bacillus for lymphoid tissue, areas of physiologic stasis and high rate of absorption with more complete digestion.[20] Careful palpation often revealed a non tender mass in right illiac fossa, especially in very frail individuals. This group was managed conservatively in the ward by intravenous fluids and electrolyte replacement & nasogastric aspiration. No surgical intervention was done. Subsequently they underwent investigations like small bowel enema and were shown to have strictures in small intestine. These patients responded to

trial of anti-tuberculous chemotherapy and nutritional support. Symptomatic improvement followed by improvement in clinical parameters was observed. Two patients required elective resection anastomosis for un-resolving strictures.

It was observed that in patients who required repair or anastomosis of the gut in intestinal tuberculosis proximal ileostomy was mandatory. Omission of this prerquisite resulted in morbidity and mortality of the patient.

13 (37%) patients developed complications which were managed successfully. 03 (8%) died of complications. This compares well with contemporary studies.[21,20,22,23].

The surgical procedures were followed by 12 months of anti-tuberculeous chemotherapy. Anti tuberculous chemotherapy was also institued in the last group for one year, which was dealt conservatively.

Conclusion

It is better to be safe than sorry, therefore in presence of certain factors, like malnutrition, active disease, hypoprotienaemia and local factors like, adhesions, oedematous friable ends of the intestine with doubtful viability, it is better to perform a proximal fecal diversion than to perform one stage repair.

Every effort should be made for early diagnosis of abdominal tuberculosis.

Trial therapy can be given to patients with vague abdominal pain and fever, with doughy abdomen.

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