

Intra Abdominal Tuberculosis: The Surgical Audit Of Its Presentation And Management

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Abstract:

A retrospective study was carried out at Surgical Department of Bangabandhu Sheikh Mujib Medical University, from Jan-99 to Jan-03, to find out the various modes of presentation of abdominal tuberculosis and its management. A total of 100 patients (adult + old) and all sexes were included in this study. These patients were divided into two groups: Surgical group and conservative group. In operative cases, histopathological examination was also undertaken, complications were also noted. Patients in both the groups were given standard anti-tubercular drugs. Out of 100 patients 15 were managed conservatively. While surgery was undertaken in 85 patients. Most were female. The patients who has pulmonary as well as abdominal tuberculosis were 30%. The commonest operative finding was Ileocaecal Mass 60%. The most common operative procedure undertaken was Rt. Hemicolectomy. The overall mortality was 5%.

Introduction:

Abdominal tuberculosis is commonly encountered by a surgeon working in Bangladesh and other tropical countries. It poses a significant hazard to the health sector¹. The third world countries which are facing the problem of poverty, malnutrition environmental pollution and unhygienic conditions in thickly inhabited areas, are also having the¹ increasing incidence of TB. Tuberculosis is an infectious disease that has plagued mankind since neolithic times (8000 BC)². It was recognized as a contagious disease by the time of hippocrates (400 BC), when it was termed as 'phthisis' (Greek Phthinien, meaning to waste away)³. TB remains one of the top three infectious disease killers, every minute of every day, 15 people die from TB. This translates into 8 million cases

each year of which 2-2.5 million will die⁴. More than 90% of these cases occur in developing nations that have poor resources⁵. Active TB is fatal for upto 50% of untreated patients. Abdominal TB is common in Bangladesh and other tropical countries and poses a significant health hazards⁶. This study was undertaken to find out the various modes of presentations of abdominal tuberculosis and their management.

Methodology

A total of 100 patients were included in this study which was carried in surgical Dept. BSMMU, Dhaka during Jan-99 to Jan-03. The patients included were those with abdominal pain, distention, abdominal mass, vomiting, those with constitutional symptoms like fever, malaise, wet loss, anorexia with evidence of pulmonary /lymphoid TB and histopathological evidence of abdominal TB after exploration. These 100 patients were divided into two groups: surgical groups and conservative groups. Surgical group included all patients who presented with symptoms and sign of intestinal obstruction, abdominal lump or peritonitis.

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Histopathological confirmation was the main stay in diagnosis of TB. Conservative groups included all those who presented with vague abdominal and constitutional symptoms and there was no definite indication for surgery. The diagnosis was supported by laboratory tests like raised ESR, Positive mantoux test, positive polymerase chain reaction assay, histopathological evidence of extra-abdominal TB, evidence of pulmonary TB, etc. Patients in both the groups were given a standard 9 months regimen of anti-tuberculous drugs. The patients, especially treated conservatively, were followed up for change in clinical parameters.

Results:

Out of 100 patients included in this study, 15 were managed conservatively, while surgery was undertaken in 85 patients. majority of patients were female (70 female and 30 male) with a mean age of 40 years (range 18-60 years). Clinical presentation is shown in Table -1.

Presenting feature	No. of patients	Percentage
Abdominal pain	80	80%
Abdominal distension	60	60%
Fever	55	55%
Vomiting	40	40%
Abdominal mass	60	60%
Peritonitis	21	21%
Wt Loss	30	30%
Ascitis	25	25%
Sub-acute intestinal obstruct	20	20%
Intestinal Perforation	8	8%
Per-rectal bleeding	1	1%

Table-1 Clinical Presentations of the patients

Signs of intestinal obstruction i.e.-abdominal distension, vomiting, absent or exaggerated bowel sounds were present in 20 cases (20%), 50 patients (50%), presented with mass in the Rt. iliac fossa without any pain in the abdomen, 10 patients with mass in the Rt. iliac fossa with pain in the abdomen. Rare presentations include chronic diarrhea, intestinal perforation, per-rectal bleeding. Some patients presented with one or more constitutional symptoms like fever,

with malaise, wt loss. Laboratory tests revealed raised ESR in 80 (%). Tuberculin test done in 80 patients and was positive in 50 patients and in others it was negative. Chest radiographs were carried out in all cases and 35 had evidence of pulmonary TB. Plain abdominal radio-graphs showing multiple air fluid levels in 20 (20%) patients. PCR (polymerase chain reaction) assay was done in only 3 (3%) cases of suspected abdominal TB, 2 of them were treated conservatively. PCR was positive in all three cases. Barium studies were done in 60 cases and the diagnosis of intestinal tuberculosis was suspected in 45 cases from Barium X-ray. The commonest findings were dilated intestinal loops and retracted caecum, colonoscopy was done in 25 cases those who presented with Lump in the Rt. iliac fossa, per-rectal bleeding and diarrhoea. Findings are caecum and ascending colon was inflamed, oedematous and few nodules are seen. Biopsies were taken from all cases. Ultrasonography was performed in 80 cases-showing thickened caecal wall, ascitis in 25 patients Laparoscopy done in 10 patients and showing multiple tubercles in 7 patients. Biopsy was done in all cases.

15 patients were managed conservatively with standard 9 months regime of Anti-tuberculous therapy. Surgical intervention was performed in 85 patients (85%). The most common operative findings were ileocaecal mass 60 patients (60%), tuberculous on the intestine, mesentery, peritoneum, and enlargement of the mesenteric lymph nodes, Ileal perforation, multiple stricture and ascities. Biopsy was taken from all cases (Table-II).

Operative findings	No. of patients	Percentage
Ileocaecal mass	60	60%
Tubercles on viscera	20	20%
Stricture-intestine	10	10%
Ileal perforation	8	8%
Bands/Adhesion	18	18%
Peritonitis	21	21%
Sub-acute intestinal OBS	20	20%
Enlargement of the mesenteric lymph nodes	30	30%
Ascitis	25	25%

Table-II Per-operative findings of the patients

Various surgical procedures undertaken in these 85 patients are shown in table-III. Colon and jejunum were rarely involved.

Procedure performed	No. of Patients	Percentage
Rt. hemi colectomy and ileocolic anastomosis for lump in the Ileocaecal area	60	60%
Resection and anastomosis for stricture	10	10%
Ileo-transverse Anastomosis only	2	2%
Primary closure of perforation	8	8%
Strictureplasty	5	5%
Biopsy of tubercles	20	20%
Release of Bands and adhesions along with resection	18	18%

Table-III Surgical Procedures

Histopathological evidence of TB was positive in 80 patients. In 5 patients, no conclusive evidence. Post-operatively all patients were treated with antituberculous drugs for 9 months. All patients were followed up during the period of chemotherapy. The overall post-operative mortality was 5%. (3 patients presented with perforation of bowel with diffuse peritonitis and 2 had intestinal obstruction-late cases). Laparotomy was done in all cases.

Discussion:

Tuberculosis is an ancient infectious disease responsible for significant morbidity and mortality world wide^{6,7} and is common in our country and other developing countries. Majority of the abdominal cases are diagnosed late usually on surgical exploration. High clinical suspicion, sonography, colonoscopy, laparoscopy^{8,9,10} manoeuvres can improve the diagnostic yield. Male to female ratio is variable^{11,12} in different studies. Some document shows high prevalence in young females while others have noted that disease affects both sexes equally, the present study also shows high prevalence amongst female patients. In 1993, WHO declared TB to be a global emergency,

the first and only disease to be recognized as such¹³.

Roughly 80% of TB cases involve respiratory system, though TB can involve any organ system. Miliary TB can occur in any individual organ, in several organs, or through out the body, including the brain^{14,15}. Abdominal TB along with pulmonary TB is very common in developing countries of south Asia and is commonly encountered by the surgeons in tropical countries¹⁶. Abdominal TB mimics clinically and radiologically some other conditions like Crohn's disease¹⁷. The incidence of pulmonary TB along with abdominal TB is variable; it is 35% in the present study, which is comparable to 21% documented in another study carried out in Pakistan¹⁸. Though sex distribution is different (i.e. male to female ratio of 1:17 versus 1.2 respectively).

About 85% patients presented with long continued intestinal colic and abdominal mass was the predominant clinical manifestation in this series. A clinical presentation of ulcerative type of intestinal TB is diarrhoea¹⁹. Constitutional symptoms such as fever anorexia, and wt loss are common in 60% to 70%²⁰ pulmonary TB is associated with abdominal TB in some cases^{21, 22} but its absence does not rule out the diagnosis of abdominal TB²³. The early age affection in South Asian as compared to Europeans has already been reported²⁴.

Results of routine laboratory investigations have been non-specific and thus have not helped in establishing the diagnosis. However, a positive mantoux test results along with the above mentioned findings, should alert the clinician²⁵. Radiographic studies may be helpful but they are non-specific²⁶. Abdominal X-RAY is equally inconclusive. Finding of dilated bowel loops, air-fluid levels, calcified lymph nodes are supporting of positive diagnosis but are non-specific²⁷. Barium studies are more useful supporting a diagnosis of intestinal TB 66% of the time, the most common findings on Barium enema are a pipe-stem colon and a cone-shaped

retracted caecum²⁸. Abdominal sonography, colonoscopy, laparoscopy^{8,9,10} can improve the diagnostic field.

In our study, most patients (85%) underwent laparotomy because most of them were presented to us with complications where tuberculosis involves the intestine, the ileocaecal area is the most commonest site of the disease and half of the cases have a palpable mass due to formation of tuberculoma²⁹. In the present study the ileocaecal area was the most common site of involvement, as described and palpable mass was present in 60 (60%) cases. Before the advent of effective antitubercular drugs, surgical management consisted of by pass procedure, with the complications of blind-loop syndrome, malabsorption and perforation³⁰.

A symptomatic ileocaecal mass should be managed with limited ileocaecal resection³¹. In the present study, we also did limited resection of the affected segment and end to end anastomosis in most of the cases. All patients did well with chemo-therapy. In this series, diagnosis was made histologically.

In a western study tuberculous ascitis has been reported in 42% cases of abdominal TB. The clinical picture, radiography, ultra-sonography can help in its diagnosis³¹. In the present study the number of patients with tuberculous ascitis was small (25%) as are usually managed by the medical department.

Perforation of tuberculous ulcer is uncommon due to the thickening of the peritoneum and the formation of adhesions to the adjacent tissues²⁹. The reported incidence varies from 0-11%, with the terminal ileum being the most frequent site. But in the present study it was found to be 8%. These perforations represent the changing behavior of the disease and late recognition of the signs and symptoms by the patients. Associated lymphadenitis was found in 30% of cases. Most of the Authors^{16, 27} suggested that anti-tuberculous therapy is the main stay of management of abdominal TB and the surgery should be reserved for diagnosis or for

management of complication. Some patients may pass into subacute intestinal obstruction phase after antituberculous therapy due to the fibrosis while healing of tubercular inflammatory lesions is taking place¹². In our study, no such type of patient was seen.

Perforation of gut secondary to abdominal TB varies in different studies and similarly mortality rates in some cases have been described from 8% to 19.4%^{32, 33}; But in the present study it was found to be 5%.

Conclusion:

As the incidence of TB is increasing once again especially due to MDR strain, emphasis must be made to the early recognition and early treatment. As intra-abdominal TB can mimic various surgical conditions, surgeons living in the endemic areas like Bangladesh must direct their attention to the early recognition and proper treatment of the intra-abdominal TB. Thus improving the out come for patients with the disease.

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