

Presentations of Tuberculous Acute Abdomen; 100 Cases at Tertiary Care Centre

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ABSTRACT

Objective: To determine the various presentations of acute tuberculous abdomen at PUMHS Nawabshah.

Study design: Cross sectional descriptive.

Place & duration: Surgical unit 3, Peoples University of Medical and Health Sciences Nawabshah. From January 2010 to December 2015.

Material and methods: The study was conducted on first hundred consecutive patients who presented with acute abdomen and underwent surgical exploration revealed histopathologically prove in abdominal tuberculosis. Data was analyzed for age, sex, history of tuberculosis, socio economic status, clinical findings, per-operative findings, operative procedures, post-operative morbidity and mortality. SPSS-18 (statistical package for social sciences) was used for data analysis.

Results: A total of 100 patients were included in this study. 45 were male and 55 were female making a ratio of 1:1.2. Mean age was 30 years with SD 7.26 years. 92% patients were belonging to low socio economic group and 8% to middle group. 38 patients were already known cases of pulmonary tuberculosis while 45 patients have family history of tuberculosis. 51 cases had peritonitis due to intestinal perforation. 34 cases had intestinal obstruction due to multiple stricture in 16 patients, solitary stricture in 5 patients and ileo-caecal tuberculous mass in 13 patients. 12 patients had acute appendicitis while 3 patients were found to have plastered abdomen. Re-do surgery was needed in 4 patients. 23 cases had severe post-operative wound infection and 7 patients had complete wound dehiscence. Mortality rate was 10%.

Conclusion: In areas of high prevalence of tuberculosis, the disease can present as acute abdomen. The common presentations of acute tuberculous abdomen were peritonitis, intestinal obstruction and appendicitis. The condition had a high mortality rate that could be reduced by adopting operative conservative approach, making covering stoma formation.

Key Words: Tuberculosis, Acute abdomen, Peritonitis, Intestinal obstruction, Appendicitis.

INTRODUCTION:

Tuberculosis still persists as an enormous global health problem although there has been a

substantial progress in the formation and implementation of the strategies to control tuberculosis effectively^{1,2}. Worldwide, about one third of the population is infected from it and three million die each year from this disease¹. Pakistan ranks fifth amongst TB high burden countries worldwide, it account for 61% of the TB burden in the WHO Eastern Mediterranean Region³. Tuberculosis is highly communicable infectious diseases caused by mycobacterium tuberculosis. The incidence of tuberculosis has increased in the last two decade because of HIV infection⁴. Several organs and systems of the body can be infected but lungs are most commonly affected followed by abdomen. Abdominal TB includes the infection of

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gastrointestinal tract, peritoneum, mesentery, abdominal lymph nodes, liver spleen and pancreas⁵. Mode of spread of intestinal tuberculosis is through the lymphatic's blood born, ingestion of infected sputum or infected milk products, by direct spread from adjacent organ & fallopian tube in females⁶. The clinical presentations of abdominal tuberculosis are not much specific and usually have a vague presentation. At earlier stages of this disease investigations are not too helpful. The attending clinicians have to rely on their own clinical skills and experiences to make diagnosis and management plan. Many of the cases of abdominal tuberculosis present as acute abdomen, only when they have developed into complications like intestinal perforations, intestinal obstructions. It is a great challenge to diagnose and treat abdominal tuberculosis in a developing country with limited resources⁷. In areas where tuberculosis is very common, the differential diagnoses of acute or chronic abdomen must include abdominal tuberculosis⁸. This study was conducted to determine the various presentation of abdominal tuberculosis in cases of acute abdomen presented in emergency to department of surgery at PUMHS Nawabshah.

MATERIAL AND METHODS:

The study was conducted in the department of Surgery unit 3, Peoples University of Medical and Health Sciences Nawabshah. From January 2010 to December 2015, on first hundred consecutive patients who presented with acute abdomen and underwent surgical exploration revealed histopathologically proved abdominal tuberculosis. Patients with acute abdomen got admitted in surgical department were initially resuscitated with intravenous fluids, nasogastric decompression, urine output monitoring, analgesia and broad spectrum antibiotics in cases of sepsis. A detailed history and a clinical examination were performed. Important information in clinical history and positive findings in clinical examination were noted. Base line investigations like complete blood count, blood sugar, urea, creatinine and serum

electrolytes were done. Diagnosis of acute intestinal obstruction and intestinal perforation with peritonitis was supported with the help of abdominal ultrasounds and abdominal radiographs. Patients with sub-acute intestinal obstructions and equivocal diagnosis were initially given non operative conservative treatment and then followed for observation and further management, either in the form continuation of conservative management or decided for surgical exploration. Patients with diagnosis of acute intestinal obstruction, intestinal perforation and peritonitis under went laparotomy through midline incisions. Peroperative abdominal findings were noted and biopsies were taken from enlarged mesenteric lymph nodes, omentum, strictures, excised parts of the intestine. All patients operated in emergency were managed in the ward or ICU accordingly. Cases with proven histopathological diagnosis of tuberculosis were included in this study and their clinical presentation, operative findings and outcome was recorded. Patients with diagnosis of other than tuberculosis were excluded from study. Data collected and recorded on a Proforma designed for this study. Statistical package for social science (SPSS) version 18.0 was used to analyze the data. The mean \pm standard deviation (SD), Median and range were calculated for numerical variable while frequency and percentages were computed for categorical variable.

RESULTS:

Total 100 cases were included during the study period. Among those 45 were male and 55 were females making a male to female ratio 1:1.2. Mean age was 30 years, SD \pm 7.29 and range of 16-45 years. 92 patients were belonging to low socio economic class while 8 of them from middle class. 38 patients were already known cases of pulmonary tuberculosis. 45 patients had a family history of tuberculosis. Abdominal pain was the main presenting symptom in 72 patients. Average duration of symptoms was 4 months before being admitted and diagnosed as a case of abdominal tuberculosis. 51 patients had peritonitis due to perforation of small intestine, 34 had acute

intestinal obstruction, 12 patients had acute appendicitis, 3 patients had a plastered abdomen. For the 12 patients with acute appendicitis, appendicectomy was done and biopsy was taken from enlarged mesenteric lymph nodes that proved to be tuberculosis. In 51 patients with intestinal perforations 30 patients had multiple perforations while 21 patients had single perforations. All these perforations were found in terminal ileum. A thorough peritoneal wash with normal saline and stoma formation was done in all 30 patients with multiple perforations and 11 patients with single perforations. Primary repair was done in only 10 patients having single perforation and low peritoneal contamination but re-do surgery and stoma had to be made in 4 patients among these 10 patients. Biopsy from the perforated intestinal margin and mesenteric lymph node proved the diagnosis of tuberculosis in these patients. Among 34 patients who presented with features of acute intestinal obstruction, 13 patients had a tuberculous ileocaecal mass, 5 patients had a single stricture while 16 patients had multiple strictures at various levels of small intestine. 13 patients with ileocaecal mass underwent right hemicolectomy with proximal diversion loop ileostomy did not develop any postoperative complications. Biopsy of the ileocaecal mass proved tuberculosis. 5 patients with solitary tuberculous strictures underwent resection and anastomosis with uneventful post-operative course. 16 patients with multiple strictures underwent resection and stoma formations. Biopsies from the excised strictures and enlarged mesenteric lymph node proved tuberculosis. On exploration of the 3 patients with plastered abdomen, only the omental biopsy was the possible procedure that later on proved tuberculosis. Post-operative wound infection was found in 20 patients with peritonitis, 3 patients with intestinal obstruction. Wound dehiscence was found in 7 patients. 10 patients died during their Postoperative hospital stay that had severe sepsis due to peritonitis pre-operatively. Post operatively all patients were prescribed anti tuberculous therapy for one year and they were followed in OPD on regular basis.

DISCUSSION:

Abdominal tuberculosis is a real challenge for the surgeon to diagnose and then to manage. This challenge is increased to many folds when abdominal tuberculosis presents as acute abdomen in emergency situations. The disease commonly present in young age group as supported by our study that shows 30 years as mean age that is comparable to Khan IA mean age 34 years⁹. There was a slight female preponderance in our study (M:F=1:1.2) that is comparable to Abro *et al* showing almost same ratio¹⁰. Most of the patients (92%) were belonging to low socio economic group in this study that favours other studies like Arunima *et al*¹¹. Among those 100 patients 51 cases had the diagnosis peritonitis due to intestinal perforations that is higher than other studies¹¹.

The probable reasons for this high rate of peritonitis due to perforation were poor nutritional status and late presentations, because most of these cases were belonging to low socio economic with poor hygiene and sanitation. Most of these patients (41) underwent vigorous peritoneal wash and stoma formations and only few (10) had primary resection and anastomosis. After primary anastomosis of those 10 patients, 4 patients developed leakage from the primary anastomosis and had to undergo re-do exploration and stoma formation that again reflect late presentation with poor patient's resistance. Out of 100 patients with acute tubercular abdomen, 34 patients had acute intestinal obstruction that is somewhat comparable to similar studies¹¹. The reasons of obstruction was multiple strictures in 16 patients, ileocaecal tuberculous mass in 13 patients and single stricture was present in 5 patients. Patients with ileocaecal mass underwent right hemicolectomy with proximal covering loop ileostomy to protect distal ileocolic anastomosis. In this study 12 patients with acute appendicitis found to have abdominal tuberculosis (12%) in the form of enlarged tuberculous mesenteric lymph nodes that is comparable to Arunima M *et al* 10%¹¹. Cases with acute appendicitis received post-operative ATT after confirming tuberculous report of

histopathology from enlarged mesenteric lymph nodes. 3 patients (3%) found to have plastered abdomen that is comparable to Muhammad et al 2.4%¹². Patients with multiple strictures underwent resection of all strictures with anastomosis and covering proximal loop ileostomy. Primary resection and anastomosis was made in patients with solitary tuberculous stricture of the small intestine and anti tuberculous treatment was started before waiting the histopathology report of excised stricture and mesenteric lymph node. While in all other patients with stoma formation ATT was started after conformation of tuberculosis from histopathology. Post operatively 23 patients developed severe wound infections and seven patients developed complete wound dehiscence reflecting the poor nutritional status of the patients, late presentation and heavy peritoneal contamination. Ten patients were expired post operatively due to severe sepsis with peritonitis and intestinal perforation. Although this 10% mortality is considerably high but still lower than many similar studies like Chalya PL et al show mortality rate of 28%¹³. The probable reason of that comparatively low mortality was adopting more conservative approach with making covering stomas.

CONCLUSION:

Tuberculosis is still very common in this part of world mostly affecting low socio economic groups. Abdomen is the second commonest site for tuberculous disease that some time present as acute abdomen. Peritonitis due to intestinal perforation, intestinal obstruction, and acute appendicitis are the most common presentations of acute tuberculous abdomen. Clinician should always think of abdominal tuberculosis when dealing with acute abdomen in the areas where tuberculosis has a high prevalence. A more conservative approach making covering stomas can reduce the mortality in acute tuberculous abdomen.

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