



STUDY OF INTESTINAL TUBERCULOSIS AND ITS SURGICAL MANAGEMENT

General Surgery

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KEYWORDS

INTRODUCTION

Tuberculosis, mainly in developing countries is a major health problem, which causes significant morbidity and mortality. These countries have problems of poverty, overcrowding, and poor sanitation. The population is ignorant and malnutrition is prevalent. Tuberculosis affects various parts of the body of which abdomen is the 6th most common extra-pulmonary site for tuberculosis. The portals of entry into the abdomen includes hematogenous, ingestion of the infected sputum or infected milk and from contact to organs.

Intestinal tuberculosis exists as –

- Ulcerative
- Hypertrophic
- Stricture form.
- However, peritoneal involvement existed as ascitic, loculated, plastic and purulent forms.

There are a number of clinical presentations of intestinal tuberculosis and these could be presented with complications as acute or sub-acute intestinal obstruction because of mass or stricture formation or adhesions, gut perforation leading to peritonitis.

The treatment of the abdominal TB is especially non-surgical with anti-tuberculosis therapy and the surgical treatment is earmarked for complications.

MATERIAL AND METHODS

The study was conducted in the Department of General Surgery SRMSIMS Bareilly, from the period of November 2017 to May 2019 on patients who were admitted in the department of general surgery with clinical suspicion of intestinal tuberculosis. Our study is based on detailed clinical examination and various investigation results suggestive of intestinal tuberculosis.

- Study Design: Prospective Observational Study
- Study Location: This was a tertiary care teaching hospital-based study done in Department of General Surgery at SRMSIMS hospital Bareilly, India.
- Sample size – 50 patients

RESULTS

The majority of 16 (32%) patients were belongs to 21-30 years followed by 14 patients (28%), who were in the age group 31-40 years followed by 11 patients who were in 10-20 years age group and the rest 9 (18%) belonged to greater than 40 years age group. Females were in dominant number, 34 female patients (68%) as compared to 16 males (32%). Female: Male ratio is 2.1:1

Most common symptom was abdominal pain and distension in 50 (100%) and 36 (72%) patients respectively, followed by altered bowel habits and nausea / vomiting in 27 (54%) and 35 (70%) patients respectively. Abdominal ultrasonography and computerized tomography of abdomen was carried out in 14 patients (28%) which

was suggestive of abdominal tuberculosis, showing presentation of bowel wall thickening, terminal ileum involvement, presence of mass in abdomen, enlarged lymph nodes and ascites. Remaining, cases of acute intestinal obstruction (22 cases) and perforation peritonitis (10 cases) were diagnosed using plain x ray radiographs of abdomen.

Most common surgical procedures was Ileoileal resection with ileoileal anastomosis, which was done in total of 16 cases, limited right hemicolectomy was done in total 16 (32%) patients. Stricturoplasty was done in 20% patients who had ileal or jejunal strictures. Ileostomy was made in patients who underwent ileoileal resection and limited right hemicolectomy, in 12 and 11 patients respectively. The most common histopathology specimen found in our cases was caseating granulomas found in 28 specimens (56%) and non caseating granulomas were found in 22 cases (44%). Lymphocytic infiltration was present in 20 histopathology specimens in our study.

Post-operative complication was seen in 17 patients (34%), where surgical site infection was seen in 9 patients (18%), burst abdomen in 5 (10%) patients, faecal fistula in 1 patient. Mean hospital stay of patients was 9.62 days (ranged 5-19 days). Single mortality was observed in our study. All cases were treated with antitubercular drugs, and all patients responded well to the treatment. All patients with ileostomy (23 cases) underwent ileostomy closure after 3-4 months as per protocol.

Maximum number of cases in our study were of acute intestinal obstruction, 22 cases (44%), followed by intra-abdominal mass 12 cases (24%), followed by cases of perforation peritonitis including 10 patients (20%) and 6 cases of sub-acute intestinal obstruction.

DISCUSSION

Tuberculosis is a major global burden and in recent years there has been increasing incidence of the disease due to increasing incidence of AIDS in both developed and developing nations and carrying a significant morbidity and mortality.^[1] In developing countries intestinal tuberculosis is also a significant cause of morbidity and mortality. It is one of the major health problems in the world^[1] Abdominal tuberculosis affects all parts of abdomen including intestines, peritoneum, lymph nodes and solid organs.^[1] Because of its non-specific nature, a wide variety of presentation and ability to mimic other abdominal diseases is possible and, a high index of suspicion is needed.^[1] Our study was aimed to study intestinal tuberculosis and its management and post-surgery complications; similar studies were done by Charokar K et al, Sinan T et al^[2] & Sulaiman J et al^[3]. The disease remains undiagnosed, misdiagnosed or delayed diagnosed till patient develops complications such as intestinal obstruction or perforation peritonitis.

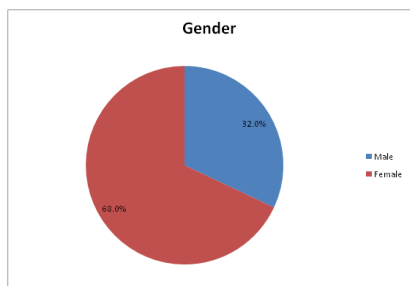
This was a prospective observational (cross sectional) study conducted in a tertiary care teaching hospital in north India. Similar study was done by Prabhu PR et al^[3] & Rahman M et al^[3]. The advantages of cross-sectional study is that it is used to prove and or disprove the

assumptions, it is inexpensive, captures a specific point in time and contains multiple variables at the time of the data collection.

Total of 62 patients were identified out of which 50 were enrolled who had intestinal tuberculosis as 7 were not fitting in our inclusion criteria and 5 of the patients refused to take part in the study.

Gender Distribution

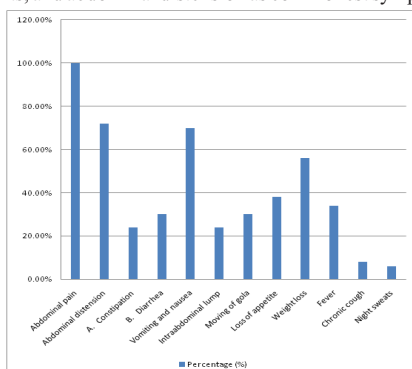
In our study the majority of patients were found to be females, 34 cases (68%) than males (32%). Ali M S et al^[4] reported 54% females and 46% males in their study and the female to male ratio was 1.17: 1 which was similar to the present study. Charokar K et al^[4] reported 61% males and 39% female and the male to female ratio was 3:2.



Pie graph showing the gender wise distribution of patients

Symptomatology

In present study, the majority of patients were having abdominal pain (100%) and abdominal distention in 36 cases (72%), vomiting and nausea was present in 35 patients (70%) and 12 patients presented with intraabdominal lump. In Sulaiman J et al^[5] study commonest symptom was found pain abdomen in all 25 patients (100%). Our study results were similar to Das P et al^[5], where 94% of patients presented with complaints of pain abdomen. Charokar K et al^[5] also reported abdominal pain, low grade fever, weight loss, anorexia, disturbed bowel habits, and abdominal distension as commonest symptoms.



Bar graph of symptomatology of patients under study.

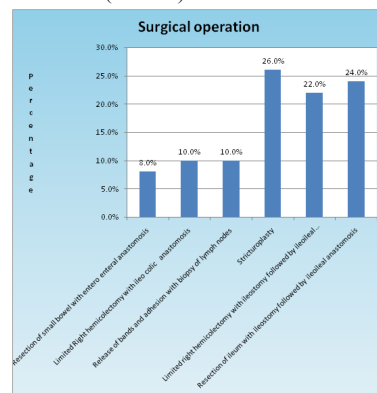
Hematological and laboratory investigations

In present study, anaemia was seen in 20 (40.0%) patients, ESR was raised in 28 (56%) patients. Similar observation was shown by Ali M S et al^[5] where anemia was found in nearly all cases, another study by Wig & Chitkara^[6], Segal et al^[6] reported moderate degree of anaemia in their cases of abdominal tuberculosis.

Types of operation

In our study, all 100% patients were treated with surgical methods, ileoileal resection with ileoileal anastomosis, which was done in total of 16 cases, out of these 16 cases, ileostomy was made in 12 patients and in the rest 4 primary repair was done without diverting ileostomy. Limited right hemicolectomy was done in total 16 (32%) patients, out of these 16 patients, ileostomy was made in 11 (22%) patients and primary repair was done in rest 5 (10%) of patients. Stricturoplasty was done in 13 cases (26%) patients who had either ileal or jejunal strictures. In Ali M S et al^[6] 90% cases underwent by operative procedure, similarly Chen WS et al^[7] treated 16% cases conservatively and 84% cases with surgical intervention in his series. In Rahman M et al^[7] study, perforation site exteriorize as stoma was performed in 4(15.38%) cases, Stricturoplasty was done in 1(3.84%) case, and resection of jejunum with jejunojejunal anastomosis was performed in 4 (15.38%) cases, right hemicolectomy with ileotransverse anastomosis was done in 3(11.53%) cases and resection

of ileum with ileoileal anastomosis was done in 3(11.53%) cases, resection of ileum with ileoileal anastomosis and proximal loop ileostomy was done in 6(23.07%) cases.



Bar graph distribution of patients on the basis of name of the operation

Post-operative complication

In present study, post-operative complication was seen in 17 patients, surgical site infection was present in majority of cases i.e. 9 patients (18%), which was treated with antibiotics administered in postoperative phase along with regular dressings. Burst abdomen was present in 5 cases (10%) which was treated with regular dressings along with secondary suturing at appropriate timing. Faecal fistula was observed in 1 patient (2%). Similar observation was reported by Ali M S et al^[8] anastomotic leak were observed, wound sepsis was observed in 30% of cases, in 12% cases were gaping of the wound but 4 cases were reported death and most of the 60% patients were stayed post operatively in hospital was 8-14 days. In Sulaiman J et al^[8] post-operative complications like wound sepsis was recorded in 2 patients (8%) while faecal fistulae was seen in 1 patient (4%) and wound dehiscence in 1 patient (4%). Charokar K et al^[9] reported postoperative complications in 33.3% patients, surgical site infection was the commonest complication that is also similar to Baloch NA et al^[9]

CONCLUSION

Intestinal tuberculosis is more common where pulmonary tuberculosis has high incidence. Though gastrointestinal TB usually involves the ileocecal region, it can virtually affect any part of GI tract with non-specific symptoms. Various imaging features and radiological signs are useful in making a diagnosis along with a high degree of clinical suspicion. In recent years, molecular and immunological techniques are increasingly used for rapid diagnosis in suspected cases of abdominal TB. Gastrointestinal TB is managed both with antituberculous drugs and surgery. Surgery plays a very important role in acute abdominal catastrophes resulting from adhesions, perforations and strictures.

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