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Original Research Article

Profile, Pattern and Surgical Management of Intestinal Tuberculosis from Western Uttar Pradesh

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Abstract: Approximately 1/8th of total tuberculosis is extra-pulmonary of these abdominal tuberculosis accounts for 11-16% cases. TB of the gastrointestinal tract is the sixth most frequent form of extra-pulmonary site, after lymphatic, genitourinary, bone and joint, miliary and meningeal tuberculosis. This study was done to find out the profile, pattern and surgical management of intestinal tuberculosis in the region of western Uttar Pradesh. This retrospective study was conducted by Department of General Surgery, FH Medical College, and Tundla. A retrospective cohort of patients of abdominal tuberculosis cases, which were operated at this tertiary care institution during August 2015 to September 2016, formed the study population. Only those cases, which either had positive histopathology, or gross operative findings, or both conforming to the diagnosis of tuberculosis, were included in the study. Majority of study subjects were in the age group of 21-30 years (36%), followed by 11-20 years (26%) and 31-40 years (24%). 80% patients presented with abdominal pain. Vomiting and abdominal distension were reported by 46% and 42% of patients respectively. Fever and weight loss were also reported by most of the patients. Distension was present in 74% of the patients. 88% subjects were anemic. ESR was elevated in 74% subjects. Chest x-ray was suggestive of TB in 40%. On ultrasound 66% showed mass in right iliac fossa. 52% had dilated bowel loops with air fluid levels on X-ray abdomen (erect and supine). Most commonly (34%) Bowel Perforation Repair was performed followed by Right Hemicolectomy with Primary Anastomosis was done in 28% of subjects. Abdominal tuberculosis may mimic any intra-abdominal disease and can challenge the diagnostic skills. Data generated in this study can be of great importance of surgeons managing abdominal tuberculosis cases in this area.

Keywords: Epidemiological study, Rural, Uttar Pradesh, Abdominal tuberculosis

INTRODUCTION

Tuberculosis, especially in developing countries is a major health problem, and causes significant morbidity and mortality. World Health Organization (WHO) report on the Global Burden of Disease ranked TB as the seventh most morbidity-causing disease in the world and expected it to continue in the same position up to 2020 [1]. Tuberculosis (TB) hunts one human life every 1.5 min in India [2].

According to WHO report in 2013, there were an estimated 8.6 million annual incidence of TB globally, and India has the world's largest tuberculosis cases, which are around 26% of the world TB cases. Tuberculosis can affect any part of the body. Approximately 1/8th of total tuberculosis are extra-pulmonary. Of these abdominal tuberculosis accounts for 11-16%. India extra-pulmonary tuberculosis constitutes 15-20 % of all cases of tuberculosis in immune-competent patient and in HIV positive patients the incidence is up to 50% [3, 4].

TB of the gastrointestinal tract is the sixth most frequent form of extra-pulmonary site, after lymphatic, genitourinary, bone and joint, miliary and meningeal tuberculosis. Abdominal tuberculosis can

affect the gastro intestinal tract; peritoneum lymph nodes or the solid viscera including pancreas, spleen and occasionally pancreas. Tuberculosis of the Ileocaecal region ranks first in incidence among intestinal / abdominal tuberculosis [5, 6]. Thus this study was planned to find out the profile, pattern and surgical management of intestinal tuberculosis in the region of western Uttar Pradesh.

MATERIALS AND METHODS

This retrospective study was conducted by Department of General Surgery, FH Medical College, and Tundla. A retrospective cohort of patients of abdominal tuberculosis cases, which were operated at this tertiary care institution during August 2015 to September 2016, formed the study population. Data of such 50 patients were included in this study. Only those cases, which either had positive histopathology, or gross operative findings, or both conforming to the diagnosis of tuberculosis, were included in the study.

Patient's records served as study tools. Medical records department (MRD) was approached and data was collected on all patients who received surgical abdominal tuberculosis from during the study period. The relevant data were recorded from medical records, bedside flow sheets, radiographic reports, and other lab reports of these patients. The hospital records of these patients were searched for demographic profile, clinical presentation, baseline and specific investigations, operative procedure & findings, histopathology, and anti-tubercular therapy administered. Any complications during the course of hospitalization and final surgical outcome were also noted down. For the follow up, the OPD records and re-admission records were scrutinized.

The study adhered to the tenets of the Declaration of Helsinki for research in humans. Permission of Institutional ethics committee (IEC) was sought before the commencement of the study. All the questionnaires along with other relevant data were manually checked and were then coded for computer entry. After compilation of the collected data, analysis was done using Statistical Package for Social Sciences (SPSS), version 20 (IBM, Chicago, USA). The results were expressed using appropriate statistical methods.

RESULTS

Majority of study subjects were in the age group of 21-30 years (36%), followed by 11-20 years (26%) and 31-40 years (24%). Very few patients presented in the age groups of <10 years and >51 years. (Table 1).

Clinically, regarding abdominal symptoms, 80% patients presented with abdominal pain. Vomiting and abdominal distension were reported by 46% and 42% of patients respectively. Fever and weight loss were also reported by most of the patients. Distension was present in 74% of the patients. (Table 2)

Eighty eight percent subjects were anemic. ESR was elevated in 74% subjects. Chest x-ray was suggestive of TB in 40%. On ultrasound 66% showed mass in right iliac fossa. 52% had dilated bowel loops with air fluid levels on X-ray abdomen (erect and supine). (Table 3)

Most commonly (34%) Bowel Perforation Repair was performed followed by Right Hemicolectomy with Primary Anastomosis was done in 28% of subjects. 24% patients underwent Segmental Bowel Resection with Primary Anastomosis. (Table 4)

Table-1: Age group wise distribution of the study subjects (n=50)

Age groups (years)	Frequency	Percentage
1–10	1	2
11–20	13	26
21–30	18	36
31–40	12	24
41–50	5	10
>51	1	2

Table–2: Clinical features of study subjects (n=50)

Clinical Profile	Frequency	Percentage
Abdominal symptoms		
a) Abdominal pain	40	80
b) Vomiting	23	46
c) Abdominal distension	21	42
d) Diarrhoea	13	26
e) Constipation	11	22
Constitutional symptoms		
a) Weight loss	36	72
b) Fever	35	70
c) Night sweats	22	44
d) Anorexia	21	42
Signs		
Distension	37	74
Tenderness	35	70
Free fluid	20	40
Lump	6	12

Table-3: Investigation findings among study subjects (n=50)

Laboratory Findings	Frequency	Percentage
<Hb% (anaemia)	44	88
Elevated ESR	37	74
Hypoalbuminaemia	31	62
Radiology		
X-ray chest (PA view)		
Pulmonary tuberculosis present	20	40
X-ray abdomen (erect and supine)		
Dilated bowel loops with air fluid levels	26	52
Free gas under right dome of diaphragm	7	14
X-ray barium meal follow through		
Stenotic lesion in small intestine	4	8
Ultrasound		
Mass in right iliac fossa	33	66
Dilated bowel loops	25	50
Free fluid in peritoneal cavity	5	10
Colonoscopy		
Intraluminal mass in caecum	7	14
CT scan abdomen	14	28

Table-4: Operative procedure performed in study subjects

Operative procedure performed	Frequency	Percentage
Release of Bands and Adhesiolysis	1	2
Right Hemicolectomy with Primary Anastomosis	14	28
Bowel Perforation Repair	17	34
Segmental Bowel Resection with Primary Anastomosis	12	24
Segmental Bowel Resection with Ileostomy	5	10

DISCUSSION

Data of 50 patients, who had come to the surgery outpatient department for intestinal tuberculosis, were included in this study. In this study we observed that majority of study subjects were in the age group of 21-30 years (36%), followed by 11-20 years (26%) and 31-40 years (24%). Very few patients presented in the age groups of <10 years and >51 years. In a retrospective study by Sircar *et al.;* age at presentation was variable with maximum cases in 21 to

40-year age group (58% of cases) with a mean age of 32.7 years [7]. Sharma *et al.;* reviewed literature and found that two thirds are in age group 21- 40 [3].

Regarding abdominal symptoms, it was observed in this study that 80% patients presented with abdominal pain. Vomiting and abdominal distension were reported by 46% and 42% of patients respectively. Fever and weight loss were also reported by most of the patients. Distension was present in 74% of the patients. In another study abdominal tuberculosis constituted 10% of all cases attending the emergency with an acute abdomen [8]. Most of the patients were admitted with intestinal obstruction and peritonitis. They all underwent emergency laparotomy. This throws light on delay in diagnosis of abdominal tuberculosis, till the development of complications. 40% of the patients had co-existing pulmonary tuberculosis. This is in agreement with the findings of the authors who have quoted approximately 15-25% of the cases with abdominal tuberculosis have concomitant pulmonary TB [9, 10].

In this study 88% subjects were anemic. ESR was elevated in 74% subjects. Chest x-ray was suggestive of TB in 40%. On ultrasound 66% showed mass in right iliac fossa. 52% had dilated bowel loops with air fluid levels on X-ray abdomen (erect and supine). Findings of this study are comparable with observations of another study. In that study dilated bowel loops were seen in 33.8% cases, air fluid levels in 2.8% cases and ground glass appearance was seen in 15.4% cases [11].

Most commonly (34%) Bowel Perforation Repair was performed followed by Right Hemicolectomy with Primary Anastomosis was done in 28% of subjects. 24% patients underwent Segmental Bowel Resection with Primary Anastomosis. Majority of our patients required emergency surgery. Various surgical procedures performed were: segmental resection of the diseased segment including right hemi-colectomy, release of band and adhesions, repair of the perforation, stricturoplasty, exteriorization of the perforation loop and cholecystectomy. This comes in agreement with other studies [12, 13]. Mortality rate observed in this study was comparable with a study by Arunima M *et al.;* [14].

CONCLUSION

Abdominal tuberculosis may mimic any intra-abdominal disease and can challenge the diagnostic skills. This study generated data on profile, pattern and surgical management of intestinal tuberculosis in the region of western Uttar Pradesh. This information can be of great importance of surgeons managing such cases in this area. Prospective studies with bigger sample size are warranted to validate the findings.

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