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CLINICOEPIDEMIOLOGICAL PROFILE OF ABDOMINAL TUBERCULOSIS

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ABSTRACT

Introduction: The incidence of abdominal tuberculosis is a common disease in India. **Aim:** to study clinicalcoepidemiological profile of abdominal tuberculosis. **Methods:** This retrospective and prospective study was conducted on 50 patients of abdominal tuberculosis admitted in various surgical wards of the department of surgery at, GMC, Bundi, over a period of 1 year. **Results:** The mean age was 38.5 yrs with female preponderance. Pain abdomen was the commonest symptom seen in all patients followed by loss of appetite. 20% of the patients had active pulmonary TB. Mesenteric lymph nodes (90%) present in almost all cases. **Conclusion:** Abdominal tuberculosis is prevalent in middle age, low socioeconomic status.

Keywords: abdominal tuberculosis, clinical profile, epidemiology.

Introduction: The incidence of abdominal tuberculosis is a common disease in India. There is abundant proof that abdominal tuberculosis is a disease which is as old as civilization itself. Considerable advent of specific anti tubercular chemotherapy and improved economic conditions tuberculosis of abdomen has declined considerably in the west but still it is a major health hazard in India. In India the prevalence of disease is about four per thousand populations with mortality of 60-80 per lac population every year.[1]

In developing countries factors like over-crowding, malnutrition, poor hygiene & illiteracy are responsible for the high prevalence of this disease. The primary tuberculosis of abdomen without an antecedent or associated with pulmonary tuberculous is fairly common. About 0.4 million peoples in India are coinfected with HIV and tuberculosis.[2] Extra-pulmonary form of TB which account for 10-15% of all cases may represent up to 50% of patient with AIDS.[19] Abdominal tuberculosis can affect any part of gastrointestinal tract, peritoneum, lymph nodes or solid viscera, constituting up to 12% of extra pulmonary TB and 1-3% of the total.[3]

Tuberculous lesions of the intestine are still one of the commonest lesions encountered during operative management of acute abdomen in most of the developing countries. Surgery is indicated in either acute complication like acute intestinal obstruction & perforation peritonitis or for chronic symptoms like colicky pain, distension, vomiting, and sensation of bubbles of gas passing, subjective feeling of a balloon moving in the belly and a vague lump or lumps.[4] Since the advent of newer anti-tubercular drug chemotherapy alone may cure the disease unless patient develops obstructive symptoms. Only minimal surgery to combat the mechanical block and to

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suture the perforation has been prove adequate. Thus we had done this study to assess clinic-epidemiological profile of abdominal TB.

Aim: to study clinicoepidemiological profile of abdominal tuberculosis.

Methods: A cross sectional study was conducted on 50 patients of abdominal tuberculosis admitted in various surgical wards of the department of surgery associated group of hospitals, GMC Bundi. After taking permission from the review board and informed consent the patients fullfilling inclusion and exclusion criteria were included. Previously operated for abdominal tuberculosis and cured cases and patients under 11years of age were excluded from study. Detailed history & physical examination of all cases was taken from recorded data & by calling patients attended. All data were entered in excel sheet and analysed using Epi info software of CDC.

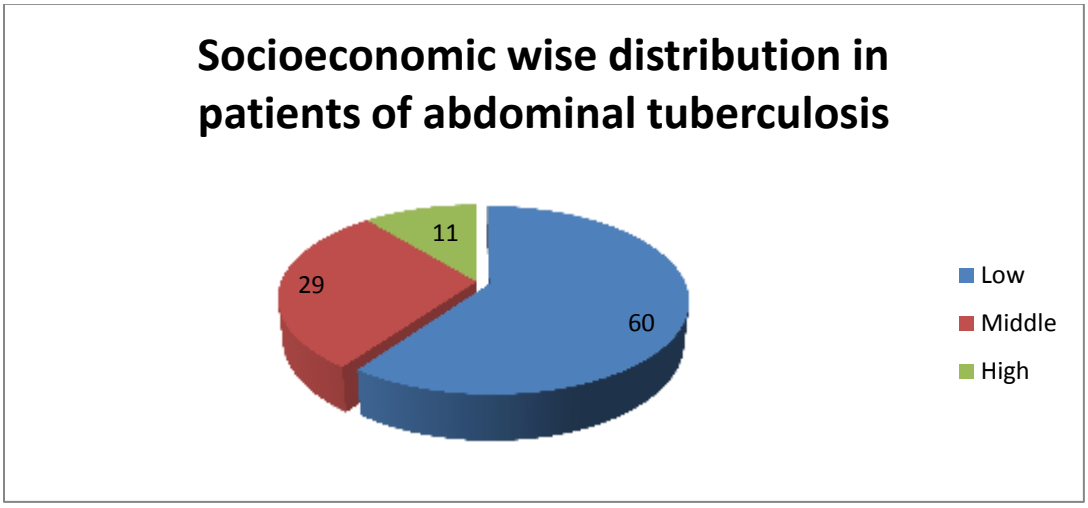
Results: More than 3/4th of the patients (76%) were between 11- 30yrs of age. The mean age was 38.5 yrs. Male female ratio is 1:2 which shows female preponderance.

Table 1. Sociodemography

Age (in yrs)	**No. of patients**	**Percentage**
11-30	38	76
31-50	9	18
51-70	3	6
SEX		
Male	17	17
Female	33	33

Disease is more common in low socioeconomic group (60%).

Fig. 1 Distribution according to Socioeconomy



Pain abdomen was the commonest symptom seen in all patients, followed by loss of appetite (90%), 50% had loss of weight and abdominal distension. Fever was present in 46% of the patients. Abdominal distension was seen in 50% of the patient followed by tenderness in 40%. Guarding was present in 12% while 18% of the cases had lump abdomen. In 20% of patients, no finding could be elicited & presented with chronic pain abdomen alone.

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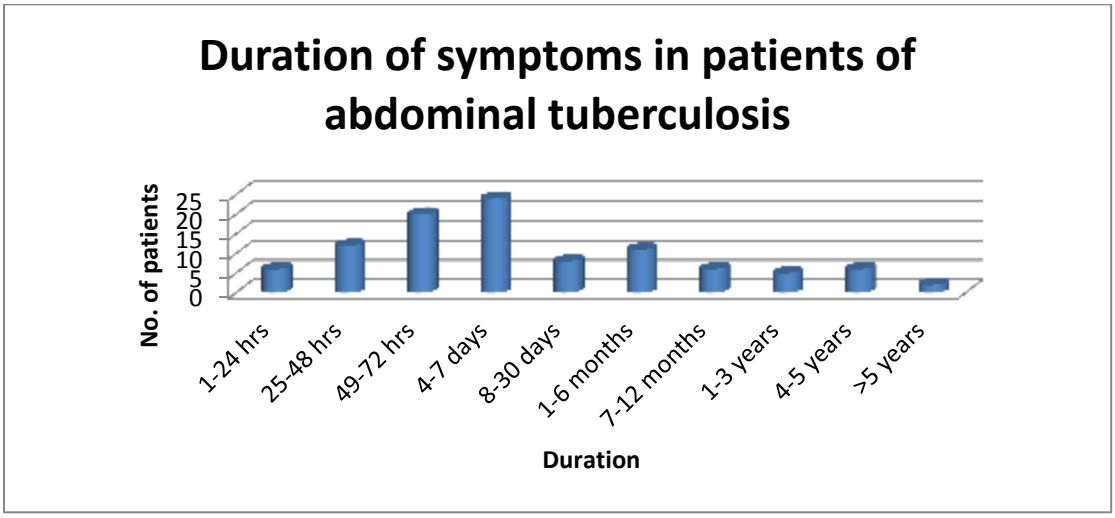
Table 2. Clinical presentation

Symptoms	No. of patients	Percentage
Pain abdomen	50	100
Loss of appetite	45	90
Fever and cough	30	60
Loss of weight	25	50
Nausea and Vomiting	20	40
Altered bowel habits	35	35
Signs		
Abdominal distension	25	50
Tenderness	18	36
Guarding	5	10
Rigidity	5	10
Lump abdomen	8	16
Visible peristalsis	18	36
No significant abnormality	20	40

Almost 3/4th cases of the patients presented with obstruction. 15% of the patients presented with symptoms of pain abdomen with altered bowel habits. 5% had abdominal lump while 2% of patients reported with perforation peritonitis.

Maximum duration of symptoms was 3yrs. Most of the patients (50%) reported between 49hrs to 7days of the onset of symptoms.

Fig. 1 Duration of Symptoms



Pulmonary tuberculosis was associated with tubercular abdomen in 50% of the patients. 20% had active lesion. 30% of the patients had dilated bowel loops whereas 30% showed multiple air fluid levels suggestive of intestinal obstruction. X-Rays of 10% of the patients had gas under the diaphragm implying hollow viscus perforation.

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Ultrasonology abdomen & pelvis was done in 30 patients. Mesenteric lympahadenopathy in 90% most common, ascitis in 40%, dilated bowel loops, thickened ileocaecal junction, Ileocaecal mass 60, 30 & 20% respectively.

20 patients were diagnosed as having abdominal tuberculosis by CECT scan abdomen. Barium meal follow through and barium enema were done selectively in patients posted for elective surgery. Pulled up (70%) and contracted caecum (40%) were the most frequent findings.

Table 3. Radiological investigations

On X Ray	**No. of patients (n=30)**	**Percentage**
Multiple air fluid levels	15	30
Gas under the diaphragm	5	10
Dilated bowel loops	15	30
On USG		
Ascitis	15	50
Mesenteric lymphadenopathy	27	90
Thickened ileocaecal junction	12	40
Ileocaecal mass	9	30
Dilated bowel loops	15	50

Mesenteric lymph nodes (90%) happened to be the commonest site of disease followed by Ileocaecal region (40%). Peritoneal involvement was noted in 20% of the patients.

Table 4. Site of Disease

Site of disease		No. of cases
G.I.T	Jejunal + Mesenteric lymph nodes	2
	Ileum + Mesenteric lymph nodes	4
	Ileocaecal + Mesenteric lymph nodes	10
	Ascending colon+ Mesenteric lymph nodes	2
Mesenteric lymph nodes alone		10
Peritoneal involvement (tubercles, ascitis, cocoon, omentum thickening)		10

In 20% of the patients resection of diseased segment of the small bowel and end to end anastomosis was done whereas local resection of ileocaecal region with ileo transverse anastomosis was performed in 14% of the patients. 18 & 10% of the patients underwent right hemicolectomy and ileotransverse bypass alone respectively. Stricturoplasty in 10 and perforation repair was done in 12% of the patients. Adhesiolysis was carried out in 5% of the patients whereas the biopsy of mesenteric lymph nodes draining the affected segment, omental or peritoneal tubercle was taken in 20% of the patients. 3 (3%) patients required ileostomy as a secondary procedure in the cases of abdominal cocoon in which iatrogenic5 perforation has occurred.

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Fig. 2 Surgical Management

Procedure	No. of cases
Resection of small bowel & anastomosis	5
Local resection & ileo transverse anastomosis	5
Right hemicolectomy	6
Ileo transverse bypass	2
Perforation repair	10
Adhesiolysis	5
Stricturoplasty	10
Ileostomy	3
Biopsy of mesenteric lymph nodes / omentum / peritoneal tubercles	20

Caseating granuloma of bowel were seen in 20% of specimens. Noncaseating granuloma found in 20% of the specimens however in these patients diagnosis confirmed by histopathological examination of draining lymph nodes.

In systemic complications septicemia & bronchopulmonary complications were reported in 8 & 5% of the procedures respectively. Mortality was encountered in 2% of the procedures, Anastomotic leak was reported in 9% of the procedures, recurrent obstruction was noted in 1% of operated cases.

Discussion

In our study More than 3/4th of the patients (76%) were between 11- 30yrs of age. The mean age was 38.5 yrs. Male female ratio is 1:2 which shows female preponderance. Similarly Saaiq M et al (2012)[5] also reported male to female ratio of 1.2.

In our study, Pain abdomen was the commonest symptom seen in all patients, followed by loss of appetite (90%), 50% had loss of weight and abdominal distension. Fever was present in 46% of the patients. Abdominal distension was seen in 50% of the patient followed by tenderness in 40%. Guarding was present in 12% while 18% of the cases had lump abdomen. In 20% of patients, no finding could be elicited & presented with chronic pain abdomen alone. Similarly P L Chalya et al (2013)[6] also reported pain to be the chief complain (93.8%) of patients with abdominal tuberculosis followed by abdominal distension (56.7%) & vomiting (79.7%).

Pulmonary tuberculosis was associated with tubercular abdomen in 50% of the patients. 20% had active lesion (sputum positive). Similarly P L Chalya[6] et al (2013) observed higher incidence. 30% of the patients had dilated bowel loops whereas 30% showed multiple air fluid levels suggestive of intestinal obstruction. X-Rays of 10% of the patients had gas under the diaphragm implying hollow viscus perforation whereas Blower SM et al[7] noted multiple air fluid levels, dilated bowel loops in 80.20% and gas under the diaphragm in 5.7% of the patients of abdominal tuberculosis.

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Ultrasonology abdomen & pelvis was done in 30 patients. Ultrasonology abdomen & pelvis was done in 30 patients. Mesenteric lympahadenopathy in 90% most common, ascitis in 40%, dilated bowel loops, thickened ileocaecal junction, Ileocaecal mass 60, 30 & 20% respectively. Also D Agarwal[8] et al (2010) also reported similar finding viz. mesenteric lymphadenopathy (64.8%), ascitis (2.9%).

In our study, 20 patients were diagnosed as having abdominal tuberculosis by CECT scan abdomen. Barium meal follow through and barium enema were done selectively in patients posted for elective surgery. Pulled up (70%) and contracted caecum (40%) were the most frequent findings. Similarly A Uzonkoy et al (2004)[9] also reported ascitis in 100% of the patients on CECT abdomen & pelvis in patients of abdominal tuberculosis. S K Bhargva[10] et Al (2013) observed mesenteric lymphadenopathy in 92% of cases of abdominal tuberculosis on CECT abdomen & pelvis.

In our study Mesenteric lymph nodes (90%) happened to be the commonest site of disease followed by Ileocaecal region (40%). Peritoneal involvement was noted in 20% of the patients. Also D R Thapa et al (2000)[11] observed mesenteric lymph nodes as the commonest site (72%) followed by ileocaecal region in 54.98% of the patients.

In our study, 45% cases necessitated resection of the diseased portion of bowel which included right hemicolectomy (18%), local resection & ileotransverse anastomosis (12%) and resection & anastomosis of the small bowel (20%). Surgical management of intestinal tuberculosis has changed considerably, since the availability of new antituberculous drugs and methods for improving the general condition of the patient. In extensive disease of peritoneum, glands and bowel with minimal obstructive features, antitubercular chemotherapy could be the primary form of therapy. Surgery can be deferred in patients of abdominal tuberculosis and can be managed conservatively unless definitive indications like obstruction, perforation, abscess and fistula are present. Bowel resection, however extensive, cannot eradicate the entire disease from the body therefore the aim of surgery in cases of intestinal tuberculosis is to overcome complication viz. strictures, lump, obstruction and perforation. Thus a conservative approach i.e. performing local resection followed by antitubercular treatment is more logical and rational approach rather than going for more radical procedure like right hemicolectomy for intestinal tuberculosis.[12-13]

In our study, Caseating granuloma of bowel were seen in 20% of specimens. Noncaseating granuloma found in 20% of the specimens, similarly P B tripthi[14] et al (2009) reported caseating & noncaseating granulomas in 61.8 & 38.2% respectively.

Mortality was encountered in 2% of the procedures, Anastomotic leak was reported in 9% of the procedures, recurrent obstruction was noted in 1% of operated cases, similarly 13.2% in study by AV Akgun et al (2002)[15].

Conclusion: Abdominal tuberculosis is prevalent in middle age, low socioeconomic status. Ultrasonology is a useful tool for diagnosis which is cheap & readily available. The results of surgery plus DOTS are satisfactory.

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