www.jmscr.igmpublication.org
Impact Factor 5.84
Index Copernicus Value: 83.27
ISSN (e)-2347-176x ISSN (p) 2455-0450
crossref DOI: https://dx.doi.org/10.18535/jmscr/v5i4.206

IGM Publication
Journal Of Medical Science And Clinical Research
An Official Publication Of IGM Publication

Acute Presentations of Abdominal Tuberculosis - A Prospective Study in a Tertiary Care Hospital

Authors
Inpharasun S.A., Bharani Rajkumar. K, Kannan. I, Jeyachandra Mohan
Tagore Medical College

INTRODUCTION

The tuberculosis in the gastrointestinal tract and abdominal cavity is termed as abdominal tuberculosis[1,2]. Tubercular abdomen is generally presents in three forms which are ulcerative lesion [3], hyperplastic lesions and sclerotic lesions. Often the abdominal tuberculosis gives an enormous challenge to the surgeon [4]. A surgeon often does a clinical judgement to determine the type of surgical management in case of physiologically compromised patient in the emergency situations. In many developing countries there is an increase in the prevalence of immunocompromised individuals especially due to HIV infection, subsequently increasing the incidence of tuberculosis [5].

Extra pulmonary form of tuberculosis is difficult to diagnose [6]. Abdominal tuberculosis has bizarre, chronic and insidious type of presentation and difficult to diagnose. Due to advent of laparoscopy, the diagnosis has been possible without laparotomy.

The management of tubercular abdomen is still not clear. In the past the surgical intervention was used for the diagnosis. However, nowadays the surgical invention is often done for complications such as obstruction, perforation, fistula or a mass which cannot be resolved by non surgical methods [7]. Surgeons advocate the surgical management of intestinal obstruction due to TB because the obstructed lesion is often hypertrophic, a condition very difficult to manage by non surgical methods [8].

With diverse clinical presentations, often with equivocal reports of the investigations, both the disease and it's treatment have varying complications, often with prolonged morbidity and mortality. We have analyzed our patients to highlight the various aspects of abdominal tuberculosis in our setup.

METHODOLOGY

Study Population

The present study was a prospective observational study. This study was conducted in a tertiary care center during the period of October 2013 – December 2016. Sixty patients who were admitted to the emergency department with acute abdominal complaints and subsequently underwent surgical interventions were taken for the study. None of the selected patients have been previously diagnosed with sputum positive PTB. Nor any of these patients had been previously had empirical anti tubercular therapy.

Patients who underwent emergency laparotomy for previously diagnosed and treated abdominal tuberculosis were not included in the study.

Investigations

All the base line investigations comprising hematological and biochemical parameters which were done during the patient's admission and subsequent inpatient period were analyzed. The diagnosis of abdominal tuberculosis was made by clinical findings and investigational reports including histo pathological report of the specimen. All the patients underwent emergency X ray chest PA view, X ray abdomen erect view, USG abdomen. Some selected patients had underwent CECT abdomen to establish the diagnosis of acute abdomen pathology.

Surgical Procedure

The surgical procedures done were, laparotomy and mesenteric/retroperitoneal node biopsy/ omental/ peritoneal biopsy, limited resection of ileum, cecum and ascending colon with ileo colic anastomosis with & without proximal diversion, resection and anastomosis of ileum with or without proximal diversion, stricturoplasty, adhesiolysis with peritoneal biopsy. All the patients included in study underwent sputum AFB post operatively to look for pulmonary foci and patients were subjected to Cat 1 or Cat 2 ATT as per pulmonary involvement. Post operatively patients were followed up till the completion of ATT.

Data Collected

Preoperative demographic and clinical data, details of the surgical procedure, postoperative course, and complications were collected prospectively. Clinical data collected included duration of abdominal symptoms, including pain, abdominal bloating sensation, abdominal discomfort, loss of appetite, loss of weight and history of evening rise in temperature. Various presentations of tubercular abdomen along with the procedure done were analyzed. Post operatively patients were followed up to look for development of complications. All the patients were discharged after starting ATT. Complications included wound infection, development of adhesions, anastomotic leak, respiratory complications, duration of hospital stay.

RESULTS AND DISCUSSION

Sixty two cases of acute abdomen were taken up for study. All cases were taken up for emergency laparotomy on the day of admission. Stricture of ileum was the most common presentation in emergency followed by ileocecal tuberculosis (46%). Most commonly performed procedure was resection anastomosis (31%). All the patients were started on ATT on a average of 15th post operative day.

Of 62 patients 44 were male and 18 were female, which were 71% and 29% respectively. Among the patients studied, 20 were from the age group of 21-30yrs corresponding to 32% (Table 1).

Table 1: Age distribution of patients

S. No.	Age group in years	Number of patients
1	11-20	8(13%)
2	21-30	20(32%)
3	31-40	16(26%)
4	41-50	15(24%)
5	51-60	3(5%)

Among the patients, only 2 had HIV infection, making it about 3% of total (Figure 1).

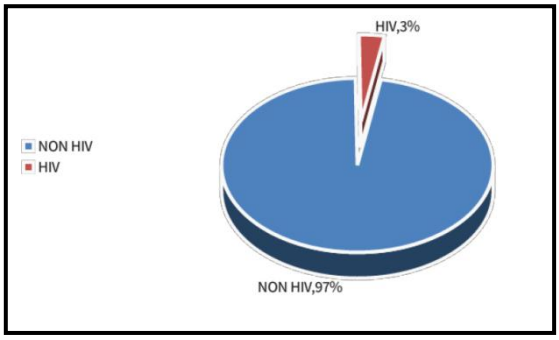

Figure 1: Incidence of tubercular abdomen in HIV patients

Age distribution of both sputum positive and sputum negative patients is given in the Table 2. The patients were more in the age group of 21-30.

Table 2: Sputum positive and Sputum negative among various age group

S. No.	Age group in years	Sputum positive patients	Sputum negative patients
1	11-20	2	6
2	21-30	11	9
3	31-40	5	11
4	41-50	6	9
5	51-60	3	0
	Total	27	35

Among the patients taken for study, about 29 (46.7%) had chronic abdominal symptoms, which included abdomen pain, abdominal discomfort, abdominal bloating sensation, loss of appetite and ball rolling movements, present for more than one month on an average.

Only 9 (31%) of these patients with chronic abdominal symptoms consulted a healthcare professional and none of them were examined by a surgeon.

Commonest finding in both sputum positive and sputum negative patients was ileal stricture, followed by ileocaecal tuberculosis.

Mortality among the treated patients was 6% (4 patients) (Figure 2). All the deaths were due to septicemia. Morbidity was 39% (24 patients) (Figure 3). Most common factor responsible for morbidity was wound infection. Other complications included respiratory tract infection and anastomotic leak.

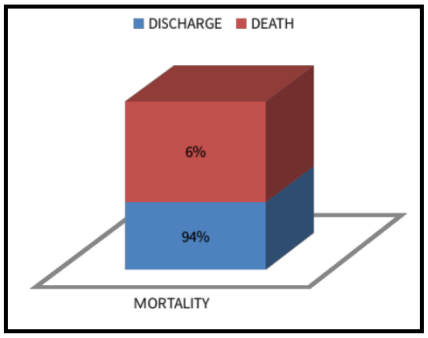

Figure 2: Mortality among treated patients

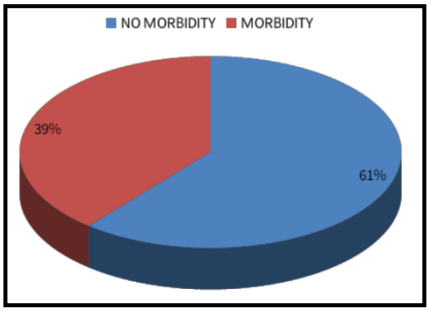

Figure 3: Morbidity among treated patients

Various presentations of tubercular abdomen were shown in Table 3. The Ileal stricture presentation is predominant accounting for 28 (45%) cases followed by Ileoceacal tuberculosis which was present in 15 (24%).

Table 3: Presentations of tubercular abdomen

S. No.	Presentations of tubercular abdomen	No of cases	Sputum positive	Sputum negative
1	Ileoceacal tuberculosis	15 (24%)	6	9
2	Ileal Stricture	28 (45%)	12	16
3	Peritoneal tuberculosis	12 (19%)	8	4
4	Tubercular Abscess	3 (4%)	1	2
5	Transverse colon stricture	1 (1.5%)	1	0
6	Mesentric/Retroperitoneal Lymphadenopathy	1 (1.5%)	1	0
7	Other presentations	2 (3%)	0	2

Surgical interventions performed were shown in Table 4. The predominant surgical interventions performed was n Resection Anastomosis of Ileal stricture with/without proximal diversion ileostomy which was done in 19 (31%) cases.

Table 4: Surgical interventions performed

S. No.	Surgical interventions performed	No of cases
1	Stricturoplasty	8(13%)
2	Resection Anastomosis of Ileal stricture with/without proximal diversion ileostomy	19(31%)
3	Limited Resection of Ileum, Caecum and Ascending Colon with Ileo-Ascending anastomosis with/without proximal diversion ileostomy	6(10%)
4	Right Hemicolectomywith/without proximal diversion ileostomy	10(16%)
5	Extended Right Hemicolectomy	1 (1.5%)
6	Lymph Node biopsy	16(26%)
7	Diversion ileostomy	2(3%)

Of the patients diagnosed with abdominal tuberculosis about 27(43.5%) had evidence of

pulmonary tuberculosis. Diabetes mellitus was present in 21%of the patients (13 patients).

In the present study, ileal stricture was the most common presentation. Though literature says ileocaecal tuberculosis is the most common type [9], our study analyzed only the acute presentations, where obstruction was the most common clinical presentation. Two rare types of presentations, such as transverse colon stricture and retro peritoneal lymphadenopathy were also seen. Even for the strictures, we preferred resection anastomosis than stricturoplasty, as the both the disease and the treatment involves ongoing process of inflammation.

Resection anastomosis was the most frequently performed procedure for strictures. They have the advantage of removing the entire diseased portion of the small bowel, when compared to stricturoplasty, where the diseased portion remains. Not only it has the advantage of removing the disease, but also the decrease in the complications like anastomotic leak (impaired healing in the stricturous portion) and recurrence of the obstruction (Also the the ATT regimen would have increased the inflammation thereby causing subsequent fibrosis and might have lead to obstruction again). Wound infection was the most common postoperative complication, causing increased morbidity.

Patients newly diagnosed as having PTB had increased incidence of respiratory complication. These respiratory complications include pneumonia, pleural effusion, and development of ARDS, making the patient dependent on a mechanical ventilator support. This increase in respiratory complications in new PTB patients can be attributed to the active disease. All these patients were given appropriate antibiotics after performing wound swab, sputum culture and sensitivity.

Anastomotic leak which is normally at a rate of 2-4 % was relatively high among our patients, (about 25%). Patients, who underwent stricturoplasty had very high rates of leak, about 62.5%. Even for the other procedures, it was significantly high, resection anastomosis (10.5%) and right hemicolectomy(10%). The performance of proximal diversion, significantly reduced the complication due to anastomotic leak. Proximal diversion was performed in about, 11%(2/19) of resection anastomosis (non diversion leak rate was 11%), 33%(2/6) of limited resection group (non diversion leak rate 0%), 40%(4/10) of right hemicolectomy group (non diversion leak rate 10%) and 100%(1/1) of ext.right hemicolectomy group (non diversion leak rate 0%). Of the patients operated, 4 patients died. All the deaths were due to septicemia. It is about 6% of the total patients studied.

All the patients underwent postoperative evaluation for pulmonary tuberculosis. The investigations performed were, CXR PA view, sputum smear for AFB and sputum culture for AFB. On average, ATT was started on 16th pod. All the patients were treated with Cat I ATT. The problem with extra pulmonary tuberculosis is the difficulty in finding whether the patients had MDR tuberculosis. Nowadays, with the incidence of MDR TB on rise, chances of an Extrapulmonary TB to be a drug resistant one are very high [10].

CONCLUSION

Ileal stricture was the most common presentation of the acute abdominal tuberculosis. Prior thorough investigations for Pulmonary Tuberculosis with sputum AFB in patients with chronic abdominal pain and early initiation of the treatment will definitely decrease the progression into abdominal tuberculosis a significant number of patients. Performing a proximal diversion, along with the definitive procedure, significantly decreases the incidence of anastomotic leaks.

REFERENCES

1. Kumar S, Pandey HI, Saggu P. Abdominal tuberculosis. In: Taylor I and Johnson CD (Eds) Recent Advances of Surgery. 2008;28:47–58.

2. Kapoor VK. Modern Management of Abdominal Tuberculosis. In: Taylor I and Johnson CD (Eds) Recent Advances of Surgery. (35th) vol.2013:pp156–69.
3. Rajpoot MJ, Memon AS, Rani S, Memon AH.Clinicopathological profile and surgicalmanagement outcomes in patients suffering fromintestinal tuberculosis. J LiaqautUni Med HealthSci. 2005;4:113-8.
4. Sharma M P, Bhatia V. Abdominal Tuberculosis. Indian Journal of Medical Research. 2004;120:305–15.
5. Pop M, Pop C, Homorodean D, Itu C, Man M, Goron M, Gherasim R, Coroiu G. Abdominal miliary tuberculosis in a patient with AIDS: a case report. Rom J Gastroenterol. 2003;12:231–234.
6. Butt T, Karamat KA, Ahmad RN, Mahmood A.Advances in diagnosis of tuberculosis. Pak J Pathol.2001;12:1-3.
7. David H Alpers, Loran laine. Chronic infectious diseases of the small intestine. In: Tadatakayamada Ed,Textbook of Gastroenterology, Vol2 , 3rd Ed. Lippincott. 1999:73; 1650- 53.
8. Van Hai Nguyen. Intestinal obstruction due to tuberculosis. Asian J Surg 2002:25(2):145-8.
9. Akbar M, Islam F, Haider IZ, et al. Surgical management of tuberculous small bowel obstruction. J Ayub Med Coll Abbottabad 2010; 22: 171-5.
10. Das SK, Das A, Gangopadhyay A, Sinha AK Primary disseminated extra pulmonary multidrug resistant tuberculosis Indian J. Med. Micro. 2012; 30(3): 364-366.