

A series of 16 cases of Tuberculous peritonitis

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ABSTRACT

Abdominal tuberculosis is one of the common extra pulmonary tuberculosis infection. Its clinical presentation is variable and as most of the investigations are non-specific and less sensitive, may sometimes become diagnostic dilemma. Tuberculous peritonitis is one of the uncommon presentation. The risk is increased with cirrhosis, HIV, Diabetes Mellitus and underlying malignancy. The clinical profile of 16 patients with tuberculous peritonitis is discussed in this report. Clinical presentation together with ultrasonographic, blood and ascitic fluid analysis help in the diagnosis of tuberculous peritonitis in the absence of laparoscopy and tissue biopsy. Strong suspicion of the condition based on clinical presentation along with other investigations is important to start ATT in endemic country like India.

Keywords: Abdominal tuberculosis, extra pulmonary tuberculosis, peritonitis

Introduction

In developing countries Tuberculosis is associated with poverty, deprivation, overcrowding, illiteracy and limited access to health care facilities. While in developed world, Tuberculosis is commonly accompanied with HIV infection, aging population, due to transglobal migration [1,2]. Approximately one eighth of total tuberculous cases are extra pulmonary [3,4] of these abdominal tuberculosis accounts for 11-16% [5,6]. In HIV positive patients the incidence of extra pulmonary TB is upto 50% [1,6]. Tuberculosis involves the abdomen as the primary disease or secondary. Primary is from the reactivation of dormant focus and secondary disease is due to when infection spread to the abdomen via swallowed sputum, hematogenous spread from neighboring structures [2,5].

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Abdominal TB may be enteric, peritoneal, nodal, solid viscera or combination of these. Abdominal lymphnodes and peritoneal tuberculosis may occur without GIT involvement in one third of cases [7]. Tuberculous peritonitis is manifested as 3 types 1. Wet type-early course of the disease and present with ascites. 2. Encysted type –loculated or localized swelling. 3. Fibrotic type –masses composed of mesenteric and omental thickening with matted bowel loops which is seen late in the course of disease [8]. 90% of the patients with tuberculous peritonitis have ascites at the time of presentation. Diagnosis of peritoneal tuberculosis is difficult because of vague clinical presentation and non specific clinical features and low yield of mycobacterium in smear and culture. Invasive procedures are required to obtain tissue for pathological examination or culture, and also these are very costly and not easily available in developing countries [6,9]. Investigations like ascitic fluid analysis, ultrasound abdomen and routine blood investigations are supportive for diagnosis of peritoneal TB. Therefore, to diagnose a case of peritoneal TB is a challenge to the physician in developing countries.

Aim

To define the most suggestive clinical features and find out the diagnostic efficacy of various test and outcome of peritoneal TB in patients.

Materials and methods

The present study was carried out in Inpatient Ward of General Medicine, Department of General Medicine, SVRRGG Hospital Tirupatiduring the period of 2009-2010.

Inclusion criteria

Patients who are aged above 15 years. Who are admitted with ascites in the medical wards during the periods of 2009-2010. Patients with diseases like chronic liver diseases, congestive heart failure,

hypoproteinemia, nephrotic syndrome and malignancies were excluded.

All the patients are subjected to routine blood counts, serum proteins, LFT, ascitic fluid analysis, urine albumin, serum cholesterol, retroviral status, sputum AFB staining, x-ray chest and ascitic fluid ADA levels. Laparoscopic biopsy and peritoneal biopsy are not done.

Patients are diagnosed as TB peritonitis on the basis of

1. Clinical features
2. Blood investigations
3. Ascitic fluid analysis including ADA levels
4. Ultrasonographic appearance of peritoneum
5. Response to ATT.

Results

Total number of cases diagnosed as TB peritonitis on the basis of above criteria are 16.

Table 1: Age and sex distribution

Among these 11 are females and 5 are male patients. Age group is between 15 to 60 years

s.no	Age(years)	Female	Male
1	15-30	6	2
2	30-50	4	2
3	>50	1	1
Total		11	5

Table 2: clinical presentation

S.no.	Symptoms	No.of patients
1	Abdominal distention	16
2	Abdominal pain	15
3	Fever	14
4	Weight loss	5
5	Anorexia	11
6	Cough and breathlessness	6

Most common clinical presentations were abdominal distention[16],abdominal pain[15],fever[14],anorexia[11].

Table 3: Clinical signs

Most common clinical signs are abdominal tenderness, Doughy feeling of abdomen, pleural effusion.

Sl.no.	Signs	No.of patients
1	Abdominal tenderness	11
2	Doughy feeling of abdomen	8
3	Splenomegaly	1
4	Pulmonary TB(pleural effusion)	5
5	Cervical lymphadenopathy	1

Table 4: Investigations

Investigations of these patients were listed in the table 4

	Investigations	No.of patients
1	Anemia (Hb<gms/L)	11
2	Raised ESR> mm/1 st hour	16
3	Raised WBC counts> /fl	2
4	Decreased total protein and albumin	10
5	Ascitic fluid study	
	Exudates (TP >25gm/L)	15
	SAAG (<11 gm/L)	
	AFB staining	-

	Mycobacterium culture	-
	Raised ADA levels (>36 IU/dL)	10
	Normal ADA levels (<36 IU/dL)	1
6	ADA not done	5
	Sputum positivity	1
7	HIV positivity	2
8	X-Ray chest-PA view (Pleural effusion)	5
9	Ultrasonographic appearance	
	Matted omentum	5
	Omental calcification	5
	Thickened omentum	15
	Enlarged lymphnode	9
	Adenexal masses	2

All cases shows raised ESR, anemia [14] with decreased total protein [10]. Ascitic fluid is exudative in 15 cases with raised ADA levels in 10 cases (in 5 cases not done). Sputum shows positivity for AFB in one case only. Two cases are HIV positive. All cases shows ultrasonographic evidence of tuberculous peritonitis (matted omentum-5, omental calcification-5, thickened omentum-15, enlarged lymphnodes-9, adenexal masses-2). X-Ray shows pleural effusion in 5 cases, one case extensive Pul. TB lesions, in one case multiple air fluid levels seen on X-Ray abdomen erect posture. None of our patients are positive for ascitic fluid AFB staining or mycobacterium culture. All these patients are not investigated with laparoscopic peritoneal biopsy and examination, colonoscopy, endoscopy. All are treated with ATT. Among these 5 completed course successfully. One patient was died due to extensive pulmonary TB. Other patients are not yet completed ATT, who are discharged with good response to ATT in hospital stay.

Discussion

Tuberculous peritonitis is uncommon, occurring up to 3.5% of pulmonary TB cases. With appropriate anti tuberculous therapy the mortality rate in non- HIV patients is reported to be 7%. According to Manohar *et al* [10] Tuberculous peritonitis is common in female with ratio of 1.4:1 and more frequent in the third and fourth decade of life. In our study female to male ratio is 2.2:1 and the age group is little earlier (15-30 years-8 cases). Median duration of symptoms was 1.9 months which is comparable with Manohar *et al* study (1.5 months) [10]. Most common clinical presentation in our study were abdominal distension (100%), pain abdomen (93.75%), fever (87.5%) and weight loss (31%). In the series of Khan R *et al* [11] abdominal distension was seen in 35%, abdominal pain (93%), weight loss (47%) fever (64%). According to Sheer *et al* [12] abdominal

distention was seen in 95%, abdominal pain (82%), fever (69%), weight loss (80%).

X-ray chest shows evidence in 31% cases in our study. According to Tandan *et al* [13] x-ray positive in 25% of cases and 64% in the study of Khan R *et al*. [11], less than 25% in the study of Sharma *et al* [18].

According to Dwivedi *et al* [14] ADA level are significantly higher than other diseases with a sensitivity, specificity and diagnostic accuracy of 100%, 97%, 98% respectively. According to Bhargava *et al* ADA levels above 36 U/l were suggestive of tuberculosis. In our study ADA levels are elevated in 10 patients. One patient show normal report. In 5 patients ADA levels not done.

Paracentesis for cell counts and other biochemical test aid in the initiation of diagnosis but are not to be considered to confirm the diagnosis. Peritoneal fluid for AFB smear is positive only in one case. Ultrasonography of abdomen shows positivity in all cases like Matted omentum, Omental calcification, Thickened omentum, Enlarged lymphnode, adenexal masses [15,16]. Laparoscopy with direct visualization of peritoneum and tissue biopsy is recommended for conformation of the diagnosis of tuberculosis of peritoneum [17], but in all institutions these investigations are not available.

Tuberculous peritonitis should always be considered in any abdominal disease that is not readily and completely explained by characteristic peritoneal fluid analysis of other diseases. It is one of the few diffuse peritoneal diseases for which there is an appropriate therapy and good prognosis if promptly diagnosed and treated.

Limitation of study

Laparoscopic visualization and peritoneal biopsy not done. Colonoscopy, endoscopy not done.

Conclusion

Tuberculous peritonitis is uncommon but significant presentation of TB. It is not always associated with pulmonary tuberculosis. Physicians have high index of suspicion for this entity as early diagnosis and treatment to reduce mortality and morbidity. Appropriate investigations and high index of suspicion without laparoscopy and tissue biopsy are also considered to diagnose peritoneal TB where the facilities are not available.

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