

# Laparoscopy as method of choice for diagnosing and treating peritoneal and intestinal tuberculosis: A multicentric study

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## Abstract

There are various modalities like x ray, ultrasonography, CT, MRI, Laparoscopy etc that can be used for making sure and certain diagnosis of isolated abdominal tuberculosis. Among them when these were evaluated with each other using hospital data on abdominal tuberculosis miss rate with many of them was high even so much that they were seen to be unreliable. Laparoscopic method proved to be more convincing than others.

**Key Words:** Abdominal Tuberculosis, Laparoscopy

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## INTRODUCTION

Abdominal or peritoneal tuberculosis is more prevalent in developing and under developed countries as compared to developed western countries mainly due to poor hygiene and nutritional factors. Despite of high absolute numbers, the prevalence of Abdominal or peritoneal tuberculosis is decimal as compared to prevalence of pulmonary tuberculosis. So, in the cases where isolated abdominal or peritoneal tuberculosis is present, diagnosis is often missed. Abdominal tuberculosis (TB) usually presents with non-specific features like abdominal pain and weight loss (Teh LB *et al*) so very prone to be misdiagnosed. Abdominal tuberculosis (TB) differential diagnosis includes malignancy, inflammatory bowel disease or other infections. Rapid diagnosis using laparoscopy allows an early commencement of anti-TB therapy in a

case of abdominal tuberculosis, with various advantages to the patient.

## MATERIAL AND METHODS

A total of 200 patients were enrolled in the study who were documented positive for abdominal tuberculosis in records of two medical colleges of north India from 2010 to 2017. Their documentary records were interpreted for details of clinical history, diagnostic procedures and treatment given.

## RESULTS

Out of 200 subjects 152 patients were male, 48 female and mean age was 32 years (range 20–70). 60 % were from rural and 40 % from urban background. 84 % were from lower to medium socioeconomic background and 16% were from higher socioeconomic background.

**Presenting features:** Pain in abdomen, weight loss, anorexia, in-digestion, fever, malaise and night sweats were major presenting clinical complaints of abdominal TB patients. The mean duration of the presenting complaint was around 8 month (range 3 week to 2 years). A total of 57 patients gave relevant history of tuberculosis, 12 of whom had received treatment for pulmonary tuberculosis.

Table 1: Presenting complaints in 200 patients

SN	Complaints/symptoms	Present in	Absent in
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		patients	patients
1	Pain in abdomen	163	37
2	Weight loss	141	59
3	Anorexia, In-digestion	152	48
4	Fever, Malaise and Night sweats	131	69

**Investigations**

Clinical examination of subjects was non specific. Fifteen patients were found to have concurrent pulmonary tuberculosis. Most of the subjects (>92%) have a low haemoglobin with a raised C-reactive protein but inconclusive to make clear diagnosis. Tuberculin (Mantoux) test was positive in 37 subjects, and ZN staining of ascitic fluid was inconclusive (negative) in all patients in whom it was done. Laparoscopy, performed as a investigation of last resort, proved as most effective investigation, yielding the diagnosis in 120 (92%) of the 130 patients in whom it was performed. A low haemoglobin and a raised C-reactive protein (CRP) was the most consistent finding (>90%). Barium study signs were detected in only 19 patients (narrowing of terminal ileum, shrunken and pulled up caecum etc). Chest radiographs were seen in 100 patients but were suggestive for pulmonary TB in only 21. LFT (liver function test) and total leukocyte count were of no positive diagnostic significance. An ultrasound scan of the abdomen was performed in 180 patients, with findings suggestive of TB in 63 of these patients (focal ascites, presence of fibrinous strands in ascitic fluid, calcified lymph nodes, multiple enlarged mesenteric lymphnode). CT scan of the

abdomen, done in 62 patients, revealed findings consistent with abdominal TB in 35 (retroperitoneal and mesenteric adenopathy ascites, splenomegaly, ileocaecal mass). Staining of the ascitic fluid for acid-fast bacilli (Ziehl–Neelsen) was performed in 65 cases and was negative in all. Adenosine Deaminase (ADA) values were less than 30IU/L in our patients under study (patients with exudative ascetic fluid with ADA values more than 30, were started on anti tuberculosis treatment after clinical correlation and were excluded from the study from very beginning). Specimens of sputum, and urine gave negative results. Laparoscopy was performed in 130 of the 200 patients and was diagnostic in 120 (92%). Of the 120 patients with positive laparoscopies, the diagnosis was confirmed by laparoscopic biopsy of intra-abdominal lymph nodes or omental/peritoneal tuberculous nodules, in 20 specimen TB bacillus was directly visualized by ZN staining. In rest 8 cases out of 130 cases, laparoscopy could not be done due to adhesions (pneumoperitonium could not be formed). In rest 2 cases laparoscopy was successful but could not establish tubercular origin of disease in subjects. The laparoscopy was usually performed as investigation of last resort, in 12 cases it was done after 150 days of initial presentation when the patient became critical. In rest 70 out of 200 patients who did not have a laparoscopy the duration of cure was more, so it seems that laparoscopy have yielded an earlier diagnosis or avoided the need for laparotomy and had improved prognosis.

**Table 2**

After laparoscopy Mean time in full cure (130 cases)	After initial presentation Mean time in full cure (70 cases)	Interpretation
5.2 ± 2 month	8.6 ± 5 month	The two-tailed P value is less than 0.0001 The difference is considered to be extremely statistically significant.

This clearly demonstrates that the prognosis from the perspective of duration of full cure from initial presentation of symptoms is less in cases where laparoscopy was done in initial time of course of diagnosis. It also effectively reduce morbidity and added cost of diagnosis.

**DISCUSSION**

From the above observations it is clear that laparoscopy is a good diagnostic tool in case of abdominal tuberculosis where the symptoms are vague and non specific. It helps in early diagnosis and treatment of patients with abdominal tuberculosis. So we can conclude that it decreases the cost of added investigations and improve prognostic outcome and it can be treated as a gold standard investigation.

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