Clinical study of abdominal tuberculosis

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ABSTRACT

This is a clinical study of 101 cases of abdominal tuberculosis admitted to the district hospital during May 2016-August 2018. Majority of abdominal tuberculosis patients presented in 21-30 years age and 11-20 years age groups which were 34.65% and 21.78% respectively. The majority of patients were females, which found to be 62 (61.39%) patients, while male 39 (38.61%) patients. The ratio of male to female was 1: 1.59. The majority of patients were from lower socioeconomic group i.e. 66 (65.35%) patients. The most common complaint was abdominal pain, which in all i.e. 100% patients. Followed by the next complaints were loss of weight and loss of appetite which were present in 77.23% and 73.27% patients. Past history of tuberculosis present in 8.91% of patients. Most common sign was pallor which was present in 67.33 patients and abdominal tenderness, which was present in 39.60% of patients. Anaemia was found, 69.31% of patients. Mantoux test was positive in 25.74% patients and ESR was raised in 67.33% patients. X-ray chest showed a positive finding of tuberculosis in 24.25% of patients. HIV was reactive in 4.95% of patients. Biopsy and CT abdomen pelvis has
INTRODUCTION

Tuberculosis caused by Mycobacterium tuberculosis is a disease of great antiquity and for a long time it has maintained its evil reputation and being one of the greatest killer diseases of the mankind. Tuberculosis detected as far back as 10000 BC, still remain a major public health problem worldwide [1].

Tuberculosis causes ill health among millions of people each year and rank second leading cause of death from infectious diseases worldwide, after human immunodeficiency virus (HIV). According to WHO in 2011, there were estimated 8.7 million new cases of tuberculosis and 1.4 million people died from tuberculosis worldwide [2]. India alone contributes 26% of this new TB cases. Because of the growing burden of TB, and the recognition that it is one of the most neglected health problems worldwide, in 1993 the WHO declared TB as ‘A global health emergency’. Indeed, although the metaphor of TB as “The Captain of all men of death” was thought to be reaching obsolescence, we are currently in a period of resurgence of the disease. The incidence of TB cases which was on a steady decline since last 50 years, especially in the developed nations, has seen increases since early 1990s. This has been largely attributed to the emerging HIV epidemic, although MDR tuberculosis, neglect of control
programs, immigration and other social changes has been important factors [2].

Tuberculosis is a chronic granulomatous infectious disease, commonly affecting the lungs. However, it is a systemic infection and may involve other extrapulmonary site. Abdominal tuberculosis is 6th commonest form of extrapulmonary involvement. Its nonspecific and protein clinical manifestations cause intestinal tuberculosis to be confused with many other diseases especially Crohn’s disease and intestinal neoplasms. The symptoms and signs often quite vague and laboratory investigations and radiological findings are sometimes non-conclusive. There is no single feature which is diagnostic for abdominal tuberculosis. In case of any localized involvement of the structures of the abdomen the presenting clinical picture will mimic the disease of that organ only. It continues to challenge the diagnostic acumen and therapeutic skills of the present-day surgeon.

The Management abdominal tuberculosis is still controversial. Surgical intervention which was frequently used in the past for diagnosis is not necessary and is reserved for complications such as obstruction, perforation, fistula, or a mass which does not resolve with medical therapy. In most cases a trial of medical therapy should be undertaken prior to surgical intervention. However, complications can be fatal and may occur after initiation of antituberculosis medications [3]. Many authors advocate surgical management in intestinal obstruction due to TB as the obstructed lesion is often hypertrophic. This form according to many authors, often responds badly to medical management [4].

The Surgical treatment of intestinal tuberculosis too has passed through many phases, from the bypass procedures of the pre-antibiotic era to the radical surgeries such as hemicolecctiony and wide resection, followed by the more recent and more conservative, modified surgical procedures such as limited ileocelecal resection, and stricturoplasties [5].

Against this backdrop of persistent prevalence of disease, diagnostic challenges it pose & changing role for therapeutic management, that why surgeon called upon today in this disease. Hence, this study aims at a fresh look into abdominal tuberculosis and at a better understanding of its clinical manifestations, diagnostic modalities, management and its complications.
AIM & OBJECTIVES

- To study & analyse clinical presentation of cases of abdominal tuberculosis.
- To study & analyse various diagnostic modalities for confirmation of abdominal tuberculosis.
- To study & analyse management of abdominal tuberculosis.
- To study and analyse complication of abdominal tuberculosis.

MATERIAL AND METHODS

Study of patients admitted in district hospital, during May 2016 to August 2018.

Inclusion Criteria

All suspected and confirmed cases of abdominal tuberculosis.

Exclusion Criteria

- Cases having evidence of genitourinary tuberculosis.
- Cases having active pulmonary.

Methods

Patients detail history, clinical examination carried out.

Routine investigations: as follows

- Haemoglobin test
- Complete blood count
- Liver Function tests
- Renal Function Tests
- Mantoux test
- Erythrocyte Sedimentation Rate
- X ray Chest PA View
- X ray Abdomen Erect
**Special Investigations**

- This investigation is done for doubtful diagnosis to confirm or support diagnosis.
- ELISA Ig
- Ascites fluid routine microscopy
- Ascites fluid AFB staining
- Ascites fluid ADA level
- USG (Abdomen + Pelvis)
- Computed tomography of Abdomen + Pelvis plain and contrast.
- Colonoscopy
- Barium meal follow through
- Biopsy
- All patient received AKT as per DOTS.
- Conservative management done for uncomplicated abdominal tuberculosis.
- Operative management done for complications of abdominal tuberculosis and when diagnosis in doubt.
- Patients study of post op complications, mortality, follow up carried out.
- Follow up Carried out after 2 and 6 months.
- Patients study and analyse with regard to various clinical presentation, management, complications and follow-up.

**RESULTS**

Out of 101 cases studied, 39 (38.61%) were male and 62 (61.39%) female cases were female. Female cases more observed than female. Male to female ratio was ratio found to be 1:1.6. In male as well as female maximum patients were observed in 21-30 years age group. In present study majority patients were from lower socioeconomic group i.e. 66 (65.35%) patients consistent with studies done by Naseer Ahmed et al. (2008) [6] and Muhammad Saaq et al. (2012) [7].

Abdominal pain was observed in 100 (100%) patients which was major symptom. After pain in abdomen second major symptom was found to be loss of weight 78 (77.23%) followed by loss of appetite which observed in 74 (73.27%) of patients. Past h/o tuberculosis observed in
least no of patients i.e. 9 (8.91%). Rest symptoms observed were vomiting 59 (58.42%) patients, constipation 43 (42.57%) patients, diarrhoea 12 (11.88%), nausea 55 (54.45%), Abdominal distension 43 (42.57%), Night sweats 44 (43.56%), fever 49 (48.51%). Most common clinical sign observed in this study was pallor 68 (67.33%), which followed by Abdominal tenderness 40 (39.60%). Least observed clinical sign was lymphadenopathy 18 (17.82%). Rest clinical signs were Ascites 36 (35.84%), lump in abdomen 25 (24.75%), Abdominal guarding 32 (31.68%), Abdominal Rigidity 22 (21.78%). In present study 70 (69.31%) patients had low haemoglobin. Lymphocyte count predominance was found in 31 (30.69%) patients. Liver function test, renal function test found derange in 15 (14.85%) and 10 (9.90%) patients respectively. ESR was raised in 68 (%) patients and mantoux test was positive in 26 (25.74%) patients. M Al Muneef et al. (2001) [8] found positive mantoux test in 27% of patients.

In this study chest X ray abnormal findings were present in 25 (24.75%) patients and X ray abdomen erect abnormal findings present in 60 (59.41%) patients. Out of 101 patients 5 (4.95%) were HIV Positive.

In this study, Ultrasonography and CECT Abdomen pelvis were done in 95 (94.06%) patients. Biopsy, ELISA Ig, BMFT, colonoscopy was done in 49 (48.51%), 35 (34.65%), 29 (28.71%), 17 (16.83%) patients respectively. In CECT abdomen pelvis done in all 95 (100%) patient had some positive feature. All 49 (100%) biopsy done patients had tuberculosis in biopsy report. Out of 95 Ultrasonography patients 79 (83.16%) patients had some positive features. In Barium meal follow through done patients, 29 patients out of 19 (65.52) patients had some positive features. 16 (94.12%) patients had positive finding out of 17 patients in colonoscopy test. CT scan, USG abdomen, Biopsy, ELISA Ig, BMFT, colonoscopy was not done in 6 (5.94%), 6 (5.94%), 52 (51.49%), 66 (64.35%), 72 (71.29%), 84 (83.17%) patients respectively. Thus, CT scan and Biopsy had 100% sensivity. Colonoscopy, USG, ELISA Ig, BMFT were having sensivity of 94.12%, 83.16%, 77.14%, 65.52% respectively. According to Ashraf Muhammad et al. (2010) [9] maximum sensitive test was Biopsy, which was 97% sensitive. Next sensitive test was ELISA Ig which about 80% sensitive. According to Rustam Khan et al. (2006) [10] maximum sensitive tests was Biopsy, which was 100% sensitive. Next sensitive test was USG (A+B) which was 88% sensitive.
Mean cell count in present study was 550.28±351.26. Maximum cell count was 1360 and minimum cell count was 160. Lymphocytes were predominant in all ascites fluids. According to M.P. Sharma et al. (2004) [11] total count of ascites fluid is 150-4000/micro liter and predominantly consist of lymphocytes (>70%). Mean protein level was 3.97±0.66. Maximum protein level was 5.3 and minimum protein level was 3.1 as compared to M.P. Sharma et al. (2004) [11]. Mean sugar level was 76±10.90. Maximum sugar level was 98 and minimum sugar level was 60.

Ascites Fluid AFB staining
In present study all ascetic fluid were negative for AFB bacilli. According to M.P. Sharma et al. (2004) [11] staining for acid fast bacilli is positive in less than 3% of cases. In present study all patients with ascites had increased ADA level. According to Dwivedi et al. (1990) [12] ascites fluid ADA level has 100% sensivity. In this study out of 101 patients 34 (33.66%) patients managed conservatively and 67 (66.34%) patients managed by surgically. In Muhammad Ashraf et al. (2010) [9] study 88% patients managed surgically and Shabana Jamal et al. (2011) [13] study 95.6% patients were managed surgically.

In present study Resection and anastomosis was most common i.e. in 26.875 patients, which followed by right hemicolecotomy in 23.88% patients. Adhesiolysis was done in 22.39% patients. Diagnostic laparoscopy was performed in 16.42% patients. According to Muhammad Asharaf et al. (2010) [10] right hemicolecotomy was the most common procedure performed. Adhesiolysis was done 17% patients. According to Taj Mohammad Khan et al. [14] most common procedure done was resection and anastomosis.

In present study, ileocaecal mass was found in 21 (32.84%) patients, which is most common operative finding. Strictures were found in 17 (25.37%) patients. Adhesions was found in 15 (22.39%) patients. Ascites was found in 12 (17.91%) patients. Enlarged mesenteric lymph nodes were found in 7 (10.45%) patients. Perforations and military tubercle were present in 6 (8.96%), 5 (7.46) patients respectively. According to Taj Mohammad khan et al. [14] adhesions was most common finding and Naseer Ahmed et al. [6] strictures were most common intraoperative finding.
In present study most common site was intestine i.e. in 60.39% patients followed by peritoneum in 42% patients. Mesenteric lymph node and solid organ involved in 7% and 6% patients respectively consistent to Rustam et al. (2006) [10].

In intestine ileum is most common part involved i.e. in 33 (32.67%) patients. In intestine rest parts jejunum, ileocaecal region, appendix was involved in 4 (3.96%), 22 (21.78%), 2 (1.98%) patients respectively. In post-operative patients, 8 (11.94%) patients were developed wound infection. Septicaemia and anastomosis leak developed in 2 (2.99%) patients. Pulmonary complications developed in 5 (7.46%) patients. One (1.49%) patients died postoperatively. Arshad Abro et al. (2010) [15] most common post-operative complication was wound infection and Muhammad-ul-din et al. (2012) [16] most common post op complication was respiratory infection.

During follow up 80% patients completed 6 months of AKT and 20% were still on AKT. Nausea and vomiting occurred in 4% patients. 2% developed jaundice. Rest of the Patients were asymptomatic.

DECLARATION OF COMPETING INTEREST
All authors declare no conflicts of interest.

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REFERENCES

Fig 1: Sensitivity of special tests in diagnosing abdominal tuberculosis.

Fig 2: Surgical management done in the study
<table>
<thead>
<tr>
<th>Operative Findings</th>
<th>frequency</th>
<th>Percentage</th>
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</thead>
<tbody>
<tr>
<td>Ileocaecal Mass</td>
<td>22</td>
<td>32.84</td>
</tr>
<tr>
<td>Strictures</td>
<td>17</td>
<td>25.37</td>
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<tr>
<td>Adhesions</td>
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<td>22.39</td>
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<tr>
<td>Ascites</td>
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<td>17.91</td>
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<td>Perforations</td>
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<td>8.96</td>
</tr>
<tr>
<td>Miliary tubercles</td>
<td>5</td>
<td>7.46</td>
</tr>
</tbody>
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Table No. 1: Distribution of sample by operative findings