



CLINICAL SPECTRUM OF DIFFERENT PRESENTATION OF ABDOMINAL TUBERCULOSIS

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ABSTRACT

AIM :- To evaluate detailed clinical spectrum of different presentation of abdominal tuberculosis.

METHODS :- 178 Patients with abdominal tuberculosis were evaluated between Aug. 2016 to July 2019 at SMMH Medical College, Saharanpur, U.P complete physical examination, medical and family history, blood count, erythrocyte sedimentation rate, routine biochemical test, mantoux test, chest x-ray and abdominal x-ray and ultra-sonography were performed in all cases where as endoscopy, barium enema, abdominal tomography ascitic tap and examination were done when needed.

Patients :- Maximum number of the patients were in third decade of life (21-30 yrs.) females outnumbered males with male to female ratio being 1:1.58.

RESULTS:- The median age of patients was 26.2 years. The most frequent symptom was abdominal pain. Maximum patients belonged to lower socioeconomic status. Pulmonary tuberculosis was found in 16.30% cases and family history of tuberculosis found in the 2.7% cases. Majority of patients were seen within 6 months of onset of symptoms. Conservative management was given to 70 patients (39%) with antitubercular drugs and surgical treatment to 108 patients (61%). Stricture was the most common finding 81 cases (70.96%) of intestinal tuberculosis and was maximally present in terminal ileum while adhesions were found in 22% patients. Most frequently performed operation was right hemicolectomy and ileotransverse anastomosis (30.64%). Antitubercular therapy was given post operatively in these patients also.

CONCLUSION:- Neither clinical sign, laboratory, radiological and endoscopic methods nor bacteriological findings provide a gold standard by themselves in the diagnosis of abdominal tuberculosis. However a clinical suspicion and algorithm of these diagnostic methods leads to considerably higher precision in diagnosis of this disease. Full course of ATT is needed in all conservatively managed or surgically treated patients.

KEYWORDS : Abdominal tuberculosis, Stricture, Anti-tubercular therapy or Rt. hemicolectomy.

INTRODUCTION

Tuberculosis has been declared as a global emergency by the W.H.O and is the most important communicable disease worldwide and even today is one of the major health problems in India. The prevalence of extrapulmonary tuberculosis is rising, particularly due to increasing prevalence of acquired immune deficiency syndrome [AIDS]¹. In patient with extrapulmonary tuberculosis, abdomen is involved in 10-15% of patients² not infected with HIV where as frequency is about 50-70% in patient infected with HIV³. Though potentially curable, abdominal tuberculosis continues to be a major cause of morbidity and mortality in India. In abdomen, tuberculosis may affect the gastrointestinal tract, peritoneum, lymph nodes, and solid viscera. The disease can mimic various other gastrointestinal disorders particularly inflammatory bowel disease, colonic malignancy or the GI infection. Because of non specific symptom and signs, its diagnosis is often delayed. A high index of suspicion therefore needs to be maintained for an early diagnosis and treatment.

PATIENTS & METHODS

We had carried out a prospective, non-randomized study at S.M.M.H. Medical College, Saharanpur, from Aug. 2016 to July, 2019. Total 178 patients were studied with 68 males and 108 females. Our study was based on patients presentation of variable abdominal complaints with suspected abdominal tuberculosis approaching the emergency and/or outdoor.

Inclusion criteria

1. Patients having clinical suspicion of abdominal tuberculosis irrespective of pulmonary status.
2. Patients getting investigated for other complaints and

subsequently diagnosed to have abdominal tuberculosis.

Exclusion criteria

1. Those patients with history of previous abdominal surgery.
2. Those with known coagulopathy or hematological disorders.

Investigations included CBC, ESR, Tuberculin test, bacteriological diagnosis, X-rays, endoscopy, ultrasonography computerized tomography and/or ascitic tap, histopathology.

ADENOSINE DEAMINASE ASSAY :- ADA of serum > 54 IU/l and ascitic fluid with a cut off value of > 33 IU/L and ascitic to serum ADA ratio of > .984 suggested tuberculosis^{4,5}.

CRITERIA FOR DIAGNOSIS OF GASTRO INTESTINAL TUBERCULOSIS⁵

Ideally at least one of the following criteria should be met for the diagnosis:

1. Culture of Mycobacterium tuberculosis from various secretions or biopsy material.
2. Histologic demonstration of acid-fast rods in the lesion.
3. Caseating granulomas on histopathology
4. Typical gross appearance on surgery or laparoscopy with a lymph node biopsy showing granulomas and caseation necrosis.
5. Response to anti-tuberculous treatment, when such therapy is instituted for tuberculosis elsewhere in the body.
6. Response to a trial of anti-tuberculous treatment in the absence of any of the above criteria.

Since the culture facility is not available at our centre so our main stay of diagnosis was histopathology provided if the

tissue was available. In rest of the cases we have followed other criteria.

RESULTS

Study included 184 patients of which maximum number of patients were in third decade of life with age group 21-30 years (35.87%). Out of 178 cases 68 were males and 108 females with a male to female ratio of was 1:1.58. Prevalence of disease was observed more in Hindus (64.13%) as compared to Muslims (35.86%). Most of the patients belonged to low socio-economic status with 69.17%.

In 79% cases there was no evidence of tuberculosis while in 16.30% of cases pulmonary tuberculosis was found while in rest 2.7% cases family history of tuberculosis was present and in 1.63% cases were referred & proven cases of abdominal tuberculosis.

In 28.35% of cases, duration of symptoms was less than 5 days. Shortest period of duration of symptom was 2 days while maximum period was 8 year. Majority of patients (72.13%) were seen 6 months after onset of symptoms.

**TABLE NO. 1 :
SHOWING DISTRIBUTION OF PRESENTING SYMPTOMS**

Symptoms	No. of cases	Percentage
Pain	170	95.50
Distension	134	72.28
Absolute constipation	126	70.78
Vomiting	110	61.79
Nausea	36	20.22
Cough with expectoration	42	23.59
Loss of appetite	99	55.61
Loss of weight	97	54.49

Most common symptom was pain in abdomen (95.51%). It was colicky in 42.2% and mild in 58.8% of cases. In 45.6% pain was diffuse in character while in 54.4% it was situated in right lower quadrant of abdomen, distension present in 134 (75.28%) Absolute constipation was present in (69.95%) of cases followed by Loss of weight in (53.73%) and Loss of appetite in (54.72%) & vomiting in (60.19%). Fever (38.80%). It was usually low grade with evening rise in 50 cases (24.87). In 21 cases (10.44%) it was moderate to high grade. (Table 1)

The vomiting was predominantly bilious in characters. Lump in abdomen was found in 37 cases (20.78%). Lump was commonly present in right iliac fossa followed by umbilical region.

Conservative treatment was given to 70 patients (39%) while antitubercular drugs and surgical treatment to 108 patients (61%). Surgery was done in patients with acute or subacute intestinal obstruction or perforation. antitubercular therapy was given post operatively also in these cases.

Table No. 2

Findings	No. of cases
Stricture	81
Ileocaecal mass	12
Perforation	13
Miliary TB	16
Bands	12
Adhesions	13
Pus in peritoneal cavity	05
Whole intestine gummed up	04
Ascites	5
Enlargement of Mesenteric lymphnodes	58
Ileo- caecal tuberculosis	35

Stricture was the most common finding & it was maximally present in terminal Ileum. Most commonly performed

operation was right hemicolectomy and ileotransverse anastomosis (30.64%). In 23.38% cases, no surgery was done in bowel but some other procedures were done. (e.g. adhesiolysis, drainage of pyoperitoneum etc.)

**Table No. 3
SHOWING MICROSCOPIC PICTURE IN 40 CASES.**

Types	No of cases	percentage
1. Caseation necrosis with epitheloid giant cells & follicle formation	16	40.00
2. Epitheloid & giant cells & follicle formation without caseation	02	05.00
3. Non-specific inflammation	22	55.00

On histological examination out of 40 cases Caseation necrosis with epitheloid giant cells & follicle formation was seen in 16 (40%) cases while epitheloid & giant cells & follicle formation without caseation was present in 2 (5%) cases and non-specific inflammation occurred in 22 (55%) cases. (Table 3)

Out of total 178 patients 17 (9.55%) expired with mortality being higher in emergency setting than elective situations.

DISCUSSION

Tuberculosis is quite prevalent in India, so studying this disease carries lot of relevance. Its increased prevalence is due to poor hygienic condition, malnutrition and overcrowding and increasing prevalence of HIV. Incidence of abdominal tuberculosis in our study was 0.226%, comparable to the incidence of 0.3% as quoted by Chuttani⁶. Male to female ratio in our study was 1:1.63 reflecting more prevalence in female although literature has reported ratio ranging 1:4 to 4:1^(7,8,9). Increased incidence in females may be due to poorer living conditions & nutrition. It is also obvious from its prevalence in LSES at the same time we have found more prevalence in Hindus as compare to Muslims. Another interesting but unfortunate part is that this disease affects mainly younger population⁽¹⁰⁾. Our experience has shown the presence of family history in 2.7% although literature has reported it to the tune of 2.1 to 6.6%. Duration of symptoms in 28.35% of cases was less than 5 days. Minimum period was of 2 days which can not be relied upon as villagers do not consider less severe symptoms as illness. In nearly half of patients 50.23% duration was from 1 month to 2 years.

Commonest symptom in our series was pain (96.51%) which is comparable to other series^{10,11,12}. In our study loss of appetite and weight were present in 54.72% cases. Which is comparable to the other series.^{11,12}

Nausea & vomiting were present in 20.39% and 60.19% patients respectively. In 58.33% of cases vomituous was bilious, in 12.50% patients it was sometimes bilious and sometimes gastric and in the rest of patients it was sometimes gastric and at times gastric with digested food. Vomituous nature depicts the site of mechanical obstruction in bowel. It is clear from this study that mid and terminal part of ileum and ileocaecal junction are most common site of stricture. Distension and absolute constipation were present in 71.74% and 69.65% respectively in acute stage. Fever, night sweats, cough, wind ball movements were presents in less number of cases. These are comparable to the findings of other series.

In 20.11% patients lump was present. This value is lower when compared to other series which quoted it to be 29 to 46%^(8,10,11) cases (Table 4). Lumps probably could not be seen in many patients since they took medical treatment prior to coming to us. In 66.66% of cases it was in right lilac fossa the most common site followed by 22.22% it was in right lumbar region, and (20%) umbilical region. This reading clearly shows that

ileocaecal region and terminal ileum are the commonest sites of small bowel tuberculosis. In umbilical region lump was due to mesenteric lymph node involvement.

TABLE NO. 4
COMPARATIVE CHART OF VARIOUS OTHER STUDIES

Symptom / Study	Abdominal Pain	Distension	Loss of Wt.	Nausea	Vomiting	Lump
FAULKNER	87%	44%	61%	—	—	—
DAS & SHUKLA	94%	60%	35%	22%	65%	29%
PRAKASH	95%	—	88%	—	—	46%
ANAND	100%	—	43%	33%	73%	—
SINGHAL	100%	—	—	—	—	—

In emergency setting in 55.22% of patients pulse rate was between 80-100 per minute. Blood pressure in 28.35% of patients was between 80-100 mm of Hg predicting the state of shock. In our study 73.63% patients had dehydration. This is comparable to the findings of **Dandapat & Rao**¹⁴, who found the dehydration in 69.5% of cases. In our study 15.42% were in a stage of severe dehydration and were the patients who went into irreversible shock.

Anaemia (Hb below 10 gm%) was present in 93.53%. It is because most patients were from low socio-economic status (65.17%). Lymphocytosis was seen in 28.37%. It suggests that lymphocytosis although fairly common in tuberculosis is not invariably present. ESR was raised in 97.51% in our series which is in other series.^{10,11} Mantoux test was > 15 mm in 114 cases, between 10-15 mm in 50 cases and < 10 mm in 25 cases and being inexpensive helped in diagnosis of GI tuberculosis.

We also did IgG, IgA, IgM, antibody detection in ten cases of total 184 cases. In spite of being very beneficial in contributing to early diagnosis they could not be done in majority due to the financial restraints and majority of people suffering from this disease are from low socio-economic status.

Plain X-ray abdomen has contributory significance in the diagnosis of the abdominal tuberculosis. Multiple air fluid levels were seen in 52% of the cases. X-ray abdomen in 10.8% cases showed fluid level and gas under diaphragm. **Dandapat & Rao** in X-ray of abdomen in erect posture observed features of intestinal obstruction in 48% of the cases out of total 52 cases. Barium follow through was done in 40 cases. Of these 65% of patients showed tubercular lesion. It was normal in 35% of patients.

Regarding operative finding ileocaecal region was the most commonly involved portion of intestine found in various operations done. Possibly because of relative stagnation of intestinal contents and abundance of lymphoid tissue in this region. Stricture & ileocaecal mass contributed to 81% of intra-operative findings and the stricture was localized to terminal ileum in 50% of the cases. Next common site of involvement in descending order of frequency is jejunum, appendix, duodenum, stomach, sigmoid, colon & rectum. **Sharma & Mehta & Joshi and others** have given preference to ileo transverse anastomosis over right hemicolectomy as ileotransverse anastomosis leads to fewer post operative complications.^(15,16,17) Few people have given preference to resection & anastomosis of the bowel.¹⁵

Mortality occurred in 17 patients out of total 178 patients admitted for abdominal tuberculosis (in elective 1 & 16 in emergency operation out of total 114 operations.) So the overall mortality was 9.55% operative mortality was higher in emergency setting as compared to elective operations.

Kapoor¹⁸ et al. reported an overall mortality rate from 2-18%. In these observations also mortality was high in emergency as

compared to elective operations. In emergency procedures hospital stay was more. Also it was clear that as surgery becomes extensive number of complications and hospital stay also increased.

ATT was given to all patients for 9-12 months with 4 drugs for 1st 3 months, later 3 drugs were given. It is recommended that surgery should be done whenever indicated at earliest with complete course of ATT post operatively. When general condition of patient is poor a conservative approach is advisable.

Surgical as well as medical treatment of tuberculosis is curative and prognosis is excellent provided patient takes adequate treatment for proper time.

CONCLUSION

Neither clinical sign, laboratory, radiological and endoscopic methods nor bacteriological findings provide a gold standard by themselves in the diagnosis of abdominal tuberculosis. However a clinical suspicion and algorithm of these diagnostic methods leads to considerably higher precision in diagnosis of this disease. Full course of ATT is needed in all conservatively managed or surgically treated patients.

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