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Abdominal Tuberculosis: A Case Series of 42 Patients.

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ABSTRACT

The diagnosis of gastrointestinal tuberculosis is challenging as it presents with a variety of symptoms. A high index of suspicion is essential. The most common site of involvement of the gastrointestinal tuberculosis is the ileocaecal region. Ileocaecal and small bowel tuberculosis presents with a palpable mass in the right lower quadrant and/or complications of obstruction, perforation or malabsorption especially in the presence of stricture. Rare clinical presentations include dysphagia, odynophagia and a mid-oesophageal ulcer due to oesophageal tuberculosis, dyspepsia and gastric outlet obstruction due to gastroduodenal tuberculosis, lower abdominal pain and haematochezia due to colonic tuberculosis, and annular rectal stricture and multiple perianal fistulae due to rectal and anal involvement. The arrival of genetic tests, laparoscopy, improved endoscopy and radiology have aided the surgeon in arriving at an earlier diagnosis. Medical treatment is the mainstay of therapy. However, the high cost of treatment, the development of multidrug resistant strains, and infection with atypical mycobacteria in immunocompromised patients have all increased the incidence and severity of abdominal tuberculosis. The role of surgery is principally in diagnosis and the management of complications. The study was conducted on patients admitted at Government Stanley Medical College Hospital, Chennai. A total of 42 patients were included in the study group from June 2007 to August 2009.

Keywords: Abdomen, Tuberculosis, Intestinal Obstruction, Laparoscopy, Anti Tuberculous Treatment

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INTRODUCTION

Tuberculosis can involve any part of the gastrointestinal tract and is the sixth most frequent site of extra-pulmonary involvement after lymphatic, genitourinary, bone and joint, miliary and meningeal TB [1]. Both the incidence and severity of abdominal tuberculosis is expected to increase with the increasing incidence of HIV infection. Tuberculosis bacteria reach the gastrointestinal tract via haematogenous spread, ingestion of infected sputum, or direct spread from infected contiguous lymph nodes and fallopian tubes [2]. The gross pathology is characterized by transverse ulcers, fibrosis, thickening and strictures of the bowel wall, enlarged and matted mesenteric lymph nodes, omental thickening, and peritoneal tubercles [3]. Peritoneal tuberculosis occurs in three forms: wet type with ascites, dry type with adhesions, and fibrotic type with omental thickening and loculated ascites. The most common site of involvement of the gastrointestinal tuberculosis is the ileocaecal region [4]. Ileocaecal and small bowel tuberculosis presents with a palpable mass in the right lower quadrant and/or complications of obstruction, perforation or malabsorption especially in the presence of stricture [5]. Rare clinical presentations include dysphagia, odynophagia and a mid-oesophageal ulcer due to oesophageal tuberculosis, dyspepsia and gastric outlet obstruction due to gastroduodenal tuberculosis, lower abdominal pain and haematochezia due to colonic tuberculosis, and annular rectal stricture and multiple perianal fistulae due to rectal and anal involvement [6]. Chest X-rays show evidence of concomitant pulmonary lesions in less than 25 per cent of cases. Useful modalities for investigating a suspected case include small bowel barium meal, barium enema, ultrasonography, computed tomographic scan and colonoscopy. Ascitic fluid examination reveals straw coloured fluid with high protein, serum ascitic albumin gradient less than 1.1 g/dl, predominantly lymphocytic cells, and Adenosine Deaminase levels above 36 U/l. Laparoscopy is a very useful investigation in doubtful cases. Management is with conventional anti-tubercular therapy for at least 6 months [7]. The recommended surgical procedures today are conservative and the period of preoperative drug therapy is controversial.

Aims and Objectives

- To know the clinical pattern of presentation in Abdominal Tuberculosis.
- To compare the role of surgery and medical management of Abdominal Tuberculosis.

The study was conducted on patients admitted at Government Stanley Medical College Hospital, Chennai. A total of 42 patients were included in the study group from June 2007 to August 2009. They were classified into three groups:

Group I

The first group of patients were those who presented as Acute Abdomen and taken up for emergency surgery. 6 patients presented as Acute Abdomen.

Group II

The second group of patients were those who presented with symptoms and signs of Abdominal Tuberculosis and later confirmed either by way of investigations or elective surgery, 29 of our patients presented in this group.

Group III

The third group of patients were those who had pulmonary Tuberculosis or Tuberculosis elsewhere in the body and under treatment for the same and had associated abdominal findings like vague abdominal pain, vomiting, and abdominal distension. 7 patients presented in this group.

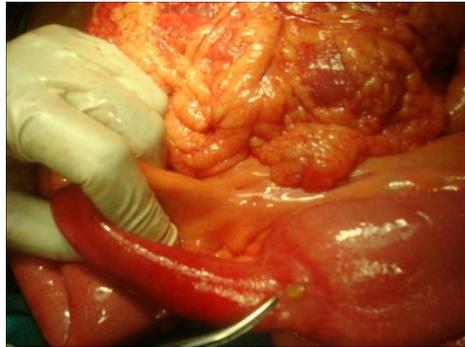
METHODOLOGY

- Thorough History taking
- Clinical Examination
- Laboratory tests such as Complete Hemogram, RFT, Urine examination, Mantoux test

- Radiological investigations like X-ray chest, X-ray abdomen, CECT abdomen and pelvis
- Colonoscopy for patients presenting with an RIF mass
- Bacteriological examination like sputum for AFB
- Ascitic fluid analysis- Biochemical and microbiological
- Biopsy and histological examination of gut and mesenteric lymph nodes.
- Regular follow up of patients



Tuberculous Intestinal cocoon



Ileal Stricture with proximal ileal perforation



Peritoneal cavity and small bowel studded with tubercles

INTEPRETATION

Accuracy of diagnosis

The accuracy of clinical diagnosis was 60-70%. Other cases were provisionally diagnosed as acute or sub-acute intestinal obstruction, RIF mass, colonic malignancy.

Age and Sex

The predominant age group was 20-39 years. Sex distribution is almost equal. There were 20 males and 22 females in the study.

Socio-economic status

Majority of the people belonged to the lower socio-economic strata.

Associated Pulmonary Tuberculosis

Associated Pulmonary Tuberculosis was present in 7 patients out of 42 cases.

Physical Symptoms

Abdominal pain was the commonest symptom and was present in 90.4% of the cases.. Analysis of the character of the pain revealed that majority had a vague abdominal pain while few came with localized pain in right iliac fossa. In group 1 patients (cases presenting as acute abdomen), pain was colicky and gripping type and was present in 90.4%. The average duration of pain was 1-3 months.

The next frequent complaint was loss of appetite present in 38.7% of patient, fever was present in 42.8% of cases, vomiting in 59.5% of cases, constipation in 42.8% of patients. Other symptoms were abdominal distension and loss of weight.

Physical Signs

Tenderness and abdominal distension were the most frequent signs and were present in 59.5% and 35.7% of cases respectively. About 9 patients presented with a mass in the right iliac fossa. 3 patients presented with signs suggestive of acute intestinal obstruction. The much described Doughy Abdomen seems to be losing significance.

Investigations

All the patients underwent routine blood and urine examinations. Haemoglobin level was estimated in all 42 cases. 26 of them were Anaemic.

The ESR was raised in 28 patients and in 14 patients ESR was normal.

The Differential Count showed moderate lymphocytosis and raised polymorphs in a few patients.

Chest X-ray was taken in all the 42 cases. 5 patients showed infiltrations, 1 patient showed pleural effusion, 1 patient showed old TB Focus. Thus 7 patients showed evidence of pulmonary tuberculosis on X-ray.

Plain X-ray abdomen in the erect posture was taken for all 42 patients. 4 films showed multiple air fluid levels and gas shadows. 2 patients had air under diaphragm.

Mantoux test was done for 36 patients and it was strongly positive in 11 patients only. The result of this test varies, it is not particularly helpful and just gives an idea of the immune status of the patient.

Laparoscopy was done in 6 patients and mesenteric node biopsy and ascitic fluid analysis was done.

Histopathological examination was done for all the lymph node/intestinal/colonic specimens. Histopathological confirmation was obtained in all the cases.

Ascitic fluid examination was done for 6 patients who presented as an acute abdomen. Analysis showed a predominantly exudative nature with Serum Albumin: Ascitic Gradient (SAAG Ratio) being less than

1.1 in all the cases. In only 2 of the 6 cases presenting as acute abdomen, microbiological confirmation could be obtained.

Treatment

Surgical treatment was offered to the patients who presented with complications of abdominal tuberculosis like intestinal obstructions and perforation. 6 patients underwent emergency surgery and 30 patients underwent elective surgery. 6 patients who presented in the elective setting were started on ATT based on strong clinical suspicion and supportive lab investigations and imaging findings like CECT abdomen which showed mesenteric nodes and ascites.

Emergency surgery for perforation was done for 2 patients. Perforation was seen in the ileum for both the patients.

Multiple strictures were present in 3 patients. 2 patients presented with multiple strictures of a short segment of ileum for which resection and anastomosis was done.

Among the elective cases, 3 patients underwent segmental resection and end-to-end anastomosis of the small bowel because multiple strictures were present within a short segment of the small bowel.

Hence a total of 8 cases underwent Resection anastomosis for Tuberculous stricture of small bowel.

Stricturoplasty was done for 3 patients. Among those patients, 2 patients were found to have a stricture at the ileum and 1 patient was found to have a stricture at the jejunum.

Right Hemicolectomy with a primary ileo-transverse anastomosis was done for 10 patients who had tuberculous involvement of ileum and caecal regions. 1 patient had a long segment stricture of the transverse colon for which a resection of the strictured transverse colon and anastomosis of the flexures was done.

For 6 patients only a mesenteric node biopsy and ascitic fluid analysis was done on laparotomy in view of the disseminated peritoneal tuberculosis. Another 6 patients presenting with chronic abdominal symptoms underwent a diagnostic laparoscopic evaluation and a mesenteric node biopsy and ascitic fluid analysis was done when there were no obvious stenotic lesions of the bowel and a diagnosis of abdominal TB was evident on laparoscopy. 2 patients were found to have extensive bowel adhesions on laparotomy, underwent adhesiolysis and ileostomy. This was followed by an ileostomy closure after the patient was put on a course of ATT.

One patient presented to us with multiple fistula in ano. A colonoscopy was done and a nodule was found in the caecum in the same patient. A biopsy of the fistulous opening was done and was found to be positive for tuberculosis. The patient was put on ATT after the biopsy report was obtained.

All patients received ATT post-operatively and were placed on a regular follow-up protocol. The patients received ATT for a total of 9 months, with 2 month intensive four-drug treatment (Isoniazid, Rifampicin, Pyrazinamide, Ethambutol), followed by a 7-month, two-drug treatment (Isoniazid and Rifampicin). Pyridoxine, 10 mg daily, was supplemented to counter peripheral neuritis due to Isoniazid. Patients were regularly monitored for the side effects of Anti Tuberculous therapy with clinical examination and lab investigations like LFT, while on treatment.

RESULTS

Forty two patients of abdominal tuberculosis were reviewed at Government Stanley Medical College and Hospital, Chennai. Six patients presented as acute abdomen and were taken up for emergency surgery. Thirty patients presented with symptoms and signs suggestive of abdominal tuberculosis and underwent elective surgery. The remaining six patients received only ATT (Anti Tuberculous Treatment).

Females had a slightly higher sex predominance. The disease was more prevalent in the second and third decades of life. The commonest presentation was with abdominal pain and localized abdominal

tenderness. Clinical symptoms were present within one year duration in most patients. Radiological investigations such as multiple air fluid levels on abdominal X-ray, mesenteric haziness and free fluid on CT were encountered and they were contributory to the diagnosis. Biopsy of the mesenteric lymph nodes was confirmatory for most lesions. An ascitic fluid analysis revealed a predominantly exudative nature with a SAAG ratio less than 1.1 in most cases pointing towards the diagnosis of abdominal tuberculosis. Microbiological positivity was seldom obtained except in 2 cases of tuberculous peritonitis.

CONCLUSION

- Abdominal TB denotes involvement of GIT, peritoneum and/or draining lymph nodes.
- Tubercular process can involve any organ in the abdominal cavity.
- There is absence of extra abdominal lesions in the majority of patients.
- A high index of clinical suspicion is necessary in any patient presenting with vague abdominal symptoms.
- Radiological findings may be equivocal or merely contributory.
- Most common site of involvement is ileo-caecal region.
- A Histopathological confirmation is essential before making a firm diagnosis of tubercular abdomen
- Diagnostic laparotomy or laparoscopy necessary for histological/microbiological diagnosis in peritoneal/ lymph node TB
- Anti- tuberculous therapy forms the first line of management for patients with abdominal tuberculosis.
- Therapeutic surgery essential for complications like int. obstruction, perforation, peritonitis.

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