

THE FREQUENCY AND MANAGEMENT OF INTESTINAL TUBERCULOSIS; A HOSPITAL BASED STUDY

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ABSTRACT

Objective: To determine the frequency of clinical manifestation of intestinal tuberculosis and outcome of different treatment modalities.

Material and Methods: This descriptive study was conducted at Lady Reading Hospital Peshawar from July 2005 to June 2006. Fifty cases having radiological evidence of tuberculosis in the intestines were included in the study. Various parameters like age, sex, presentation, investigation and various treatment modalities were studied.

Results: Twenty three (46%) patients presented with subacute and 13 (26%) with acute intestinal obstruction and 12 (24%) with signs of peritonism. Presenting symptoms were: pain abdomen and anorexia in 47(94%) patients, nausea / vomiting in 30 (60%) patients and constipation in 28 (56%) patients. Tenderness was present in 48 (96%) patients and distension of abdomen in 35 (70%). Two (4%) patients were treated conservatively and 48 patients (96%) were managed by surgery (emergency surgery 34 cases, semi-elective surgery 14 cases). In 47 (94%) patients, diagnosis was confirmed by characteristic caseating granuloma. Resection of the small bowel with ileo-ileal anastomosis was done in 16 cases and limited right hemicolectomy with ileo-colic anastomosis in 14 cases. Two staged procedures were performed in 8 cases. Only three (6%) cases needed re-admission for complications, two (4%) for sub-acute obstruction and one (2%) for ileostomy prolapse.

Conclusion: Abdominal tuberculosis presents with pain abdomen, anorexia, vomiting and with signs of intestinal obstruction. The surgical procedures like resection with primary anastomosis have satisfactory outcome. Two stage surgical procedures are advisable if the risk of anastomotic leakage and faecal fistula formation is high.

Key words: Intestinal Tuberculosis, Stricturoplasty, resection and primary anastomosis.

INTRODUCTION

Abdominal tuberculosis is a common disease over the continent of Africa and Subcontinent of India and Pakistan. Abdomen is the fourth commonest site of involvement in extra pulmonary tuberculosis after the lymph nodes, skeletal system and genitourinary tract^{1,2}. Less than 50% of the patients with intestinal lesions have coexisting pulmonary disease. The clinical features of intestinal tuberculosis are usually those of acute or sub-acute intestinal obstruction³. A study from India has reported 11% of all the cases of small gut obstruction due to tuberculosis and a similar figure has been quoted from Pakistan^{4,5}. The present study was aimed to know the

frequency of clinical manifestation of abdominal tuberculosis and to share our experience of the management of this crippling but curable infectious disease.

MATERIAL AND METHODS

This descriptive study was conducted in the Department of Surgery Postgraduate Medical Institute Lady Reading Hospital Peshawar from July 2005 to June 2006. Parameters studied included age, sex, socio-economic condition, family history and medical history. Clinical presentation of patient, various investigations, type of surgical procedures performed, medical treatment given and their outcome recorded.

TYPE OF SURGERY PERFORMED IN FORTY-EIGHT CASES

Age Group	Number	Percent
Emergency Surgery	34/48	64.53%
Acute/Sub acute Bowel Obstruction	20/34	58.82%
Perforation	14/34	41.17%
Semi elective Surgery	14/48	27.08%
Chronic Bowel Obstruction	5/14	61.53%
Abdominal Mass	4/14	30.76%
Diagnostic Exploration	5/14	07.69%

Table 1

Laparotomy finding were noted and the nature of intestinal-lesions was recorded. Acute intestinal obstruction was considered if the patients had absolute constipation, nausea, vomiting and abdominal distension for 24-48 hours with radiological evidence supporting the clinical presentation. Sub-acute intestinal obstruction was considered if the patients had relative constipation, nausea, vomiting and / or distension for more than 48 hours and the radiological findings were supporting the clinical findings. Montoux test was interpreted positive if the diameter of cutaneous induration was more than 10 mm after 72 hours. Pulmonary tuberculosis was considered if the patient had sputum positive for acid-cast bacilli and / or X-ray was revealing pulmonary cavitory lesion or calcified hilar lymph nodes.

RESULTS

The age range was between 14-67 years and mean age was 29 years. Male to female ratio of 2:3 was found in this study. There were thirty (60%) females and twenty (40%) male patients.

Associated pulmonary tuberculosis was found in ten (20%) patients. Thus the intestinal lesion was primary in forty (80 %) patients and secondary to pulmonary tuberculosis in ten (20%). One (2%) patient gave positive family history of tuberculosis. Two (4%) gave past history of laparotomy for tuberculosis. Twenty three (46%) presented with sub-acute intestinal obstruction, thirteen (26%) with acute intestinal obstruction, twelve (24%) with signs of peritonism and two (4%) with mass abdomen. Pain abdomen was the most common symptom and occurred in all cases. The pain was colicky in twenty six (52%) and was vague discomfort in fourteen (28%) and burning in ten (20%) patients. Symptom of anorexia was noted in all except three patients (94%). Nausea / Vomiting was also common and was noted in thirty patients (60%). Twenty-eight (56%) complained of

constipation. History of night sweat was obtained in ten (20%). Cough with expectoration was also occasional finding and was noted in eight (16%) patients. Fever was noted in thirty-one (62%) patients. Weight loss was noted in twenty eight (56%) patients. Tenderness was commonest finding and was elicited in 48 (96%) patients. Abdominal mass was observed in one (2%) patient. Anemia was found in thirty six (72%) patients.

Montoux test was performed on twenty-six patients and was found positive in twenty-two (44%) patients. X-Ray chest was performed in all cases and was revealing signs consistent with tuberculosis in ten (20%) patients. Pulmonary cavitory lesion was found in six (12%) patients and healed pulmonary tuberculosis was observed in four (8%) patients. In twenty-five (12.5%) patients, X-ray abdomen showed multiple intra-luminal fluid levels and gaseous distention of the small intestine.

Barium meal and follow through examination confirmed that in eleven (22%) patient's contraction of the caecum, narrowing of terminal ileum and dilation of the bowel proximal to the stenosis. Operative diagnosis was made in ten (20%) patients. Four (8%) patients received early labeled as cases of intestinal tuberculosis. In thirty six (72%) patients who had undergone laparotomy for various reasons, diagnosis was confirmed by microscopic finding of characteristic caseating granuloma and / or acid fast bacilli in the biopsy material. Two (4%) patients were successfully treated only with ATT and forty eight (96%) patients were managed by surgery and ATT. The reason for surgery and the type of surgery performed on forty eight (96%) cases as shown in Table 1.

Out of forty eight operated cases, lesions in the gut and associated lymph nodes with or without peritoneal involvement was seen in forty two (84%) patients. In three (6%) patients, plastic type of tuberculous peritonitis was observed.

Perforations were observed in fourteen (28%) patients. In all of these cases, perforation was found proximal to the obstructing lesion.

Operative procedures performed in forty eight cases are shown in Table 2. One stage procedures frequencies are shown in figure 1.

All the patients were given anti-tubercular chemotherapy. This included forty eight operated cases and two non operated cases. In all patients liver function tests were done before the start of chemotherapy and were repeated at the time of discharge from the hospital. In none of them the test showed any abnormality.

Follow up was done for three to twelve

OPERATIVE PROCEDURES PERFORMED:

Tests:	Desired values:
40/48	One Stage Procedures
16 (32%)	Resection of the small bowel with ileo-ileal anastomosis
14 (30%)	Limited right hemicolectomy with ileo-colic anastomosis
4 (7.5%)	Stricturoplasty
2 (5%)	Biopsy of the enlarged lymph node and mesentery only
4 (7.5%)	Breaking of adhesion causing obstruction and biopsy of Lymph node & mesentery
8/48	Two Staged Procedures
5 (62.5%)	Limited right hemicolectomy and ileostomy followed by ileocolic anastomosis
3 (37.5%)	Resection of the ileum and ileostomy followed by ileo-ilial anastomosis

Table 2

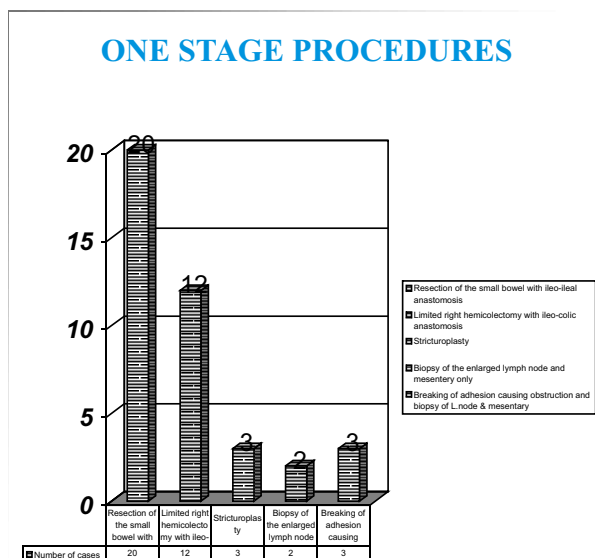


Fig. 1

months. No single death was reported from the disease or its complication. Only three (6%) patients needed re-admission for complication. Two (4%) patients were admitted for sub-acute obstruction and one (2%) patients for ileostomy prolapse and considerable weight loss with extensive skin excoriation.

DISCUSSION

Age incidence of patients in the present study is similar to that reported by other workers⁵⁻⁷. Sex incidence shows preponderance of the disease in female (60%) patients. This is similar to the studies conducted in various countries⁵⁻¹⁰. Associated pulmonary tuberculosis was found in 20% cases. This is somewhat similar to the reports of Das P et al¹¹, who reported 15% associated pulmonary tuberculosis. However other workers have reported a much higher incidence of associated pulmonary tuberculosis^{12,13}.

Pain, gastrointestinal upset, and change in the bowel habits were the commonest symptoms in our series and were present in 100%, 96%, 84% patients respectively. Similar findings have been reported by other workers^{11,14,15}. Constipation was more frequently observed than diarrhea, similar to the observation of other workers^{8,16,17}. Diarrhea alternating with constipation previously thought to be the hallmark of disease¹⁸⁻²⁰ was occasional finding (10%) in the present series. History of menstrual disorders was obtained in 2% female patients in contrast to 25% reported by Hasnain S et al⁶. Tenderness, abdominal distension, pallor and weight loss were common physical findings (24%) observed in the present series. Similar observations have also been made by other workers^{10,16}. Fever was noted in 62% cases in our study. In other studies frequency and the degree of fever has been shown to be low^{18,21-23}. Lump in the abdomen was noted in 25% cases in our study almost reflects that of others^{9,24,25}.

In our study Anemia was found in 72% cases as reported by other workers^{16,19}. ESR (prognostic test) was not raised in 70% cases similar has been reported by Baloch NA et al¹⁵. In this study leucocytosis has been noted in 16% patients, similar incidence of leucocytosis has been reported by other workers^{21,26}. Montoux skin test was positive in 44% patients, almost similar to others^{5,11}. In the present study the commonest cause of complications were stricture and occasionally hypertrophic lesion. Other workers have also made similar observations and these complications were managed as resection with primary anastomosis for solitary lesion and stricturo-plasty for multiple lesions involving long segment of the bowel^{6,10}. Two stage surgical procedures are advisable if the risk of anastomotic leakage and faecal fistula formation is high. Various surgical procedures as shown in table 2 performed and their results are comparable to those of other workers^{10,11,18,20,27}.

Toxicity to anti-tuberculous chemotherapy like jaundice was very rare finding in the present study: similar results have been reported by other workers²⁷. In the present study toxicity was found only to Pyrazinamide. Other workers have also reported incidence of toxicity to Pyrazinamide among the anti-tuberculous drug^{20,28}. In this study the compliance to ATT was very good, contrary to some studies²⁹⁻³¹.

CONCLUSIONS

Primary intestinal tuberculosis is more common and secondary intestinal tuberculosis occurs occasionally. The commonest signs are abdominal tenderness and distension, pallor and weight loss. Commonest complications are intestinal obstruction and perforations. The response of disease is very good to anti-tubercular chemotherapy (ATT). Surgical procedures of choice are: resection of the diseased part with primary anastomosis for solitary lesion or multiple lesions in short segment: stricturo-plasty for multiple lesions involving long segment of the bowel.

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