Original Article

Abdominal Tuberculosis: Varied Presentations

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ABSTRACT

Objective: To study various clinical presentations and out come of management of abdominal tuberculosis.
Study design: Prospective cross-sectional study.
Place and Duration of Study: This study was conducted at the Surgical Unit-1 Ghulam Mohammad Maher Medical College Hospital Sukkur and Al-Khair Hospital Sukkur from January 2007 to December 2010.
Patients and Methods: The 65 patients admitted throughout patient department and emergency with abdominal catastrophes. Ages ranged between 14 to 70 years. Out of 65 patients 37 were males and 28 were females. All the patients were evaluated with history, examination & investigations. 34 patients were operated & the resected tissue sent for histopathology to conform the diagnosis of tuberculosis.
Results: Out of 65 cases of abdominal tuberculosis, 37 were male and 28 female. The mean age was 30.9 years with SD 14.19 years (range 14 to 70 years). The mean duration of symptoms at presentation was 6 months (range 1 month to 24 months).
34 (52.3%) out of 65 patients were admitted with different complications in which 10 (29.4%) presented with peritonitis due to gut perforation, 9 (26.5%) with sub-acute intestinal obstruction, 8 (23.5%) with abdominal mass, 5 (14.7%) with acute appendicitis and 2(5.9%) with umbilical fistula. Surgery was performed in all these patients, Stricturoplasty done in 13 (38.3%), Ileostomy in 8 (23.5%), resection anastomosis in 5(14.7%), Right Hemicolectomy in 5 (14.7%) and adhesionolysis and biopsy in 3 (8.8%) patients. Diagnosis in these patients was confirmed with biopsy. Morbidity and mortality in this group was 40.2% and 17.6% respectively.
Conclusion: Early diagnosis of the abdominal tuberculosis is possible only by the specific investigations like PCR. As these are not available in the remote areas of sindh so the general surgeons in the peripheral tertiary care hospitals have to face such patients with complications. Early diagnosis of ATB can be made by high index of clinical suspicion to symptoms of abdominal pain, weight loss, low grade fever and vague ill health of more than one month duration and refractory to conventional treatment associated with raised ESR, positive Montoux test. To above symptomatology if empirical ATT is started early many of the complications of ATB can be avoided.
Key Words: Abdominal Tuberculosis, Complications, Presentations.

INTRODUCTION

Tuberculosis is still a major problem in Asia. According to World Health Organization (WHO) approximately one-third of the world's population is under the risk of acquiring tuberculosis and more than 30 million deaths occurred due to tuberculosis in 1990's, especially in Africa and Asia.[i] In an other report from WHO, incidence of tuberculosis in Pakistan is 181 cases per 100,000 population per year and estimated mortality is 40 deaths per 100,000 population per year.[ii] In 2000-2020, an estimated one billion people estimated to be infected, 200 million will become sick and 35 million will die from tuberculosis.[iii] Abdomen is involved in 11% of patients with extra-pulmonary tuberculosis.[iv] Mycobacterium tuberculosis found to be cause of abdominal tuberculosis (ATB) in most countries but M-bovis is also reported from some countries.[v] ATB remains a diagnostic problem for surgeons because the signs and symptoms are non-specific and there is no specific diagnostic test.[vi] Insidious onset and non-specific clinical and radiological findings of ATB mimics several diseases.[vii] ATB continues to challenge the diagnostic acumen and therapeutic skills of all clinicians due to protean clinical features and varied complications.[viii] The accurate diagnosis of ATB usually takes a long time and requires a high index of suspicion in clinical practice.[ix] In addition to other ancillary investigations, ultrasound is helpful in showing the intraabdominal fluid, lymph nodes (matted or discrete), bowel wall thickening & pseudo kidney sign.[10,11] All the complications of this potentially curable disease can be avoided if diagnosis is made early and anti-tuberculous therapy started in time. We, therefore, present a prospective study of various clinical presentations and outcome of management of abdominal tuberculosis to assist the management of ATB in a hope to eradicate this disease from world.

PATIENTS AND METHODS

This prospective, case series study was carried out in Surgical Unit-1 at Ghulam Mohammad Maher Medical College Teaching Hospital (GMCH) and Al-Khair Hospital Sukkur from January 2007 to December 2010. Seventy patients of ATB were selected for study but

five patients, belonging to remote areas of Balouchistan, were lost to follow up were excluded from study therefore 65 patients were finally included in study. Detailed information regarding patient's demographics, symptoms/signs, past history of tuberculosis, family history of tuberculosis, investigations, management, morbidity and mortality was recorded on specially designed proforma.

Patients who came in OPD or emergency with some complication were admitted in hospital and operated after necessary investigations and pre-operative treatment, and diagnosis confirmed by histopathology of resected specimen of intestine or involved lymph node or omentum. Diagnostic tests done in this group were: Complete blood Picture and ESR, Blood Urea, Serum Electrolytes, CXR, Plain X-Ray Abdomen (in Erect and Supine positions), Barium Follow-through / enema in selected cases, Ultra-Sound Abdomen and Biopsy of material obtained on laparotomy. Sputum test for AFB was done in those patients in whom CXR was showing some abnormality. Overall morbidity was 41.2% and mortality was 17.6% in these cases.

All the patients received a nine months course of ATT. (Rifampicin, Ethambutol, INH, and Pyrazinamide for first four months and followed by Rifampicin and INH for last five months)

RESULTS

In this study of 65 cases of ATB, 37 (56.9%) were male and 28 (43.1%) were female. The mean age was 30.9 years SD ±14.19 (from 14 to 70 years). The mean duration of symptoms at presentation was 6 months (range 1 month to 24 months). 31 patients were kept on antituberculus drugs and kept the record of follow-up and surveillance.

Thirty four (52.3%) out of sixty five patients were admitted in hospital with different complications (Table-1). Amongst the 34 patients, 25 were admitted through Casualty department and 9 were admitted through OPD. Family and past history of tuberculosis was present in 13 (38.2%) and 8 (23.5%) patients respectively. Most of the patients in this group were anemic with raised ESR. Five patients proved to be diabetic. Chest X-Ray done in all patients showing: free air under right dome of diaphram in 10, active pulmonary lesions in 13 (Sputum AFB +ve), old healed lesions in 6 and normal in 15 patients. Barium follow-through was done in two patients showing multiple strictures with dilated segments of small intestine. Barium enema done in three patients showing: sub-hepatic distorted caecum in two patients and was inconclusive in one patient. All patients in this group were surgically explored and dealt accordingly (Table-2). The mean hospital stay of patients was 13.2 days (range 8 to 32 days). Fourteen patients out of thirty four (41.2%) developed different post operative complications; Wound Infection in 10 (29.4%), Wound Dehiscence in 3 (8.8%), Faecal Fistula 01 (2.9%) patients. Six patients out of thirty four (17.6%) died. Out of 6 died patients, three had miliary tuberculosis, two had jumbled mass of intestine riddled with tubercles and one old man with severe peritonitis secondary to ilial perforation died due to septicemia (Table-3).

Table No.1: Presentation of Patients (n=34)

Presentation	No. of Patients	Percentage
Peritonitis secondary to gut perforation	10	29.4
Sub-acute intestinal obstruction	9	26.5
Abdominal Mass	8	23.5
Right Iliac Fossa pain mimicking acute appendicitis	5	14.7
Umbilical fistula	2	5.9
Total	34	100

Table No.2: Surgical Procedures done (n=34)

Presentation	No. of Patients	Percentage
Stricturoplasty	13	38.3
Ileostomy	8	23.5
Resection anastomosis	5	14.7
Limited Right Hemicolec-tomy	5	14.7
Adhesionolysis and Biopsy	3	8.8
Total	34	100

Table No.3: Postoperative Complications (n=14)

Complications	No. of Patients	Percentage
Wound infection	10	29.4%
Wound Dehiscence	03	8.8%
Faecal Fistula	01	2.9%
Expired	06	17.6%

DISCUSSION

Abdominal tuberculosis can occur at any age but is predominantly a disease of young adults with the mean age of patients being 30-40 years.[x, xi] The mean age of patients in this study was 30.9 SD ±14.19 years which coincide with previous study. The prevalence of disease is approximately equal among males and females.[12] The male to female ratio in our study was 1.3:1. Baluch N et al[xii] has reported in their study of 30 cases a male to female ratio of 2:1, while many other investigators has shown a female predominance.[xiii , xiv, xv] The mean duration of symptoms at presentation, in our study, was six months. Bolukbas et al [9] who enrolled 88 patients of ATB, has reported mean duration of disease at presentation 10.4 months which is higher than present study. In another study from Iran, Abbasi et al [12] has

reported, duration of symptoms of ATB were predominating one month to one year before the diagnosis.

ATB is characterized by different modes of presentation i.e., chronic, acute on chronic, acute or it may be an incidental finding at laparotomy for some other disease.[13] The awareness of clinical presentation of ATB shortens its diagnostic time and improves its management.[16] In our series 31 (47.7%) patients presented with non-specific abdominal symptoms. The most common symptoms/signs in these patients were abdominal pain, low grade fever, malaise, weight loss, vomiting and abdominal tenderness which is in accordance with other studies [xvi, 14, 15,]. Family history of tuberculosis was present in 32.2% of patients and previous history of same was present in 19.3% of patients. Chong VH and Rajendran N[18] have reported past history of tuberculosis in 30% of their patients which is higher than our finding. Bolukbas et al[9] has reported in their study family and past history of tuberculosis in 8.3% and 16.7% of patients respectively, in non specific symptoms group which is lower than our study. The majority of cases of peritonitis result from the reactivation of latent tuberculous foci.[3] These foci follow hematogenous dissemination from the primary disease in the lung and remain latent.[xvii] Eighty percent of patients in Group-1 were managed conservatively and 6 (19.4%) patients developed recurrent episodes of intestinal obstruction under went laparotomy. Out of six operated patients 3 had multiple strictures in terminal part of ileum, two had bands arising from caseous lymph nodes and one had mass/stricture in Ileo-caecal area. Tuberculous strictures heal by fibrosis on ATT this could be a reason that these patients developed intestinal obstruction.[9, xviii] No morbidity and mortality seen in this group. The reason of zero morbidity and mortality could be early presentation, elective operation and patients were already on ATT.

Thirty four out of sixty five patients were admitted in hospital with different complications. The most common presentations were peritonitis secondary to small gut perforation 29.4%, Sub-acute intestinal obstruction 25.5% and Abdominal mass 23.5% which concurs with that reported by Baloch NA et al.[15] Five patients presented with acute appendicitis in which appendectomy and biopsy of mesenteric lymph node done. Ohene et al [xix] has reported four case of abdominal tuberculosis presented as acute appendicitis in their study which concur with our finding. In our series two patients presented with umbilical fistula while Agarwal P et al[13] has reported three cases of entero-umbilical fistula in their series. In group-2 patients Stricturoplasty and Ileostomy were most common done in 38.3% and 23.5% of patients. The resection and anastomosis and limited right Hemicolectomy was done in 14.7% of patients each. The adhesionolysis and biopsy was done in 8.8% of patients. These results confirm to the findings of the other studies [14,15,16,21]. The overall morbidity and mortality, in patients who presented with complications, (Group-2) was 41.2% and 17.6% respectively in our study. Agarwal P et al[13] has reported post operative complication rate of 58% which is higher than our study. The mortality rate of 15.3% is reported by Shaikh R et al[16] in their study is closest to our finding of 17.6%.

CONCLUSION

Early diagnosis of the abdominal tuberculosis is possible only by the specific investigations like PCR. As these investigations are not available in the remote areas of Sindh, early diagnosis of ATB can be made by high index of clinical suspicion to symptoms of abdominal pain, weight loss, low grade fever and vague ill health of more than one month duration and refractory to conventional treatment associated with raised ESR, positive Montoux test. To above symptomatology if empirical ATT is started early many of the complications of ATB can be avoided.

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