

ABDOMINAL TUBERCULOSIS AN EXPERIENCE AT AYUB TEACHING HOSPITAL ABBOTTABAD

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Background: Abdominal tuberculosis is one of the common diseases in our country. This study was performed at Surgical A Unit Ayub Teaching Hospital Abbottabad from August 2006 to December 2007 to assess the clinical presentation of abdominal tuberculosis and its management. **Methods:** All patients presenting to outpatient department with clinical feature suggestive of abdominal tuberculosis were included in the study. They were investigated. On the basis of clinical presentation, patients were divided in two groups. Patients with acute abdomen (peritonitis, intestinal obstruction) were prepared for laparotomy and operated upon. Required surgical procedure performed and tissue diagnosis was obtained. Patients with sub-acute obstruction, chronic pain abdomen and mass abdomen with out peritonism were managed conservatively. These patients were started on anti TB drugs on the basis of clinical and laboratory assessment. Empiric therapeutic trial was conducted for at least for 3 months with standard four drugs regimen. They were sent home on 9 month course of Anti TB drugs and were advised to come for follow up twice a month. On reassessment good clinical response was considered abdominal tuberculosis and anti TB continued with monthly follow up. In case of no response patients were operated. Required surgical intervention performed and tissue was taken to establish diagnosis. Detailed history, family history, examination findings, results of investigations, operative findings of the histologically proven cases of abdominal tuberculosis were recorded on a separate proforma and analyzed. **Results:** Amongst 76 patients majority were females 52 (68.4%). Most of the patients were young with mean age of 34 years. Abdominal pain was the most common presentation 73 (96%) followed by fever and anorexia. Tender lower abdomen as found in 53 (70%) patients and mass abdomen was found in 35 (46%). Family history of TB was present in 20 (26%). Fifty three (70%) patients underwent laparotomy. Bands and adhesion was the most frequent finding on laparotomy. **Conclusion:** Abdominal TB is more common in female and abdominal pain fever and nausea are the most common presentations.

Keywords: Abdominal tuberculosis, abdominal mass, exploratory laparotomy

INTRODUCTION

Tuberculosis (TB) continues to be a major health concern, especially in the developing world with more than 8 million new cases each year. In Pakistan, its prevalence is estimated to be 175 per 100,000 of population.¹ Abdominal tuberculosis is common in Pakistan and other tropical countries.² Diagnosis of extra pulmonary tuberculosis is usually difficult because of varied presentation.³ Delay in diagnosis due to failure to suspect the disease is not uncommon even in teaching hospitals of the West.⁴ Extra-pulmonary tuberculosis is often associated with immunocompromised state and its association with HIV infection is well known.⁵ The frequency of extra-pulmonary tuberculosis has been reported to be as high as 20% of all tuberculosis cases without HIV infection and 53-6% in HIV positive patients.⁶ In Pakistan, although AIDS is not common, but widespread poverty and malnutrition means that the immune status of a large proportion of population is compromised. Abdominal tuberculosis may present clinically as an acute abdomen, either due to bowel obstruction, perforation or mass in right lower abdomen mimic acute appendicitis or appendicular mass.⁷ Therefore, diagnosis of abdominal

tuberculosis is usually made at laparoscopy or exploration of abdomen.

We planned this study to assess the varied presentation of abdominal tuberculosis in cases presented in Ayub Teaching Hospital Abbottabad.

PATIENTS AND METHODS

This study was conducted at surgical A unit of Ayub Teaching Hospital Abbottabad from Aug 2005 to Dec 2007. All patients presenting to outpatient department or emergency department with clinical feature suggestive of abdominal tuberculosis (pain abdomen, vomiting, anorexia, weight loss, evening pyrexia, anaemia and abdominal mass) were included in the study. All these patients were admitted and base line investigations performed. Ultra sound abdomen, X-ray erect abdomen and X-ray chest were also advised. In case of suggestion of pulmonary TB in chest X-ray (infiltration or consolidation, nodularity, calcification, cavitary lesion, and fibrocalcific scar in lung parenchyma, pleural effusion, hilar or mediastinal lymphadenopathy, sputum examination for acid-fast bacilli (AFB) was carried out. On the basis of clinical presentation, patients were divided in two groups. Patients with acute abdomen (peritonitis, intestinal obstruction) were prepared for laparotomy

and operated upon. Required surgical procedures were performed and tissue diagnoses were obtained. Patients with sub acute obstruction, chronic pain abdomen, and mass abdomen without peritonism were managed conservatively. These patients were started on anti TB drugs on the basis of clinical presentation, x-ray findings of pulmonary tuberculosis, raised ESR or positive ICT. Patients who responded to anti TB medicine were considered to be suffering from abdominal tuberculosis after a successful empirical therapeutic trial. Empiric therapeutic trial was conducted for at least for 3 months with standard four drugs regiment (isonicotinic acid hydrazide, rifampin, pyrazinamide and ethambutol or streptomycin). They were sent home on 9 month course of Anti TB drugs and were advised to come for follow up twice a month. On reassessment good clinical response was considered abdominal tuberculosis and anti-TB continued with monthly follow up. In case of no response, worsening of symptoms, development of peritonism or intestinal obstruction patients were operated. Required surgical intervention performed and tissue was taken to establish diagnosis. Detailed history, family history, examination findings, results of investigations, operative findings of the histologically proven cases of abdominal tuberculosis were recorded on a separate proforma and analyzed.

RESULTS

The total number of patients was 76. The age range of patients was 15-65 years with mean age of 34 years. The majority of patients were females 52 (68.4%). Pain abdomen was the most common symptom 73 (96%) as shown in Table-1. Eleven (14%) patients were diagnosed cases of pulmonary tuberculosis but only 4 (36%) of them had completed 9 months course of anti TB and 7 (63%) patients had left the medicine by themselves either they felt improved or disliked the medicines. Twenty (26%) patients had family history of tuberculosis. Fifty two (68.4%) patients were from poor socioeconomic group.

Table-1: Clinical Presentation of patients (n=76)

Symptoms	No.	(%)
Pain abdomen	73	96
Distension	15	19
Nausea	72	94
Vomiting	61	61
Altered bowel habits	30	39
Mass abdomen	40	53
Fever	69	91
Anorexia	70	92

On examination tender lower abdomen was found in 53 (70%) and there was mass abdomen in 35 (46%) patients. On x-ray chest 11 (14%) patients

showed signs of pulmonary tuberculosis. In 4 patients sputum was positive for AFB. Low haemoglobin level was found in 69 (91%) patients. Leukocyte counts were raised in 23 (30%) patients. Raised ESR was found in 44 (58%) patients. ICT was positive in 39 (51%) patients. In 09 (12%) patients ultrasonography was reported as tuberculosis abdomen on the basis of bowel thickening, mesenteric lymphadenopathy, omental thickening and impression was made as Kock's abdomen. In one patient we performed barium follow through and radiologist reported his contrast studies as thickening of terminal ileum and distortion of caecum suggestive of abdominal tuberculosis. One of the films is shown in Figure-1. X-ray abdomens were done in all cases. Multiple air fluid levels were found in 34 (45%) patients and in 05 (7%) there was pneumoperitoneum. In 45 (59%) patients clinically it was not possible to differentiate between acute appendicitis and tuberculosis abdomen. 12 (16%) patients had appendectomy in last one year. Six (50%) of them underwent laparotomy due to reasonable tenderness. In all of them there were bands and adhesion and mesenteric lymphadenopathy.



Figure -1 thickening of terminal ileum and distortion of caecum

On the basis of clinical and laboratory assessment 45 patients underwent laparotomy. 31 patients were managed conservatively on standard 9 months course of anti TB and were advised to come for follow up monthly. On follow up 13 showed improvement with anti TB drugs while 8 patients were still in pain and tender in lower abdomen. Therefore they also underwent surgery. Ten patients lost in follow up. So total 45+8=53 (70%) treated surgically and tissue diagnosis was established of tuberculosis. Adhenolysis and mesenteric lymph node biopsy was most common procedure followed by resection anastomosis of disease segment 13 (24.52%) as shown in Table-2. Five (9%) patients developed wound

infection. Two patients with adhesions developed post op iatrogenic low out fecal fistula which was treated conservatively. On follow up her fistula closed on conservative therapy and she had gained weight.

After surgery all the patients were discharged on 09 month course of anti TB drug.

Table-2: Various surgical procedures

Surgical Procedure	No.	%
Appendectomy with lymph node biopsy	10	18.86
Right hemicolectomy with ileocolic anastomosis	6	11.32
Resection of stenosed segment and anastomosis	13	24.52
Adhenolysis and lymph node biopsy	14	26.41
Repair of perforation	3	5.66
Stricuroplasty	5	9.43
Temporary ileostomy	2	3.77
Total	53	

Discussion

Patients with abdominal TB may have many symptoms and mimic many diseases, therefore if it is not usually clinically suspected, and may result in important morbidity and mortality. In abdominal TB GI tract and peritoneum are reported as the most frequent sites of involvement. Four major pathophysiologic mechanisms are proposed for abdominal TB: haematogenous spread, swallowing of infected sputum, ingestion of contaminated milk or food, and contiguous spread from adjacent organs.⁸

Tuberculous peritonitis appears to be more common in females than in males.⁹ This observation was also made in our study. The increase frequency of female preponderance was reported not only in local Pakistani literature.^{3,4,10} But also in western literature⁹. Tuberculosis in females commonly reaches the peritoneum through tubal infection and attacks the tubes during the sexually active period of life⁹ but in our socioeconomic set up poverty and male dominant society also had major contribution because diet of female is relatively deficient both quantitatively and qualitatively. The commonest presenting complaints in our study were pain abdomen, fever and anorexia which correspond to that of Hameed⁴ and Al-Quorian *et al*¹¹. Vogel Y⁹ had found extra pulmonary manifestation of tuberculosis in about 20.4% of cases in German population. The incidence of tuberculous peritonitis in Germany has been very low and tuberculosis of the intestinal tract was found in approximately 0.8% of tuberculosis cases in 2004. The 'golden rule' for a rapid diagnosis of tuberculous peritonitis is a laparoscopy-guided biopsy. But because of the anaesthetic and bleeding risk, laparoscopy-guided biopsy was not an immediately available option in Vogel Y *et al* study.⁹ We also had comparable scenario as most of these cases are dealt as emergency where laparoscope is not available. Low haemoglobin was the most consistent laboratory finding in our study (69

patients) as reported by Rai S.¹² In our study adhesion and bands was most common finding followed by stenosis of distal ileal segment which is in contrast to other studies.^{4,13} Abdominal lymph adenopathy commonly involves mesenteric, portal and peripancreatic sites reflecting the lymphatic drainage of the small bowel. The retroperitoneal lymph nodes are relatively spared.¹⁴ We found only mesenteric lymph nodes in mesentery of terminal ileum and did not search for peripancreatic or retroperitoneal lymph nodes to avoid iatrogenic gut injuries. We encountered no mortality even in perforated cases which is at variance with other studies.^{15,16} Griner *et al*¹⁵ reported 100% mortality and Kakar *et al*¹⁶ documented 45% mortality rate with perforation. This difference may be due to early presentation in our study or difference in study sample. 50% of patients with appendectomies in last year found to have tuberculosis on laparotomy. This fact emphasizes that while performing appendisectomy surgeon should make adequate incision to examine terminal ileum and mesenteric lymph nodes and must avoid button whole appendisectomy incision.

CONCLUSION

Abdominal tuberculosis is more common in females. The diagnosis can be difficult to make because of the varied presentation therefore the thresholds for laparotomy for the diagnosis was very low. The diagnosis could be made rapidly by these methods, and early treatment instituted. Increased awareness of the magnitude of the problem, a high index of suspicion, early case identification and treatment are required in order to prevent morbidity and mortality. Awareness about tuberculosis is necessary and role of proper diet should be emphasized. Poverty control programme should be launched by the government in true spirit.

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