ABDOMINAL TUBERCULOSIS IN AL-NOOR SPECIALIST HOSPITAL, MAKKAH, 3 YEARS EXPERIENCE

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ABSTRACT
Objective: *To record the observational study and the experience on the abdominal tuberculosis in Al-Noor Specialist hospital, and to highlight the various diagnostic modalities and outcome of treatment.*
Study Design: *Retrospective descriptive study.*
Setting & Duration: *Al-Noor Specialist Hospital, Makkah from January 2005 to December 2007.*
Methodology: *This retrospective study was undertaken of patients who had diagnostic TB over 3 years at Al-Noor Specialist Hospital, Makkah. Patients presented with long standing abdominal pain and associated symptoms were included. Final histopathology was taken as diagnosis andanti TB started.*
Results: *There were 11 females and 5 males; the mean age was38.7 years . Abdominal pain (100%) and ascities (56%) were the most clinical features. Laparoscopy was diagnostic in 6 patients. Histology confirmed TB in all patients. All had satisfactory response to anti-TB therapy 3-patients who died because of associated illnesses and pulmonary embolism.*
Conclusion: *The clinical presentation was non-specific; thus a high index of clinical suspicion is required. Laparoscopy with directed biopsy was the most diagnostic modality. Antituberculous therapy was effective.*

KEYWORDS: *Abdominal Tuberculosis, Tuberculous Peritonitis, Ultrasound, Laparoscopy*

INTRODUCTION

Abdominal tuberculosis (TB) is infrequently encountered in the developed countries but it continues to be a problem in developing countries. The incidence of abdominal TB in the Middle East is not well known but accounted for 16% of all extra pulmonary TB in Saudi Arabia.[1] This the first report comes out from Al-Noor Specialist Hospital in Makkah. It is one of the two tertiary hospital in Makkah which offers health services to a large number of people with different nationalities.

As abdominal TB can mimic a variety of abdominal disorders, a high index of clinical suspicious is required to avoid morbidity and mortality due to delayed diagnosis.[2] Among the different diagnostic tools CT scan is useful tool while laparoscopy with directed biopsies provides early diagnosis particularly in patients with unexplained exudative ascities.[2,3] I am presenting the clinical presentation of abdominal TB, the usefulness of the various diagnostic modalities , and the superiority of laparoscopy in diagnosis of abdominal TB in three years in Al-Noor Specialist Hospital in Makkah.

METHODOLOGY

This retrospective study was undertaken of patients who had diagnostic TB over 3 years at Al-Noor Specialist Hospital, Makkah. Patients presented with long standing abdominal pain and associated symptoms were included. Final histopathology was taken as diagnosis andanti TB started.

Data was collected on a porforma designed. Patients selection criteria were age above 12 patients presented with long standing abdominal pain and associate symptoms were recorded.

Departmental protocol for management of cases with

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chronic abdominal pain was applied. The final diagnosis was established by tissue pathology and all have been treated following a protocol of managing abdominal TB. Patients followed for 9-12 months and their symptoms improved and gained weight. Patients who died during observation time were seperated studied and presented in other publication.

The files of the patients admitted to Al-Noor Specialist Hospital with a diagnosis of abdominal TB from January 2005 to December 2007 were studied retrospectively. The data assessed age, sex, nationality, clinical presentation, diagnostic investigations, treatment and outcome.

RESULTS

Sixteen patients, 10 of whom were Saudi, were diagnosed to have abdominal TB during this period. The median age was 37 years (range 15-83) and the male : female ratio was 1:2. The common symptoms were abdominal pain, weight loss, fever and abdominal distension (Table I). Four patients presented with acute abdomen, two of them had ileal perforation and the other two had acute tuberculous peritonitis. Three patients died, two of them died because of associated diseases and one patient died because of pulmonary embolism diagnosed by ECG changes and spiral chest CT scan. One patient developed incisional hernia.

One patient presented with bleeding per rectum, colonoscopy and biopsy proved to be TB colitis. One patient presented with typical clinical picture of acute appendicitis but she had normal appendix and mesenteric lymphadenopathy ,lymph-node biopsy showed TB lymphadennitis. One patient presented as acute appendicitis but during surgery there was mass in the ileocecal region, right hemicoloctomy was done, histopathology report revealed ileocecal TB.

Table I. Clinical features in 16 patients with Abdominal Tuberculosis

Symptoms & Sign	No.	%
Abdominal pain	**16**	**100**
Weight loss	**9**	**56**
Fever	**6**	**37**
Abdominal distension	**6**	**37**
Vomiting	**5**	**31**
Ascites	**9**	**56**
Anemia	**6**	**37.5**
Guarding	**6**	**37.5**

The average hemoglobin was 10.5 g/dl (range 6.8-12.3). Chest radiography were normal in all cases.Ascitic fluid analysis in 6 patients revealed an exudative fluid, and the smears showed mainly lymphocytes and were negative for acid fast bacilli.

Abdominal ultrasound was carried in 12 patients, excluding the two patients died from associated illnesses because they have urgent CT abdomen, the patient presented with clinical picture of acute appendicitis, and the patient presented with bleeding per rectum. Abnormal findings were ascities, enlarged mesenteric lymph nodes, thickened omentum and thickened bowel loops.

Nine patients (56%) had CT scans also, as the abdominal ultrasound findings were inconclusive. Six patients (37.5) were subjected to laparoscopy and directed biopsy. In all six patients the diagnosis of TB was made based on a combination of findings including multiple white nodules, enlarged matted lymph nodes, ascities, fibrinous strands, and omental thickening. The diagnosis was confirmed by biopsies of peritoneal nodules and omentum.

Fourteen patients (87.5) were started on quadruple antituberculous therapy comprising of rifampicin, isoniazid, ethamputol and pyrazinamide for 6-9 months. This was in addition to the treatment of co-existent disorders. The response to antituberculous therapy was good.

DISCUSSION

Abdominal tuberculosis is known for continues as a complication of pulmonary TB. However its clinical presentation varied widely and doesn't related to the severity of the disease. Abdominal TB should be consideration the differential diagnosis of cases with non-specific abdominal complaints.

Abdominal tuberculosis is defined as infection of the peritoneum, hollow or solid abdominal organs with Mycobacterium tuberculi. The peritoneum and the ileocaecal region are the most likely sites of infection and are involved in the majority of cases by hematogenus spread or through swallowing of infected sputum from primary pulmonary tubercolosis.[3] Abdominal TB accounted for 16% of all extra pulmonary TB in Saudi Arabia and the gastrointestinal TB is the second most common type of TB after pulmonary TB.[1,4] Peritoneal

TB is the most common form of abdominal TB.[5,6,7] Most cases result from reactivation of latent TB foci in the peritoneum, seeded previously from a primary lung infection that usually heals leaving no radiological evidence.[8] The next most common route is hematogenous spread during active pulmonary or miliary TB. Rare cases are due to contiguous spread from TB lesions of intestine, abdominal lymph nodes, or fallopian tubes.[5,7,8,9]

More than 90% of patients have an exudative type and present with ascities.[6,8,10] The others have a more advanced, fibro adhesive type and present with the typical "doughy" abdomen.[6] Peritoneal TB is a common cause of ascities, particularly in developing countries.[11,12] In this series, ascities with or without fever, abdominal the clinical manifestaions are replating the pathology as shown by the present results, abdominal pain was found in all cases as the main symptoms, in addition to weight lon in more than 50% of cases. All other symptoms were vagne and non-specific pain and weight loss was encountered in the majority of cases. As in the literatures my results show that the peritoneal TB is predominantly a disease of young adults and slightly more prevalent in women.[5,6,7,10] As reported herein, peritoneal TB in most cases has an insidious onset of several months duration.[5,7] however, others have reported a higher incidence (50%) of acute abdomen requiring emergency laparotomy.[13] In this study emergency lapartomy was done in four cases (25%). On admission more than 50% of patients presented with weight loss and had ascities. These and other clinical features have been reported 50% with varying frequency.[6,8,9,10,14,15] Indeed, non specific symptoms and signs are the hallmark of TB peritonitis. In the present series ascities diagnosed in clinical examination or in ultrasound findings was encounted in the majority of cases reflecting the pathological lesion in the peritonium.

Although the correct diagnosis may be difficult to differentiate from other disorder and we usually in need for further investigations.

The present findings didn't show the value of abdominal CT as a method to cofirm the diagnosis but marginally more specific pathonomonic for TB than ultrasound features. Ultrasound investigation was helpful to demonstrate fluid, lymph nodes and thickening of the bowel. It was done in 6 patients and all were positive for ascetic fluids. The present work support laparoscopy with directed biopsy is an excellent tool for diagnosing tuberculous peritonitis and should be considered in patients with unexplained exudetive ascities and inconclusive imaging studies.[16,17] The laparoscopic appearance of peritoneal TB (classical findings of peritoneal tubercles, ascities and adhesions) will allow a presumptive diagnosis in 85-95% of the patients.[10] Six patients in this series were diagnosed by laparoscopy. Laparoscopy is safe in the presence of ascities but in the presence of fibro adhesive peritonitis open technique to introduce initial trochar should be used to avoid perforation.[1]

Exploratory laparotomy may be necessary if the diagnosis remains in doubt. Our findings strengthen the evidence that in patient with unexplained exudative ascities and inconclusive imaging findings, laparoscopy with directed biopsy in an excellent tool for diagnosing TB pentonilies.

All patients in this series except the patients who died showed a good response to antitu-berculous therapy during their follow up period between 9 months to 18 months.

Acknowledgement:
I am grateful to the general surgeons at Al-Noor Specialist Hospital in Makkah for their help in conducting this study. I also thank Prof.Al Bagir Al-faki for reviewing the manuscript.

CONCLUSION

The clinical presentation of abdominal TB non-specific, thus a high index of suspicion is required. Laparoscopy with biopsy is the most diagnostic modality is Anti TB therapy is effective.

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