

ULTRASONOGRAPHY IN ABDOMINAL TUBERCULOSIS

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Abstract : The sonographic spectrum of abdominal tuberculosis was studied in twenty seven proven cases. The diagnosis was based on the ultrasound (US) guided FNAC, laparoscopy and histopathology and response to antitubercular chemotherapy in patients with strong clinical suspicion of abdominal tuberculosis. Tubercular lymphadenopathy was the most common manifestation of the disease of sonography, seen in 70% of patients. Mesenteric compartment was most commonly involved followed by per pancreatic, upper Para aortic and portal group of lymph nodes. Marked central hypoechoogenicity suggesting necrosis was seen in 26% of enlarged lymph nodes. Intestinal involvement was seen in 44% patients with ileocecal region predominantly involved. Concentric hypo echoic thickening was seen in 66% patients and eccentric thickening preferentially along medial wall of cecum in 25% patients with intestinal involvement. Tubercular peritonitis was seen in 25% patients with all showing as cists. Hepatic or splenic involvement was seen in patients in the form of focal hypoechoic lesions and organomegaly. It is concluded that the constellation of findings seen of ultrasonography helps in the diagnosis of abdominal TB in proper clinical setting. US guided fine needle aspiration is useful for confirming the diagnosis of abdominal TB. Hence US should be used as the screening modality in patients with suspected abdominal TB.

INTRODUCTION

Abdominal tuberculosis is a common form of extra-pulmonary tuberculosis. The gastro intestinal tract, lymphatic system, peritoneum, and solid viscera are subject to varying degrees of involvement alone, or in combination with extra abdominal disease. Despite progress in prophylaxis and therapy, abdominal tuberculosis remains a rampant health problem in developing countries like India. Positive response to therapy, itself helps in diagnosis and prevents the development of complications, which may require surgery¹. In spite of the development in diagnostic modalities, diagnosis of abdominal tuberculosis remains a challenge even to the most experienced physician. This is because many patients with extra-pulmonary tuberculosis present with non-specific signs and symptoms. Barium studies are a useful guide for gastrointestinal tract involvement but not for solid viscera. Ultrasound is easily available; flexible, cross-sectional modality which offers the advantage of examining the range of abdominal involvement in a single examination. It is also useful for needle-guided for biopsy and monitoring the response to chemotherapy. We present a analysis of 27 cases of abdominal tuberculosis to know the spectrum of finding in abdominal tuberculosis.

MATERIAL AND METHODS

In the present study twenty-seven (27) patients with abdominal TB are reviewed which were evaluated by chest x-ray and ultrasonography. Barium study (barium meal follow through, barium-enema) was done in 13 patients with gastrointestinal tract involvement.

In our study, the diagnosis was confirmed by USG guided FNAC from abdominal lesions and laparotomy with histopathology in 29% patients (8/27). While the remaining 11 patients (41%) with clinical as well as radiological features suggestive of abdominal TB, showing positive response to anti-TB chemotherapy were considered to be of tubercular etiology. Two of these 11 patients

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also had proven extra abdominal TB. Patient with disease limited to the genitourinary system only were not included in the study.

RESULTS

In the 27 patients with abdominal TB, age range from 9 to 55 years. Most were in second or third decade of life. The duration of symptoms ranged from 4 days to 1.5 years, with 58% of patients having chronic symptoms of more than 6 weeks duration. Abdominal pain was the most common symptom followed by loss of appetite and alteration of bowel habit. Abdominal tenderness was the most common clinical sign noted in 44% of patients. Of the 27 patients of abdominal TB, 16 patients (59%) had evidence of active or healed tuberculosis on chest radiograph. USG guided fine needle aspiration was done from abdominal lesions in 10 patients and diagnosis of TB was proved in 8 of them. Pattern of organ involvement on ultrasonography in is given in table 1.

TABLE 1 : Pattern of organ involvement in 27 patients with abdominal tuberculosis.

Organ involved	Number of cases	Percentage
Lymphadenopathy	19	70.37
Intestine	Large	26.62
	Small	21.22
Mesentery	10	37.03
Axilla	9	33.33
Omentum	5	18.51
Solid Organ	Liver	14.81
	Spleen	7.40

Tubercular lymphadenopathy

Abdominal lymphadenopathy was the most common manifestation of the disease noted in 70% (19/27) patients. Enlarged nodes were found mainly in mesenteric compartment followed by peripancreatic, upper para aortic and portal region (Fig-1). Pelvic lymph node involvement was seen in only 2/19 patients (10%). More than one lymph node compartment was involved in 56%. Patients with lymphadenopathy. Although the lymph nodes were mainly hypo echoic in nature but marked central hypoechoogenicity