Abdominal tuberculosis presenting as abdominal mass

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Abstract

Abdominal tuberculosis (TB) is one of the most common forms of extra-pulmonary TB. Abdominal tuberculosis is a diagnostic challenge. This condition is regarded as a great mimicker of other abdominal pathologies. Early diagnosis and initiation of anti-tubercular therapy and surgical treatment are essential to prevent morbidity and mortality. Surgery is required in minority of cases as most of the patient respond well to the anti-tubercular treatment. Imaging plays an important role in diagnosis and treatment of these patients. Our patient was a 53-year-old female who presented with complaints of abdominal pain, vomiting, loss of appetite and loss of weight. On ultrasound whole abdomen, thickened ileo-caecal junction with cystic lesion was found. Patient was treated with 6 months of anti-tubercular treatment and she responded well to treatment.

Keywords: Abdominal Mass; Anti Tubercular Therapy; Extrapulmonary Tuberculosis; Mantoux Test; Ultrasonography.

Introduction

Gastrointestinal tract is one of the most frequent sites of extra-pulmonary tuberculosis [1,2]. Approximately one eighth of total TB cases are extra pulmonary [3,4], in which abdominal tuberculosis(TB) accounts for 11% -16%[5,6]. In HIV positive patients the incidence of extra pulmonary TB is up to 50% [1,6]. TB of the gastrointestinal tract is the sixth most frequent form of extra-pulmonary site, after lymphatic, genitourinary, bone and joint, miliary and meningeal tuberculosis [7]. TB involves the abdomen as the primary disease from the reactivation of a dormant focus acquired somewhere in the past or as a secondary disease when infections spread to the abdomen via swallowed sputum, hematogenous or spread from an infected neighboring organ or ingestion of unpasteurized milk[2,5].

Case Report

Our patient was a 53-year-old female who presented with right side lower abdominal pain, vomiting, loss of appetite and loss of weight for last 2 months. Abdominal pain was dull aching, non-radiating, located in right lower abdomen and it was associated with vomiting which was projectile and non-bilious. She belonged to a low socio-economic status and had no prior anti tubercular therapy(ATT). She had no personal history of diabetes, hypertension, and seizure disorder. No significant family history was present. On examination she had a blood pressure of 126/84 mm Hg, heart rate of 80/min and temperature of 98.9°F. On abdominal examination a non-tender palpable swelling of 5.0X5.0 cm was present in right groin. Hematological investigations showed hemoglobin of 9.7 gm%, total leukocyte counts of 13100/mm^3 with differential count of polymorphs 80%, lymphocytes 18%. Erythrocyte sedimentation rate was 58mm in 1st hour. Mantoux test showed an induration of 22 millimeter. On X-ray abdomen (Fig. 1) left renal calculus was found. Ultrasound whole abdomen (Fig. 2) of the patient revealed 88X51X42 mm thickened bowel loops at ileo-caecal junction. Its wall thickness was 19 mm with evidence of 40X23 mm cystic lesion within it. On the basis of these radiological findings anti-tubercular treatment with rifampicin, ethambutol, isoniazid and pyrazinamide was started. Patient symptoms gradually improved and therapy was continued for two months. Thereafter repeat Ultrasound abdomen revealed decrease in size of mass to 56X43X 32 mm, bowel wall thickness was reduced with cyst of 25X16mm. Patient continued with rifampicin, ethambutol and isoniazid for another 4 months. Her ultrasonography (Fig. 3) after 6 months of treatment was suggestive of significantly reduced mass of 1.5x 1cm size. A written and informed consent was taken from subject prior to publication of case details and accompanying images.

Fig. 1: X-ray abdomen (P-A view): suggestive of left renal calculus

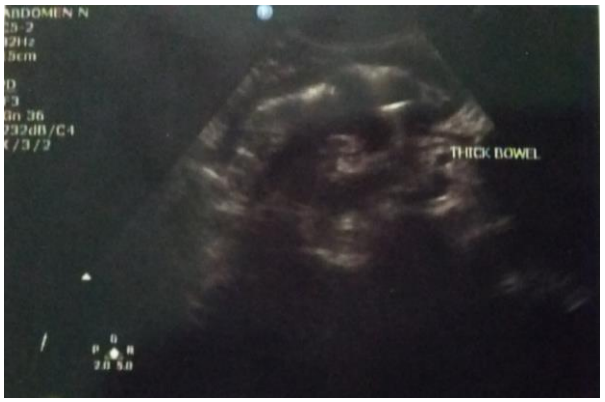

Fig. 2: USG abdomen showing thickened bowel loops at ileo-caecal junction

Fig. 3: USG abdomen after 6 months of ATT showing reduced thickening at ileo-caecal junction

Discussion

Abdominal TB can be defined as infection of the peritoneum, and abdominal organ with mycobacterium tuberculosis. The symptoms of abdominal TB are not specific and can mimic colonic cancer, crohn's diseases similar to pulmonary TB mimicking lung cancer [8]. Abdominal tuberculosis presents with abdominal pain (80.6%), weight loss (74.63%), loss of appetite (62.69%), fever (40.3%), loose stools (16.42%) and altered bowel habits(25.37%) [9]. Our patient had no respiratory complaints and no previous anti-tubercular therapy history. For abdominal TB age, underlying disease, the genotype of the bacteria and the immune status are factors that are related to the pathogenesis [10]. The postulated mechanisms by which the tubercle bacilli reach the gastrointestinal tract are: (*i*) haematogenous spread from the primary lung focus in childhood, with later reactivation; (*ii*) ingestion of bacilli in sputum from active pulmonary focus; (*iii*) direct spread from adjacent organs; and (*iv*) and through lymph channels from infected nodes. Diagnosis of abdominal tuberculosis is difficult because of vague and non-specific clinical features and low yield of mycobacterium culture or smear. The most common site of involvement is the ileo-caecal region, possibly because of the increased physiological stasis, increased rate of fluid and electrolyte absorption, minimal digestive activity and an abundance of lymphoid tissue at this site. Hoon *et al.* [11] originally classified the gross morphological appearance of the involved bowel into ulcerative, ulcerohyperplastic and hyperplastic varieties. Investigations like Imaging (ultrasound, barium X-Rays, and CT scan) and Mantoux test have only supportive value. In some cases, response to therapeutic trials of anti-tubercular drugs is the basis of diagnosis.

In our patient diagnosis was made on clinical and radiological grounds. Most importantly patient didn't require surgical intervention and improved on anti-tubercular therapy. Successful treatment of colonic TB can be achieved with conservative management with anti-TB medications unless a surgical emergency like perforation or obstruction occurs. Close monitoring of the patient's response to medical treatment is required, as failure of symptoms to regress and the lesions to decrease in size might be a hint of a more sinister underlying pathology, like carcinoma. In patients presenting with non-specific symptoms with colonic thickening on imaging, high index of suspicion for abdominal TB should be there.

Conflicts of interest: None declared

Acknowledgements: None

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