



Case Report

Abdominal tuberculosis: Often an eluded diagnosis

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Abdominal tuberculosis (TB) is more common in the developing nations and less common in the developed world. The onset is insidious and clinical presentation can mimic any abdominal condition. The diagnosis can be made by heightened clinical suspicion; ultra sound or computerized tomography guided aspiration of peritoneal fluid/tissue or sample taken at laparoscopy or laparotomy can be cultured or sent for histology. The diagnosis is often made in the late stage of the disease with attendant poor prognosis. Once abdominal TB is considered, a goal oriented diagnostic procedure is indicated and must be pursued vigorously. Early treatment will prevent complications and reduce mortality. Directly observed therapy (DOT) is recommended as it ensures good treatment outcome.

Keywords: Tuberculosis, Abdomen, Diagnosis, Management.

INTRODUCTION

Abdominal tuberculosis (TB) is common in the developing countries but less common in the developed nation (Longo et al., 2012; Bouma et al., 1997). In a study in Western Nigeria, the population adjusted incidence appears to be increasing during the last two decades (Ihekwaba, 1993). Another study in the same locality recorded a mortality rate of 14.9% (Akinkuolie et al, 2008). In a study in Netherlands, the incidence in immigrants was 124 per 100,000 while 5.8 per 100,000 in the Dutch population (Bouma et al., 1997). The incidence in the United States of America is about 3.5 % of all extrapulmonary tuberculosis. Abdominal TB is a cause of morbidity and mortality because the symptoms are unspecific and diagnosis is often delayed making the prognosis poor (Bouma et al., 1997; Ohanaka et al.,

2004; Marashall et al., 1993).

We report a case of 29 year old female banker who was referred to us on account of insidious onset of abdominal pain of and abdominal swelling.

Mrs. IJ is a 29 year old banker who was referred to our clinic on account of abdominal pain and swelling of 4 and 2 months duration respectively. She had no vomiting but had frequent loose stools of 2-3 times per day which has lasted for about 2 months. There was no history of hematemesis or melaena and no history of jaundice, reduced urine output, shortness of breath or orthopnoea. Two years back she had developed a cough which lasted for about a month. She had no haemoptysis but gave history of mild weight loss and night sweats. By then she was a youth corper in a State in the northern Nigeria and used to enjoy yogurt drinks.

Clinical findings revealed a young woman who was afebrile (temperature 37.2°C). She was mildly pale and had no leg oedema. Abdominal examination revealed

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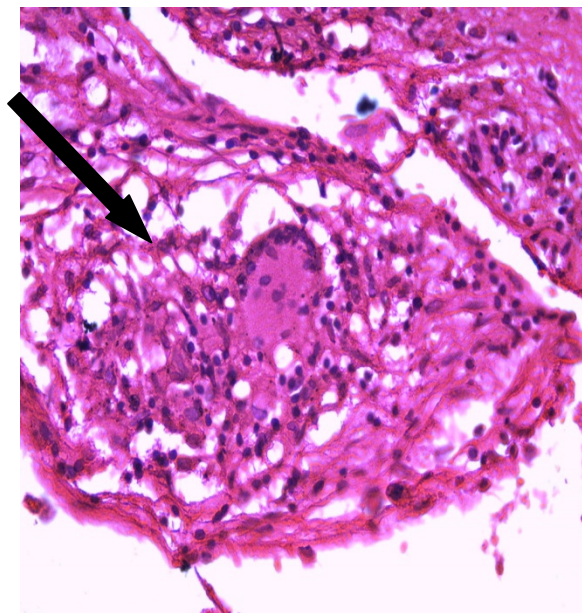


Figure 1.

Figure 1. Arrow shows typical Langhans giant cell (x 40).

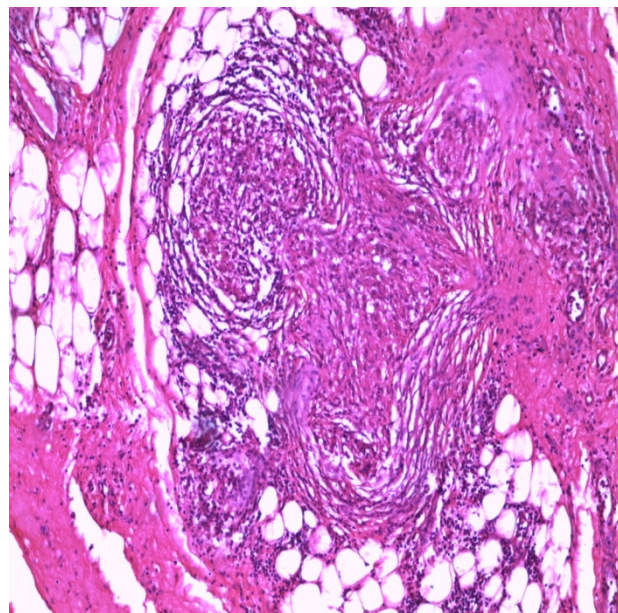


Figure 2.

Figure 2. Shows typical granuloma comprising of lymphocytes and epithelioid cells (x 10)

mildly distended abdomen, with hepatosplenomegally, mild ascites demonstrable by shifting dullness and an epigastric hernia which was reducible. Other systems were essentially normal.

Investigation results showed haemoglobin of 10g/dl, white blood cell count of $7.2 \times 10^9/L$, neutrophil of 68%, lymphocytes of 30% and eosinophil of 2%. Erythrocyte sedimentation rate was 90mm in the first hour. HIV result was negative while Mantoux test was 60mm in indurations. Abdominal ultrasound scan revealed free fluid in the peritoneal cavity; ZN stain for acid-fast bacilli on the ascitic fluid was negative.

She was referred to the general surgical unit for herniorrhaphy. During the surgery multiple fragments of soft tissue masses were seen and biopsy was taken and sent for histology. The histology report showed granulomas composed of Langhans giant cells, epithelioid macrophages, moderate lymphocytic inflammatory cells with no evidence of malignancy (figures 1 and 2 above).

A decision was made to commence anti-tuberculous chemotherapy. She was started on the combination therapy of Rifampicin, Isoniazid, ethambutol and pyrazinamide in standard doses during intensive phase of two months; then Rifampicin and Isoniazid for continuation phase of ten months. She has completed her treatment; all the symptoms have subsided and she has remained in a stable clinical state.

DISCUSSION

Gastrointestinal TB is common in the developing world and less common in the developed nations (Longo et al., 2012; Bouma et al., 1997). The pathogenic mechanisms include swallowing of sputum with direct seeding, hematogenous spread or ingestion of milk affected by bovine tuberculosis which is common in the developing world (Longo et al., 2012). The terminal ileum and the caecum are parts more commonly involved, but any part of the gastrointestinal tract may be affected. The common presenting features are abdominal pain, swelling, intestinal obstruction; hematochezia and a palpable mass are the common findings. Common presenting symptoms include fever, weight loss, anorexia and night sweats (Longo et al., 2012).

Tuberculous peritonitis follows either the direct spread of the TB bacilli from ruptured lymph nodes and intra-abdominal organs or hematogenous seeding (Longo et al., 2012; Bouma et al., 1997).

Abdominal TB is subdivided into intestinal tuberculosis and TB peritonitis and they occur in about the same frequency 49 and 43% respectively and TB lymphadenitis which is rare about 8% (Bouma et al., 1997).

Differential diagnoses of abdominal TB include malignancy, lymphomas, fungal infections, Crohn's disease, ulcerative colitis, appendicitis, intestinal

parasites and many more (Longo et al., 2012; Scully et al., 1991).

The symptoms of abdominal TB are unspecific. Abdominal pain and weight loss are predominant (62-85%); fever is less frequent (50-75%). Diarrhea is infrequent (20%). Mortality varies from 6-38%. Ninety seven percent of patients with TB peritonitis almost always present with ascites (Bouma et al., 1997; Marshall et al., 1993; Rosengart et al., 1990).

The clue to early and accurate diagnosis in abdominal TB is to have a high index of suspicion. The diagnostic process must be goal oriented. In patients with intestinal TB an ultra sound- guided puncture or a biopsy during an endoscopy is the procedure with highest yield (Bouma et al., 1997; Marshall et al., 1990). Colonoscopy with biopsy reveals acid-fast bacilli or granulomas in 30-69% of patients (Bouma et al., 1997; Marshall et al., 1990). In patients with TB peritonitis laparoscopy reveals peritoneal and mesenteric grains in 85-95%. Biopsies will show acid-fast bacilli or caseous granulomas (Bouma et al., 1997; Marshall et al., 1990).

Polymerase chain reaction (PCR) of aspirated fluid is important for early confirmation of tuberculosis and discriminating mycobacterium tuberculosis complex from mycobacterium avium in HIV patients (Longo et al., 2012).

For radiological diagnosis of abdominal TB ultra sound and CT scan are preferred. Ultra sound guided biopsy of the mesentery, omentum and peritoneum are effective in diagnosing TB peritonitis (Ha et al 1996., Dirmakazik et al., 1996). A CT scan finding of multiple pelvic, adrenal, splenic and hepatic lesions and ascites are a good pointer to TB as top differential diagnosis (Ha et al., 1996; Dirmakazik et al., 1996). Localized ascites with thin septa and thickening of mesentery, omentum, and peritoneum are strong characteristic sign of TB peritonitis. When these signs are present a less invasive ultra sound guided puncture can replace diagnostic laparoscopy or laparotomy (Ha et al., 1996; Dirmakazik et al., 1996). Our patient had an epigastric hernia, and therefore a decision to do laparotomy was taken. Suspicious lesions were harvested and sent for histology which was suggestive of tuberculosis as a cause of chronic abdominal pain and swelling. ZN stain of ascetic fluid was negative in our patient and this is in line with literature report as the yield ranges between 3-29% in some series (Longo et al, 2012., Bouma et al., 1997).

CONCLUSION

We summarize by saying that abdominal TB is an insidious disease with unspecific clinical features and therefore mimics any abdominal condition. The diagnosis is often made in the late stage of the disease with attendant poor prognosis. Once abdominal TB is considered, a goal oriented diagnostic procedure is indicated and must be pursued vigorously. Early treatment will prevent complications and directly observed therapy (DOT) is highly recommended as it guarantees good treatment outcome.

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