

Tuberculosis Presenting As Abdominal Wall Abscess in an Immunocompetent Adult

Prachi Srivastava, Nikhil Gupta, Vivek Mishra, S P Misra, Manisha Dwivedi

¹Department of Radiology, ²Department of Gastroenterology,
Motilal Nehru Medical College, Prayagraj, India

Corresponding Author: Prachi Srivastava

ABSTRACT

The purpose of this case report is to highlight the unusual presentation of tuberculosis in atypical anatomic location even in an immunocompetent adult. We report a case of 31 year old male who presented with a painless lump over the anterior abdominal wall for the last one and a half months with low grade fever and malaise. Ultrasonography(USG) and Contrast enhanced CT of abdomen showed two thick walled well defined collections with internal debris and rim enhancement, lying in muscular layer of anterior abdominal wall and omentum. The differentials were pyogenic/tubercular abscesses, multiple infected hydatid cysts, necrotic tumor/ metastases. USG guided Fine needle aspiration cytology revealed acid fast bacilli consistent with tuberculosis. The sample was then sent for tb expert MTB/RIF and mycobacterium tuberculosis was detected with rifampicin sensitivity. Patient responded favorably to anti tubercular drug treatment and antigravity USG guided needle aspiration. So, it is very important to keep the differential of tuberculosis in mind and likewise guide the treatment, even if the lesion is present in an unusual location as the sole manifestation, especially in endemic regions.

Keywords: abdominal wall abscess, tuberculosis

INTRODUCTION

Varied manifestations of tuberculosis (TB) are seen, especially in developing countries, depending on the virulence of the Mycobacterium and the host immune status. One such unusual presentation is that of tuberculosis presenting as anterior abdominal mass in an immunocompetent patient. Musculoskeletal

tuberculosis occurs in 1-3% of patients with TB, [1,2] while only few cases of TB of anterior abdominal wall have been reported so far in literature. Autopsy studies have shown abdominal wall involvement in less than 1% of patients who died of tuberculosis. [3] Tubercular involvement of muscle can result from direct inoculation from caseous lymph nodes or hematogenous dissemination from a primary focus. [4]

CASE HISTORY

A 31 year old male presented to outpatient department of gastroenterology with a painless gradually increasing swelling over anterior abdominal wall for the last 1.5 months. He also complained of a low grade on and off fever and malaise. No previous history of tuberculosis was present.

Physical examination revealed a non-tender swelling (6cm X 7 cm) on the anterior abdominal wall to the left of midline which extended from the level of umbilicus inferiorly and was present in hypogastric region and left iliac fossa. The swelling was firm in consistency and failed to disappear while making the anterior abdominal wall muscles taut. Another firm non tender lump was felt on palpation in the left hypochondrium approx. (6 cm X 5 cm) which was previously unnoticed by the patient. There was no associated lymphadenopathy and systemic examination was normal.

Chest radiograph appeared normal. Routine blood investigations were done which showed microcytic hypochromic

anemia. Liver function and renal function tests were within normal limits. Human Immunodeficiency virus (HIV) test was also negative. Haemagglutinin testing for echinococcosis was negative. The patient was sent for ultrasonography (USG) as the primary imaging modality. On USG examination a 63x40x70mm (volume 94cc) well defined, oval shaped, thick walled, heterogeneous echogenicity lesion with both solid and cystic components was seen in the anterior abdominal wall in hypogastric and left iliac fossa region. A part of the lesion was present in the rectus abdominis muscle and was protruding into underlying omentum. Few internal thick septae and mobile echoes were seen within the lesion. Color Doppler did not reveal any significant vascularity within the lesion (**Figure 1**:USG image showing a well-defined, oval shaped, thick walled, heterogeneous echogenicity lesion with both solid and cystic components in the anterior abdominal wall. Few internal thick septae and echogenic debris are seen within the lesion. The lesion was present in hypogastric and left iliac fossa region.). Another similar lesion measuring 61x44x57 mm (volume 81cc) was seen in the left hypochondrium just inferior to spleen. It was closely abutting the abdominal wall and was present in the omentum. Its contents were mostly liquefied (**Figure 2**: USG image showing another well defined, thick walled, collection with mostly liquefied contents. The lesion was present in left hypochondrium). No other significant abnormality was seen on USG examination.

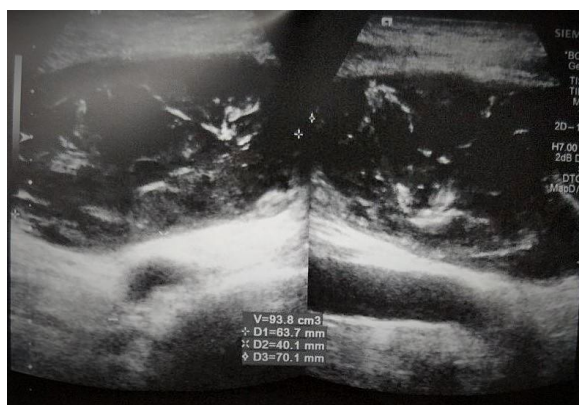


Figure 1



Figure 2



Figure 3



Figure 4



Figure 5

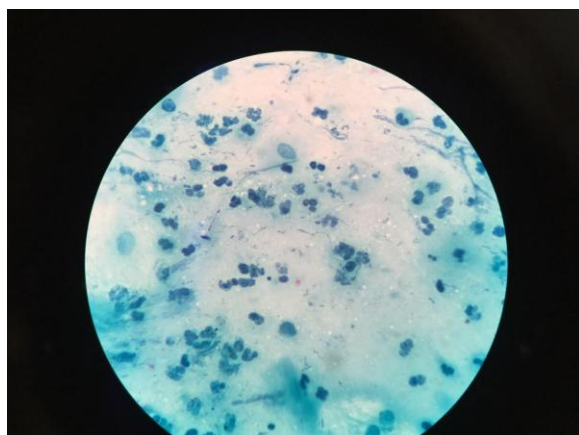


Figure 6

Patient was then sent for Contrast enhanced CT scan of abdomen. It showed two thick walled peripherally enhancing lesions 1. in the left sided rectus abdominis muscle extending to omentum (**Figure 3, 4**: CECT scan of abdomen, axial scan, showing a well-defined thick walled peripherally enhancing collection in the left sided rectus abdominis muscle extending to omentum) and 2. in the omentum in left hypochondrium adjacent to spleen (**Figure 5** : CECT scan of abdomen, axial scan, showing another well-defined thick walled collection in the omentum in left hypochondriac region adjacent to spleen). No other significant abnormality was noted. The differential diagnosis of multiple hydatid cysts of the anterior abdominal wall was ruled out by negative indirect haemagglutinin test. USG guided Fine needle aspiration cytology was carried out which revealed acid fast bacilli consistent with tuberculosis (**Figure 6**: Microscopic picture of the sample sent for histopathological examination showing acid fast bacillus). The sample was sent for TB expert MTB/RIF and mycobacterium tuberculosis was detected with rifampicin sensitivity.

Thus the patient was diagnosed to have multiple tubercular cold abscess of anterior abdominal wall. Patient responded favorably to anti tubercular drug treatment and anti gravity USG guided needle aspiration.

DISCUSSION

The burden of tuberculosis is high in developing countries and with the emergence of Acquired Immunodeficiency Syndrome; its incidence is also increasing in developed nations. India has the highest TB burden and accounts for 2.79 million cases of the 10.4 million cases recorded globally. [5] Although it is primarily a disease of lungs but recently the incidence of extrapulmonary tuberculosis (EPTB) has been rising. EPTB has become a major health problem globally and the prevalence of disease in India has been reported in up to 30% to 53% cases by some tertiary care centres, while the percentage estimated by the national control program in immunocompetent adults in India is between 15% and 20%. [6,7] The most common extrapulmonary site was reported to be pleura followed by lymph nodes, musculoskeletal, genitourinary, abdominal and central nervous system. [7]

The affection of striated muscles is relatively uncommon because of high lactic acid content, lack of reticuloendothelial cells and lymphatic tissue, abundant blood supply and highly differentiated state of muscle tissue. [8,9]

The involvement of abdominal wall muscles can occur by two routes. First and most common is by contiguous spread from neighbouring structures like lymph nodes, underlying costochondral junction or ribs. [10] Secondly the route is hematogenous.

In this case the patient had an abscess in left sided rectus abdominis muscle and an adjacent omental abscess. No other significant lymphadenopathy or bone or joint involvement was present. No other active primary site of infection was present at the time of scan.

USG and CECT abdomen revealed thick walled peripherally enhancing lesions in the abdominal wall and in the omentum with thick internal contents which were suggestive of abscess; a second differential of multiple hydatid cysts was kept which was ruled out by negative serum haemagglutinin test. The differential of

necrotic omental mass of neoplastic etiology was ruled out on imaging as there was no internal vascularity within the lesion. The diagnosis was proven by USG guided aspiration, cytological analysis and mycobacterial culture.

The treatment in such cases is by anti tubercular drug treatment. Guided anti gravity drainage of the abscess can be done in cases of large abscess for symptomatic relief or if the patient is refractory to treatment.

In our case the patient showed treatment response after 4 weeks. There was significant reduction in contents by 4 weeks and complete resolution by 12 weeks of first line antitubercular drugs.

The patient was kept in follow up till the completion of therapy.

CONCLUSION

It is very important to keep the differential of tuberculosis in mind and likewise guide the treatment, even if the lesion is present in an unusual location as the sole manifestation, especially in Indian population where the overall burden of tuberculosis is very high.

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