

Isolated tubercular liver abscess in an elderly diabetic successfully treated with systemic antitubercular drugs

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Abstract

Tubercular liver abscess is a rare extrapulmonary manifestation of tuberculosis. We are presenting a case of isolated tubercular liver abscess in a 70 year old diabetic male without any evidence of tuberculosis in the lungs or

abdomen. Diagnosis was made on the basis of radiological findings along with PCR for Mycobacterium tuberculosis in pus aspirated from abscess under CT guidance. Systemic antitubercular drugs were given for 6 months. On follow up patient improved clinically with radiological evidence of resolution of abscess.

Keywords: Tubercular liver abscess, TLA.

Introduction

Tubercular liver abscess (TLA) is extremely rare form of extra-pulmonary tuberculosis.¹ Most of the cases described found to be associated with foci of infection either in lung and/or abdomen. An isolated or primary tubercular liver abscess with no evidence of tuberculosis elsewhere is even rarer. We recently came across TLA in a diabetic patient with no evidence of tuberculosis in the lungs or abdomen.

Case Report:

A 70-year-old male presented to the medical OPD with pain in the right upper quadrant and epigastrium associated with vomiting, intermittent fever with chills and rigors for the past 12 days. The onset was gradual with increasing weakness and deterioration of his general health. Patient had diabetes mellitus for 10 years and was on oral hypoglycemic agent with good control of blood sugar. There was no previous history of tuberculosis (TB) or contact with any patient with TB.

At the time of admission patient was febrile with pulse rate of 104/min, blood pressure 130/80 mmHg and respiratory rate of 18/min. There was no icterus, pallor or lymphadenopathy. Abdominal examination revealed palpable tender liver. There was no splenomegaly, ascites or any other palpable mass in his abdomen. Respiratory and cardiovascular system examinations were normal.

Chest X-ray showed no lesion suggestive of TB but revealed a right-sided sub diaphragmatic pathology as the right hemi-diaphragm was elevated. An ultrasonogram of the abdomen revealed a $5.6 \times 6.8 \times 8.8$ cm ill-defined, heterogeneous hypo-echoic lesion in the right lobe of the liver suggestive of an abscess. His liver was enlarged with a span

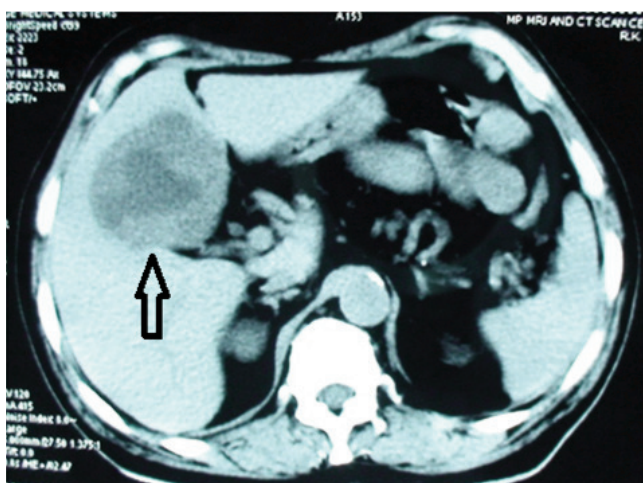


Figure-1: CT Scan abdomen showing hypodense lesion in the right lobe of liver before starting antitubercular Treatment (Arrow).



Figure-2: CT scan of abdomen showing focal fibrosis at the site of abscess after completion of antitubercular treatment (Arrow).

of 16.6 cm with no other focal lesion. No perihepatic or pleural effusion was seen. All other abdominal viscera appeared normal with no free fluid. Haematology investigation showed haemoglobin 10.4gm/dl; Total leucocytes count 8500/mm³; differential leucocytes counts (DLC): polymorphs 60%, lymphocytes 35%, monocytes 04%, eosinophils 01%. Platelet count was 2.7 00,000/mm³, erythrocyte sedimentation rate (ESR) was 64 mm at the end of the first hour; random blood sugar was 106mg/dl. His liver function test and Renal Function Test were within normal limits. Routine and microscopic examination of Stool revealed no cyst or ova. He was HIV nonreactive.

Blood for amoebic serology was negative. Patient was started on parenteral metronidazole, cephalosporin and aminoglycoside with the provisional diagnosis of amoebic or pyogenic liver abscess. Patient's condition did not improve; so a CT scan abdomen along with CT guided drainage of pus was done. CT scan abdomen showed a partially organized hypodense lesion measuring 71x63 mm in size in the right lobe of liver without any evidence of abdominal tuberculosis (Figure-1).

50 ml of pus was aspirated under CT guidance and was sent for microbiological investigations. Gram stain, stains for AFB and fungus were negative, no amoebic cyst or ova were seen. The sample was positive on PCR for Mycobacterium tuberculosis and diagnosis of tubercular liver abscess was made. Four first line systemic antitubercular drugs (isoniazid, rifampicin, pyrazinamide and ethambutol) were started and continued for 6 months. During course of antitubercular drugs strict glycaemic control was maintained. Patient improvement with regression in the size of the abscess was seen on follow up ultrasound. After the completion of the course of antitubercular drugs, CT scan of abdomen was repeated which

revealed focal fibrosis at the site of old abscess (Figure-2).

Discussion

Hepatic tuberculosis is an uncommon form of extrapulmonary tuberculosis which is reported in 10 to 15% patients having pulmonary tuberculosis. It is a common finding in patients with disseminated tuberculosis.¹ In a series of 76 patients with abdominal tuberculosis 7 patients were found to be suffering from hepatic tuberculosis.² Tubercular liver abscess is a rare entity with a prevalence of 0.34% in patients having hepatic tuberculosis as reported in patients aged between 6 months to 72 years with an average age of 39.2 years.³ Isolated tubercular liver abscess without involvement of lung, gastrointestinal tract abdomen is reported in only few case reports.^{4,5,8}

Tubercular liver abscess is usually secondary to tuberculosis of lung or gastrointestinal tract, where these bacilli reach liver by haematogenous spread. High grade fever, right upper quadrant pain and hepatomegaly are the most frequently observed clinical findings, while jaundice is uncommon.^{1,4,5,8-10} Tubercular liver abscess is frequently confused with amoebic liver abscess, pyogenic liver abscess and hepatoma.⁵

On ultrasonography it appears as a hypoechoic mass lesion in the liver. CT scan usually reveals a hypodense lesion which shows peripheral enhancement with central non-enhancing necrotic area.^{6,7} Definitive diagnosis needs demonstration of tubercular bacilli in aspirated pus or in liver biopsy stained for AFB, Culture or PCR for mycobacterium tuberculosis.⁸

Anti tuberculosis drugs alone or in combination with percutaneous aspiration under ultrasound or CT guidance is the preferred therapeutic option with good prognosis.^{1,7} Failure in percutaneous aspiration is the indication for open surgical drainage of the abscess under ATT cover.⁵ Local infusion of antitubercular drugs by a percutaneously placed catheter in abscess cavity has also been advocated with good results when response to

systemic antitubercular drugs is insufficient.¹⁰

Isolated tubercular liver abscess although very rare should be kept in differential diagnosis of pyemic or amoebic liver abscess. Radiological findings are nonspecific and diagnosis should be confirmed by demonstration of tubercular bacilli by AFB stain, culture or PCR. Although large abscesses may need surgical exploration, small abscesses can be managed conservatively using systemic antitubercular drugs. Our case was successfully treated with four first line antitubercular drugs and strict glycaemic control with CT evidence of resolution of abscess after completion of the course of antitubercular drugs.

Conclusion

Although rare but the possibility of tubercular liver abscess should be kept in the mind in the differential diagnosis of liver abscesses as it can be one possibility in non resolving liver abscesses and easily manageable if timely diagnosed and treated.

References

1. Dhar MC, Chaudhuri S, Pain S, Sau TJ, Mitra K. Right sided pleural effusion and liver abscess of tuberculous origin. *Indian J Tuberc* 2001; 48: 219-21.
2. Desai CS, Joshi AG, Abraham P, Desai DC, Deshpande RB, Bhaduri A, et al. Hepatic tuberculosis in absence of disseminated abdominal tuberculosis. *Ann Hepatol* 2006; 5: 41-3.
3. Essop AR, Segal I, Posen J, Noormohamed N. Tuberculous abscess of the liver. *S Afr Med J* 1983; 63: 825-6.
4. Kansal AP, Chopra V, Singh H, Singh UP. Tubercular hepatic abscess - a rare presentation. *Indian J Tuberc* 2008; 55: 217-20.
5. Karim IMH, Ousadden A, Ankouze A, Mazar K, Taleb KA. Isolated liver tuberculosis abscess in a patient without immunodeficiency: A case report. *World J Hepatol* 2010; 2: 354-7.
6. Jain R, Sawhney S, Gupta RG, Acharya S. Sonographic appearances and percutaneous management of primary tuberculous liver abscess. *J Clin Ultrasound* 1998; 27: 157-63.
7. Hayashi M, Yamawaki I, Okajima K, Tomimatsu M, Ohkawa S. Tuberculous liver abscess not associated with lung involvement. *Intern Med* 2004; 43: 521-3.
8. Baveja CP, Gumma CP, Chaudhary M, Jha H. Primary tubercular liver abscess in an immunocompetent adult: a case report. *J Med Cas Rep* 2009; 3:78.
9. Mohanty D, Jain BK, Gupta A, Agrawal V. Chest wall abscess: an atypical presentation of isolated tuberculous liver abscess. *Acta Biomed* 2009; 80: 77-9.
10. Kubota H, Ageta M, Kubo H, Wada S, Nagamachi S, Yamanaka T. Tuberculous liver abscess treated by percutaneous infusion of antituberculous agents. *Intern Med* 1994; 33: 351-6.