

# ISOLATED LIVER TUBERCULOSIS PRESENTING AS HYDATID CYST DISEASE (CASE REPORT)

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## ABSTRACT

A young male presented with fever and right hypochondrium pain lasting for 1 week. He was tender in the right hypochondrium. Rest of the examination was insignificant. He had a raised ESR of 70mm/1st hour. His abdominal ultrasound revealed a hypodense lesion in caudate lobe of liver. A Computed tomography scan of the abdomen showed a cystic lesion in caudate lobe of liver suggestive of hydatid cyst. Since echinococcal serology and history of contact with cattle and dogs were negative, he was shifted to surgical unit, where the cyst was excised and sent for histopathology. The biopsy report showed granulomata consisting of epithelioid cells, admixed with lymphoid cells. Langerhan giant cells were seen associated with caseous necrosis suggestive of chronic granulomatous inflammatory process most consistent with tuberculosis. Ziehl Neelsen staining was positive for acid fast bacilli. Isolated Liver Tuberculosis (ILT) is a rare form of tuberculosis. We hereby report a case of ILT that presented with features mimicking hydatid cyst disease.

**Key Words:** Hypochondrium; Hydatid cyst; Isolated liver Tuberculosis.

## INTRODUCTION

Tuberculosis (TB) is primarily a lung disease but it can affect several other organs as bone, brain, liver, and intestine<sup>1</sup>. Liver involvement in TB is not uncommon but isolated liver TB (ILT) is the rarest form of hepatic tuberculosis<sup>2</sup>. Levine classified liver involvement with TB in three forms<sup>3</sup>: Diffuse hepatic involvement with severe pulmonary and extra pulmonary TB. It is the most common form and is seen in upto 80% of patients dying of TB. Second form is diffuse involvement of liver by tubercle bacilli but with no manifestations of pulmonary or extra pulmonary TB. The third and rarest form is isolated liver tuberculosis in which only a part of liver is involved and rest of the liver is spared. There is neither pulmonary nor extra pulmonary TB. According to a case report published in the Turkish Journal of Gastroenterology, only 25 cases have been reported in world nomenclature with ILT<sup>4</sup>. We hereby report a case of ILT that presented as hydatid cyst disease.

## CASE REPORT

A 17 year old male patient from Bajaur agency presented to us with complaints of fever and pain in the right hypochondrium for 1 week. The fever was high grade and continuous in nature. It was relieved only after

taking antipyretics. The abdominal pain was sudden in onset and severe in nature, not radiating anywhere nor associated with nausea, vomiting, diarrhea, dysentery or jaundice. His bowel habits were normal and there was no history of weight loss. Past and family histories were not significant. Examination revealed a blood pressure of 120/70mmHg, pulse rate of 100/min, respiratory rate = 18/min and temp. = 102°F. Abdominal examination revealed tenderness in the right hypochondrium but no visceromegaly. Rest of the systemic examination was unremarkable. Investigations documented a hemoglobin = 11.2g/dl, Total Leucocyte Count (TLC) = 19,000/cmm, ESR = 70mm/1st hour, Urea = 34mg/dl, Serum creatinine = 0.8mg/dl, Alkaline phosphatase = 417iu/l, serum bilirubin = 0.8mg/dl, ALT = 43iu/l, Na<sup>+</sup> = 139mmol/l, K<sup>+</sup> = 4.3mmol/l, Cl<sup>-</sup> = 99mmol/l. Hepatitis B and C serology were negative. The chest X-ray and ECG were normal. His ultrasound abdomen showed a 6cm hypodense lesion in caudate lobe of liver with a few enlarged lymph nodes around porta hepatis. Alpha fetoprotein levels were within normal range. In context of the ultrasound abdomen a Computed tomography scan of the abdomen was carried out which showed a mild septated cystic lesion in caudate lobe of liver suggestive of hydatid cyst (Figure 1). However clinically there had been no history of contact with cattle and dogs. Echinococcal serology was also negative. Moreover the lesion margins were not typical of hydatid cyst, so the case was discussed with surgical colleagues and they advised cyst excision with biopsy to confirm the

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lesion. The patient was therefore shifted to surgical unit, where the cyst was excised and sent for histopathology. The biopsy report showed collection of granulomata consisting of epithelioid cells (histiocytes), admixed with lymphoid cells and plasma cells. Also langerhan giant cells were seen associated with caseous necrosis suggestive of chronic granulomatous inflammatory process most consistent with tuberculosis. Ziehl Neelsen staining was positive for acid fast bacilli. Gram staining was negative.

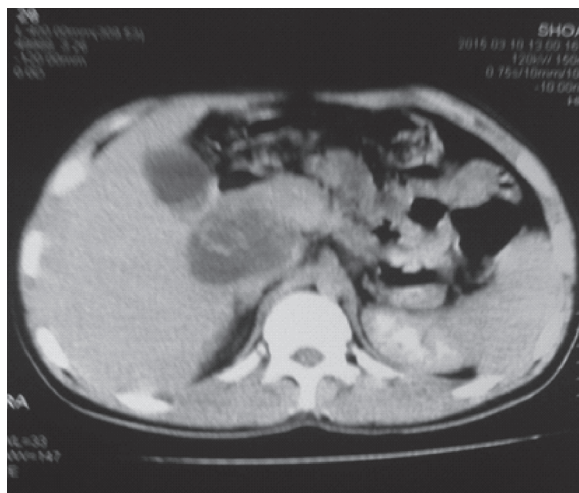


Figure 1: CT scan of the patient showing septated cystic lesion

## DISCUSSION

Hepatic involvement by tuberculosis in the absence of other organ involvement is very rare. It is suggested that tubercle bacilli reach the liver from small foci in the intestine through the portal vein<sup>5</sup>. This theory is supported by the fact that tubercle granulomata are found mainly around the porta hepatis and portal vein in contrast to diffuse liver involvement in miliary TB where bacilli reach liver through the blood stream<sup>5</sup>.

Clinical presentation of the disease is highly variable and is usually a diagnostic challenge for the treating physician. However in order of frequency most patients present with fever (70%), weight loss (65%), abdominal pain (60%), hepatomegaly (65%), and bowel disturbances<sup>6</sup>. Hepatomegaly occurs in 96% of the patients with ILT, while splenomegaly is less common and seen only in upto 20% of the patients<sup>7</sup>. Our patient demonstrated neither hepatomegaly nor splenomegaly.

Usually patients with ILT are asymptomatic and incidentally diagnosed but some of these patients may present with an acute onset of high grade fever and

severe abdominal pain; this suggests an abscess formation in the granuloma and is called tuberculous liver abscess<sup>8</sup>. Since our patient also had high grade fever and abdominal pain, it can be inferred that a tuberculous abscess was in transformation in his liver.

Lesion of ILT may be seen on ultrasound as well as computed tomography, but ultimate confirmatory investigation is biopsy<sup>9</sup>. Polymerase chain reaction (PCR) is nowadays considered the best investigation to reach the diagnosis<sup>10</sup>. It has a specificity of 100% and sensitivity of 95%. The condition is best treated with surgical intervention followed by anti-tuberculous therapy just like any other TB with the 4 drug regimen (rifampicin, isoniazid, pyrazinamide, ethambutol) for first 2 months, followed by 2 drug regimen (rifampicin, isoniazid) for next 7 months<sup>11</sup>. ILT has been seen to present as a space-occupying lesion giving suspicion of primary malignancy, metastatic lesion or lymphoma<sup>12</sup>. In our case the patient presented with a cystic lesion in the liver giving suspicion of hydatid cyst. ILT should therefore be included in the differential diagnoses of cystic diseases of the liver.

## CONCLUSION

ILT is not a very uncommon entity and may have varied presentations. It should therefore be included in the differential diagnoses of isolated liver masses and cystic diseases.

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### **AUTHOR'S CONTRIBUTION**

Following authors have made substantial contributions to the manuscript as under:

**Badshah A:** Typing and discussion writing.

**Haider I:** Case presentation.

**Humaum A:** Main idea.

**Gul R:** Bibliography.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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