

HEPATIC TUBERCULOSIS: A REPORT OF TWO CASES**Hashim S Khayat[@] & Mohammed H Saeed^{*}**[@]FRCS(Edin.), Consultant Surgeon, Head of Surgical Dept., Basrah General Hospital. ^{*}Senior House Officer in General Surgery, Basrah General Hospital, Basrah, Iraq.**Abstract**

During the second half of the 20th century, as a result of improved nutrition, reduced crowding, public health measures, and effective chemotherapy, a dramatic decrease in the incidence of tuberculosis was seen in the world. But in recent years, increased incidence of tuberculosis has been attributed to several causes, including AIDS epidemic, intravenous drug abuse and increase in the number of immunocompromised. Hepatic tuberculosis is the most common manifestation of upper abdominal parenchymatous organ tuberculosis and its incidence has been increasing. Lack of familiarity with this condition was apparently responsible for the diagnosis of hepatic tuberculosis being made at autopsy or surgery in the past. Since tuberculosis remains a potentially curable disease, an awareness of its protean manifestations is essential.

Case Report (1)**Case presentation**

Twenty five years old male presented with upper abdominal pain predominantly to the right side for two months duration, vague in character.

This pain was associated with:-

- Fever of intermittent pattern.
- Night sweat.
- Poor appetite.
- Normal bowel motions, normal stool and urine color.

Past, family and drug history were not significant.

The patient lives in a rural area, usually in contact with animals.

On examination :-

- * Looks ill with thin built.
- * Raised body temperature and pulse rate at night, while other vital signs were normal.
- * Chest examination shows harsh vesicular breath sounds and normal double rhythm.
- * Abdominal examination shows deep right hypochondrium tenderness.

Work – Up Study:-

- Hemoglobin = 11 g/l.
 - White Blood Cell = 9000 cell/cmm.
 - Random Blood Sugar, Blood Urea, Serum Creatinine were normal.
 - Liver and Renal function tests were normal.
 - Total Serum Protein with its fractionations were normal.
 - Erythrocyte Sedimentation Rate = 30 mm/hr.
 - Abdominal Ultra Sound: Complex multiloculated cyst in the anterior-superior surface of the liver in segment(8), measured as 5×7 cm.
- mild hepatomegaly.
- Other findings were normal.

According to these findings we approached the patient as follow:-

- Admission to hospital.
- Observation specially fever pattern.
- Broad spectrum antibiotic instituted as; Cefotaxime 1 gm IV 8 hourly.
- Prepare one unit fresh blood.

- Prepare the patient for surgery.
- Kept differentials as liver abscess or infected hydatid.

Exploration was done as follow :-

- Right subcostal incision.
- Single liver cystic lesion with necrosis, red – brownish necrotic material evacuated from the cyst.
- Presence of multiple small sized nodules over the superior surface of the liver.
- Specimens were taken for histopathological exam.
- Two drains left and closure in layers.

Postoperative notes:-

- Antibiotic treatment as Cefotaxime 1 gm intravenously 8 hourly and Metronidazole 500 mg intravenously 8 hourly.
- Intravenous fluid .
- Drains were dry and removed at 4th postoperative day.
- Night sweat and fever persist.
- Histopathological result was tuberculus abscess.
- Patient was discharged well at 7th post operative day after arrangement of referral to tuberculosis centre.

Case Report (2)

Case presentation:-

Thirty five years old female presented with upper abdominal pain for two months duration associated with anorexia, vomiting and weight loss. No fever has mentioned in the history.

Past, family and drug history were not significant.

The patient lives in urban area.

On examination:-

- * Looks pale with thin built.
- * Normal vital signs.

Work – Up Study:-

- Hemoglobin = 9.6 g/l.
- White Blood Cell = 6000 cell/cmm.

- Erythrocyte Sedimentation Rate= 100 mm/hr.

- Abdominal Ultra Sound: Complex mass (5.5×6.5×9 cm) in the anterior surface of the left lobe of the liver.

- CT scan abdomen with contrast: Large hypodense mass in the left lobe of the liver.

- No enhancement after contrast.

Exploration was done as follow:-

- * Upper midline abdominal incision.
- * Big left lobe abscess of thick pus with slough.

- * Multiple biopsies were taken.

- * Cavity packed with omentum.

- * Drains left and closure in layers.

Postoperative notes:-

- Antibiotic treatment as Cefotaxime 1 gm intravenously 8 hourly and Metronidazole of 500 mg intravenously 8 hourly.

- Intravenous fluid.

- Histopathological result was tuberculus abscess.

- Patient received anti-tuberculus drugs for 9 months and she was doing fine since then.

Discussion

Hepatic tuberculosis is usually associated with active pulmonary or military tuberculosis, but rarely localizes as a liver tumor mass. Tubercle bacilli reach the liver by way of hematogenous dissemination: *the portal of entry in the case of miliary tuberculosis is through the hepatic artery, whereas, in the case of focal liver tuberculosis it is via portal vein.* Irrespective of the mode of entry, the liver responds by granuloma formation. Both caseating and noncaseating granulomas are seen. In focal tuberculosis, various granulomas may coalesce to form a large tumor-like tuberculoma. A tuberculoma that has undergone extensive caseation and liquefaction necrosis forms a tuberculus abscess.

The nomenclature of hepatic tuberculosis is confusing. Multiple terms like Tubercular hepatitis, Local tuberculosis, Secondary tuberculosis, isolated tuberculosis, and atypical tuberculosis, have been used by various authors. Thus, local tuberculosis of the liver may either mean a lesion >2 mm diameter on gross examination or a selective involvement of the liver without clinically apparent disease of other organs. There is, therefore, a dire need for a uniformly acceptable classification and nomenclature.

Three forms of tuberculous liver involvement are described:-

1. *Diffuse involvement associated with miliary or pulmonary tuberculosis*
2. *Diffuse parenchymal involvement without any evidence of existing tuberculosis anywhere.*
3. *Focal or nodular lesion in the liver, which may be multiple or solitary and present as tuberculoma or abscess.*

Isolated hepatic tuberculosis is the rarest form of local hepatic tuberculosis and has mostly been reported from South Africa and the Philippines.

Bestowe was the first to describe tuberculous liver abscess in 1858.

Tuberculous liver abscess is usually secondary to primary pulmonary or gastrointestinal involvement. The tubercle bacilli gain access to the portal vein, from a microscopic or small tubercular focus in the bowel.

Subsequent healing at the site of entry leaves behind no trace of lesion whatsoever.

The clinical presentation of isolated liver tuberculosis is so rare and atypical. Tuberculous liver abscess is frequently confused with hepatoma, pyogenic liver abscess, and amoebic liver abscess and is to be considered as a differential diagnosis. Establishing the diagnosis is not easy, especially if there is no history of previous exposure to tuberculosis and the Mantoux test is

negative. Even a radiologist equipped with diagnostic modalities like ultrasound and computed tomography can miss the diagnosis.

High fever, weight loss, right hypochondriac pain and hepatomegaly are the most frequently observed clinical findings.

Ultimately, the diagnosis is confirmed by demonstrating an acid-fast mycobacterium in the aspirated pus or necrotic material. Acid fast bacillus[AFB] is most easily found in caseous necrosis. The absence of AFB should not detract from diagnosis, particularly in endemic areas of tuberculosis. Sometimes a histopathology examination or culture of the scrapings from the abscess wall may be required to be obtained by minilaparotomy to rapidly settle the diagnosis and expedite treatment. Recently, the Polymerase chain reaction has been used for the detection of *M. tuberculosis* DNA. Polymerase chain reaction, a useful diagnostic tool for hepatic tuberculosis, enables the rapid identification of *M. tuberculosis*.

Computed tomography and ultrasound-guided drainage has been found to be good for the successful drainage of tubercular abscess, although surgical drainage may occasionally be required. Since the prognosis remains excellent with appropriate anti-tubercular treatment, a high index of suspicion should always be kept while evaluating a space-occupying lesion within the liver.

Chemotherapy with standard anti-tuberculosis drugs remains the corner stone of treatment.

Cumulative mortality for hepatic tuberculosis ranges between 15% and 40%.

The factors associated with adverse prognosis are:

- Age < 20years.
- Miliary tuberculosis.
- Concurrent steroid therapy.

- AIDS.
- Cachexia.
- Associated cirrhosis and liver failure.

In summary, symptomatic hepatic tuberculosis is uncommon. The number of cases of hepatic tuberculosis is expected to rise on account of the AIDS epidemic.

Since clinical features are protean and mimic neoplastic and infective hepatic disorders, the diagnosis requires a high index of suspicion.

The presence of hepatomegaly with or without right upper quadrant pain in a patient with pyrexia of unknown origin should merit consideration of hepatic tuberculosis.

The demonstration of granulomas on liver biopsy remains the most sensitive diagnostic procedure, As for other forms of extra pulmonary tuberculosis, hepatic tuberculosis is a potentially curable disease. Good results have been obtained with four drug regimens without any added risk of hepatotoxicity in both immunosuppressed and immunocompetent patients.

Reference

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