

BRONCHOBILIARY FISTULA DUE TO HYDATID CYST OF THE LIVER

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SUMMARY

A patient with bronchobiliary fistula due to hydatid cyst of the liver is presented with the characteristic computerised tomographic and ultrasonographic findings.

Key words: Hydatid cyst, Liver, Bronchobiliary rupture

INTRODUCTION

Hydatid cyst is a common disease seen in many Mediterranean countries to which Turkey is included. The most common location of the hydatid cyst is the liver followed by the lung and spleen. While the cyst may be totally asymptomatic, complications mainly infection and intrabiliary rupture, are not common. Intrabiliary rupture is seen in about %10 of the patients with hydatid disease whereas bronchobiliary rupture is extremely uncommon. The choice of treatment for asymptomatic and complicated cysts is surgical for the time being (1,2).

In this paper a patient with hydatid cyst of the liver in whom bronchobiliary rupture was present clinically is presented. The rupture was also demonstrated with computerised tomography (CT) and ultrasonography (US).

CASE REPORT

A 69 year old Turkish woman was seen as an outpatient at Marmara University Hospital with a two month history of fever, cough, purulent sputum and a fifteen day history of hemoptysis. On the chest radiograph she was found to have an elevated right hemidiaphragm and a right lower lobe infiltrate. Liver was palpated 10 cm below costal margin at this time. The patient was given oral erythromycin initially and later I.V. Cefaperezon, because of progression in the right lower lobe infiltrate and consolidation. A right thoracentesis revealed crystal clear fluid which suggested echinococcal cyst. A day after thoracentesis purulent sputum of the patient changed in character to copious, thin, bile coloured expectoration and this suggested broncho-biliary fistula. At this time erythrocyte sedimentation rate was

102mm/h, leukocyte count 13.000 mm³, glucose 160mg/dl, normal liver function test and normal echinococcus latex agglutination.

The computerized tomographic examination of the thorax revealed a 10 cm. mass in the right lower lobe of the lung, which had a thick capsule and showed an air-fluid level. The air cavity of the mass could be followed into the right lower lobe main bronchus (Fig. 1).

Around the mass lesion, there were small, irregular opacities and the oblique fissure was seen thickened. The lower border of this mass was irregular and could not be distinctly differentiated from the diaphragm and the liver. The right lobe posterior segment of the liver was occupied by cystic, round, well marginated masses (Fig. 2). These masses in the liver were diagnosed as hydatid cyst and the mass in the right lower lobe of the lung was considered to be either an abscess or a complicated hydatid cyst.

To explore the relationship of these pathologies, ultrasonography was performed and confirmed the cystic masses in the liver (Fig. 3). Additionally a defect was seen in the middle of the right diaphragm and the cystic masses of the liver could be followed to move into the thorax with respiratory movements. Adjacent to these cystic masses the gallbladder was seen to be enlarged without any significant luminal echogenities and no luminal structure belonging to the common bile duct could be discerned.

These findings suggested the radiological diagnosis of hydatid disease of the liver with thoracic extension and complication resulting in a bronchial fistula. Laparotomy revealed a large cyst, fully occupying the right lobe of the liver with extension into the thoracic cavity through a 3 cm defect in the right diaphragm. The gallbladder was distended and the 2 cm wide common bile duct was full of daughter cysts. After evacuation of the bile stained cyst contents, tube drainage for both the thoracic and abdominal cysts was done after closing the defect in the diaphragm. Cholecystectomy and chledochooduodenostomy was also done to drain the common bile duct. The postoperative period was

uneventful except a wound infection.

DISCUSSION

Hydatid cysts are most commonly located in the liver (60%) followed by the lung (28%) (3). But it is not uncommon to find hydatid cysts in the liver and the lung simultaneously. In such a case it is important to decide whether these are separate cysts or are communicated.

Hydatid cysts begin as unilocular cysts. Trauma or communication with the biliary system causes the formation of daughter cysts and thus multilocular cysts are formed. Probably, bile plays an important role, because primary lung hydatid cysts are always

unilocular. As in our case, if the cyst in the lung is multilocular, it must be in relation with the hepatic cyst (3).

CT and US are very effective in the diagnosis and postoperative follow up of the patients with hydatid disease (4). In our case the multilocular nature of the hydatid cyst was demonstrated with CT and the communication through a defect in the right diaphragm was clearly shown with US. While the bile stained sputum with scolices makes the diagnosis of "bronchobiliary rupture of the hydatid cyst" quite easy, with CT and US it may be possible to demonstrate the communication of the cysts, before such a rupture occurs.

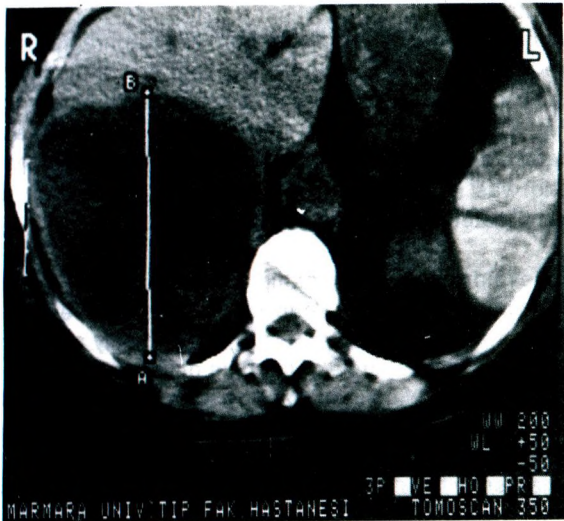


Fig. 1: CT shows a mass at the apical posterior segment of the right lower lobe of the lung which has an air-fluid level and communicates with the lower lobe bronchus (arrow)

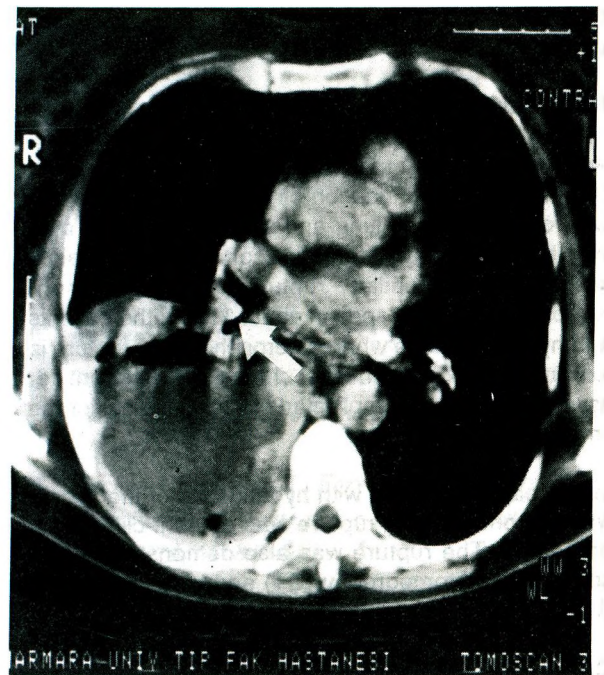


Fig. 2: CT shows a cystic round mass in the liver.

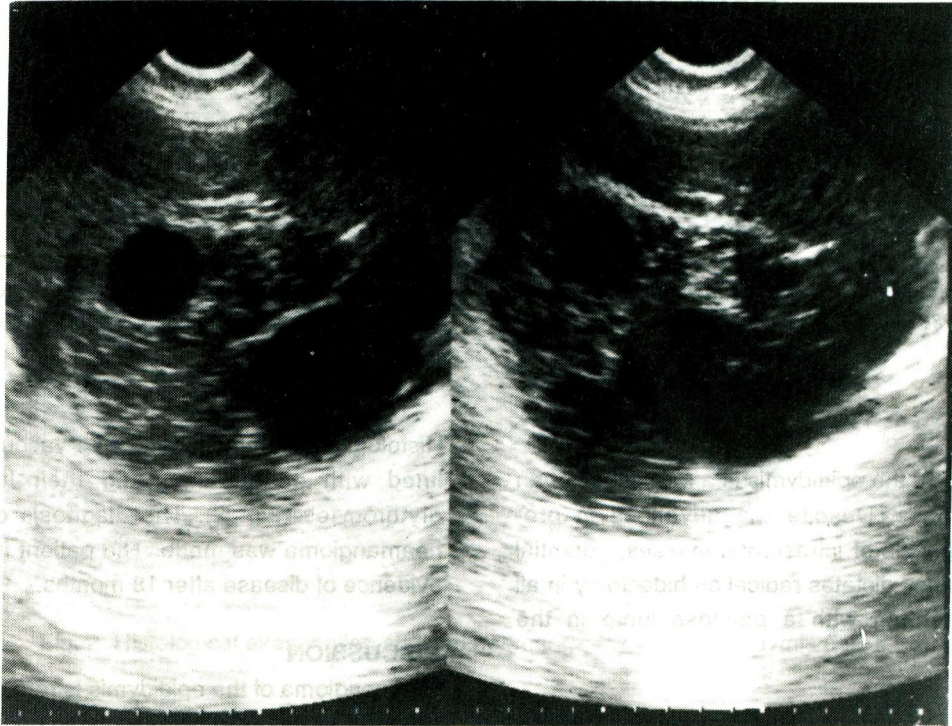


Fig. 3: Transverse ultrasound section of the right upper quadrant of the liver shows the multiple round cystic masses.

REFERENCES

- 1) Sayek I, Yalın R, Sanaç Y. Surgical treatment of hydatid disease of the liver. *Arch Surg* 1985; 115: 847-850.
- Alper A, Arioğul O, Emre A, Uras A, Ökten A.
- 2) Choledochoduodenostomy for intrabiliary rupture of hydatid cysts of the liver. *Br J Surg* 1987; 74: 243-245.
- 3) Saidi F. *Surgery of Hydatid Disease*. London: WB Saunders, 1976.
- 4) Yalın R, Aktan AÖ, Açıkgozöğlü S. Computed tomography and sonography of hydatid cysts of the liver after surgical management. *J of Med Imaging* 1989; 3: 301-305.