"HEPERECHOIC DOTS" AND "SMALL FAT DENSITIES" US AND CT SIGNS OF XANTHOGRANULOMATOUS CHOLECYSTITIS: A CASE REPORT

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ABSTRACT

We reported the US and CT signs of a case proved to be xanthogranulomatous cholecystitis. Even one case was found, but the imaging features were characteristic correlating with the histopathology. If the preoperative diagnosis or awareness of the disease could be made, the proper planning for treatment would be gained. The US showed mark thickening of the gallbladder wall containing multiple fix hyperechoic dots without shadowing. Increased vascularity was demonstrated by color doppler study. The CT shows a soft tissue mass at the gallbladder bed having multiple small fat densities, associated with small calcification or stone.

INTRODUCTION

Xanthogranulomatous cholecystitis (XGC) is a focal or diffuse destructive inflammatory process of the gall bladder[1]. It is an uncommon form of cholecystitis which is being recognized with increasing frequency[2]. XGC occasionally may be confused with a malignant process[3]. We report a case of XGC with suggestive findings that are found in sonography and computerized tomographic imaging.

CASE REPORT

A 39-year-old man presented with fever for 4 days and 2 times of diarrhea before admission. On physical examination only hepatomegaly was found.

Laboratory datas are listed as below :
CBC : WBC 7700 u/L
Neutrophiles 77%
Lymphocytes 23%
SGOT : 81 u/L
SGPT : 80 u/L
Alkaline phosphatase : 551 u/L
Alpha feto protein : 1.24
CEA : 2.9
HBs Ag : positive
Hemoculture : positive for Salmonella A

The laboratory findings were consistent with his diagnosis of salmonellosis A septicemia. The patient had a previous check up by ultrasound 3 months before admission showing a markedly thick walled gallbladder, with multiple fixed hyperechoic spots (Fig.1). A repeated ultrasound was

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performed using 3.5 MHZ sector probe. The findings revealed a low echoic mass at the gallbladder area, about 6x6 cm^2 in size, without visualized gallbladder lumen. The mass contained large amount of fixed hyperechoic dots without posterior shadowing. (Fig.2), as well as increased vascularity by color doppler study. (Fig.3) CT scan showed a soft tissue mass at the gallbladder fossa with multiple small areas of fat densities.(Fig.4A) A small calcification was seen at the mass adjacent to the pancreatic head.(Fig.4B)

The diagnosis of suspected gallbladder carcinoma was made . At operation, the gallbladder was found to have inflammed thick wall, with adhesion to the hepatic flexure of colon and the first part of duodenum. Extracholecystic stone was found 5 mm. in size, considered to have a previous perforation. The patient was undergone a total cholecystectomy. The pathological diagnosis turned out to be a chronic cholecystitis with xanthogranulomatous reaction. Microcscopic examination revealed fibrotic gallbladder and inflammatory cell infiltration of the wall. Deep penetration of the surface epithelium into the muscular layer forming sinuses in which inspissated bile was found. Many foam cells and chronic inflammatory cells were collected focally.

DISCUSSION

XGC is a rare condition[4-5] associated with chronic recurrent inflammation of the gallbladder due to gall stone[4]. It is characterized histopathologically by lipid-laden histiocytes and multinucleated giant cells infiltrating the gallbladder wall[5]. Increasing fibrosis is noted at a late stage[1]. It is a benign process but may mimic gall bladder malignancy according to the slow insidious onset and its appearance on imaging studies[3-10].

XGC was first described in 1970 by Christensen and Ishak[11-12] as "fibroxanthogranulomatous inflammation". Since then over 60 cases have been described under a variety of synonyms, including "ceroid or ceroid-like histiocyte granuloma of the gallbladder", and "biliary granuloma cholecystitis"[12]. But in the view of Goodman and Ishak[12-13], the best name for this condition is xanthogranulomatous cholecystitis as this emphasises its inflammatory nature and its conceptual similarity to the renal condition, xanthogranulomatous pyelonephritis[12].

Sonography of xanthogranulomatous cholecystitis characteristically appear as cholelithiasis and nodular or diffuse thickening of the gallbladder wall[3,12] which may misinterpleted as tumor or intramural abscess[14].

On computed tomographic imaging; irregular thickening of the gallbladder wall is the most common abnormality in addition to gall stone. However, a mass may be presented in the gallbladder fossa. No evidence of matastases or biliary dilatation will be seen[4].

Radiologically, XGC is extremely difficult to be differentiated from gallbladder cancer[3].

In our case, sonography showed an enlarged gallbladder with thick wall as others having described. There are multiple internal hyperechoic dots without posterior shadowing, these may represent lipid-laden component hislogically. Color doppler helps to confirm the presence of inflammation by demonstrating the increased vascularity. As well as CT scan revealed multiple small areas of fat densities in the thick gallbladder wall. We would like to present these US and CT signs to establish the diagnosis of xanthogranulomatous cholecystitis. Choecystectomy is the treatment of choice for the XGC. In case of severe inflammatory reaction and fibrosis within the gallbladder, a subtotal cholecystectomy is required because it is unsafe to do conventional cholecystectomy[7].

The complications of XGC are biliary fistula, perforated gallbladder with or without abscess formation[1,6], adhesion and high rate of postoperative infection[12].

The correct diagnosis of XGC is important for several reasons, the first and foremost is due to the high frequency of complications, but not the least is due to the condition may mimic preoperatively to the suspicious of malignancy[1].

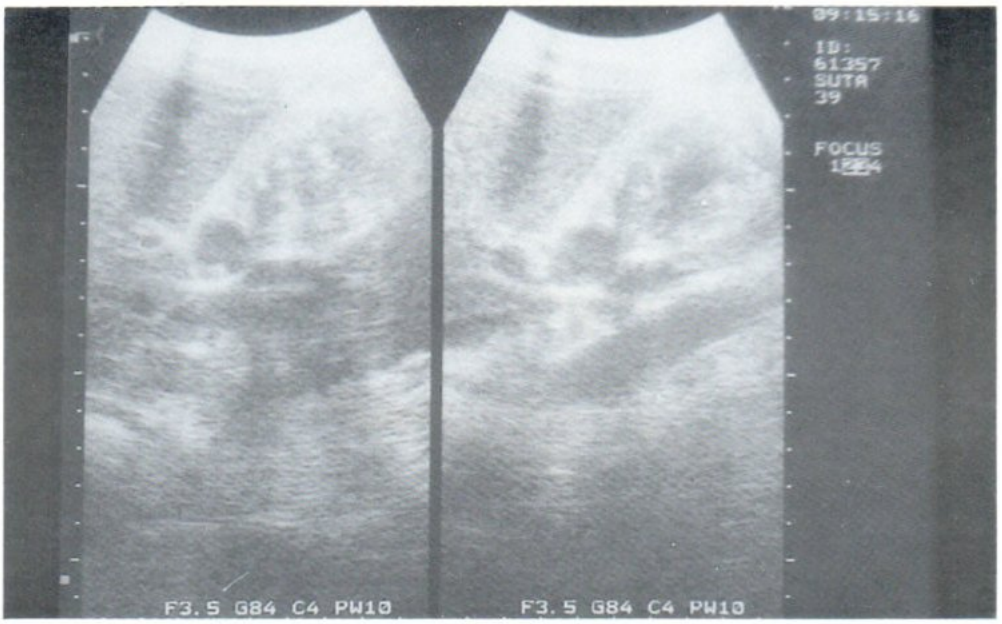

Fig. 1 US of gallbladder showing diffuse thickening of gallbladder wall with multiple fix hyperechoic dots.

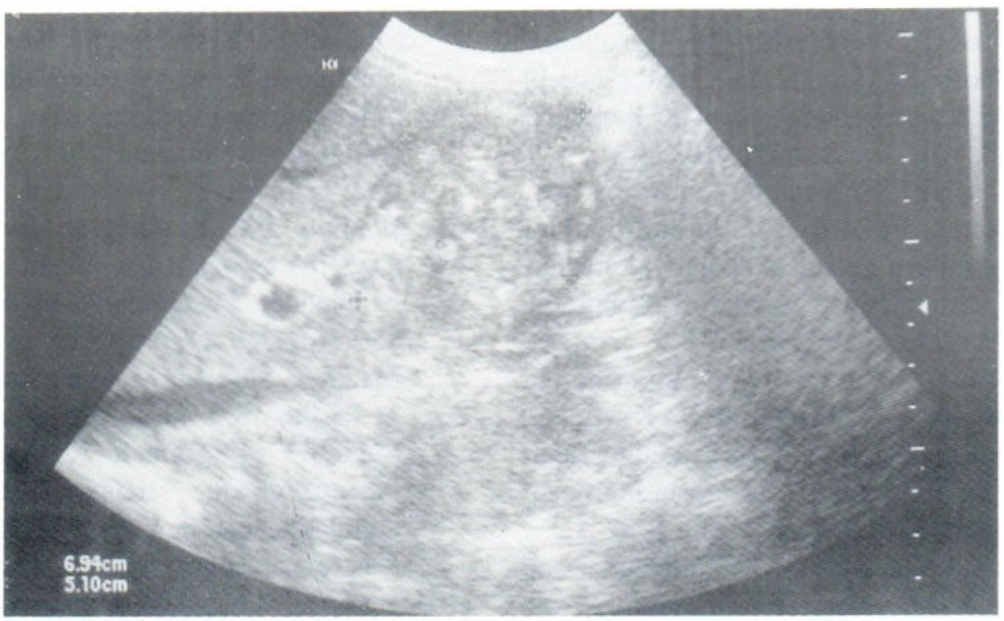

Fig. 2 Follow up US 3 months later showing progressive thickening of gallbladder wall with lumen obliteration, containing large amount of hyperechoic dots without posterior shadowing.

Fig. 3 Color doppler study showing increased vascularity at the gallbladder area.

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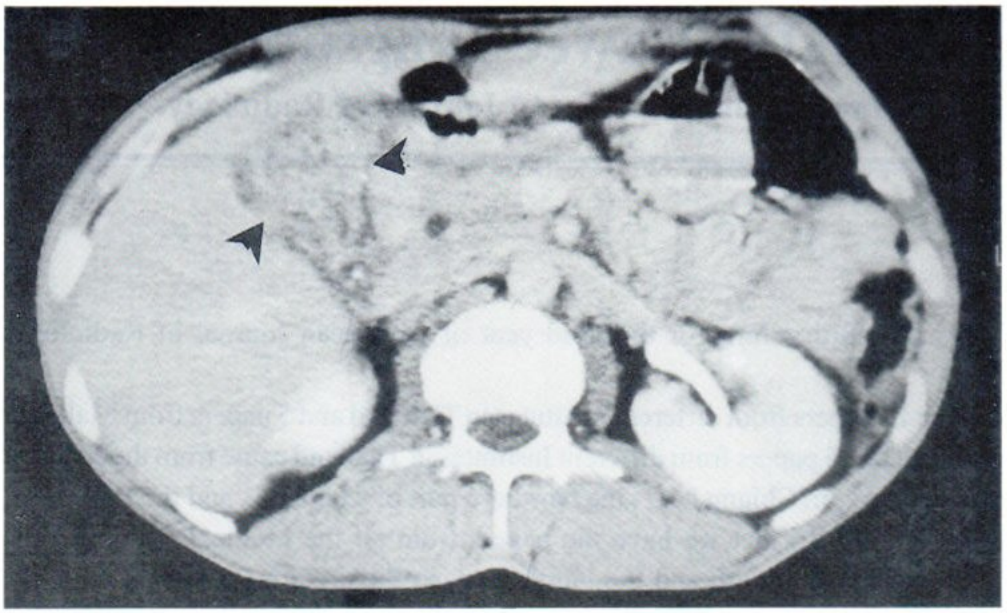

Fig. 4A Axial CT scan showed soft tissue mass (arrow heads) at the gallbladder fossa having multiple small areas of fat density.

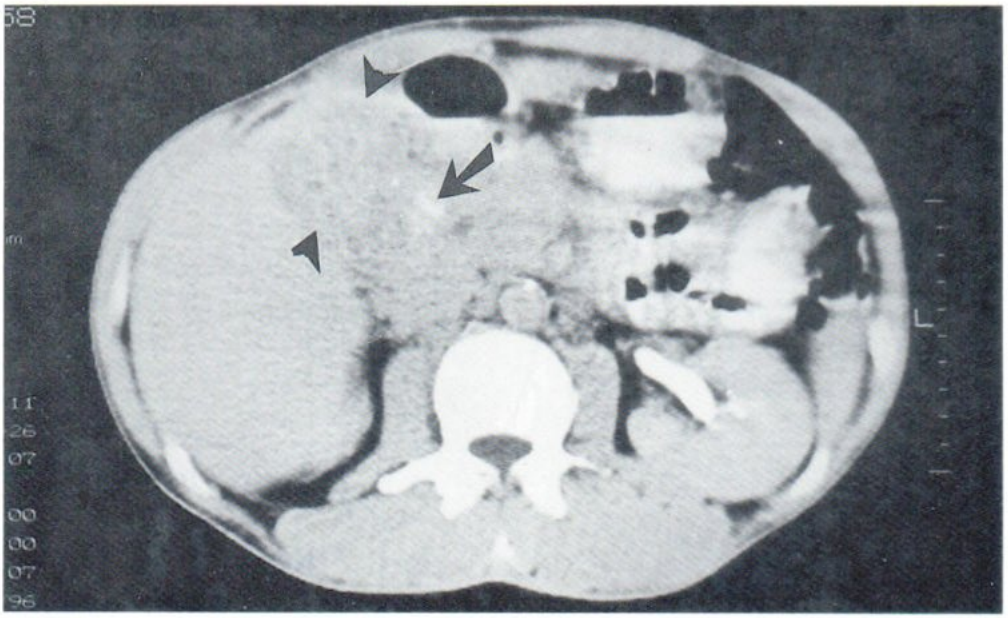

Fig. 4B Axial CT scan showed a calcification (arrow) at the mass of gallbladder. (arrow heads)

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