Choledochocele Of The Cystic Duct: A Case Report

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Citation

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Abstract

A 50 year old woman with a 6 year history of right upper quadrant abdominal pain and obstructive liver biochemistry had imaging of her biliary tract carried out using ultrasonography, the recently described technique of Helical CT scan after administration of cholecystographic contrast material and ERCP.

Ultrasound of abdomen showed dilatation beside the gall bladder and the common hepatic duct, but was unable to precisely define the exact abnormality. Pre and post-oral cholecystographic contrast helical CT scan of the biliary tree showed cystic dilatation of the cystic duct (choledochocele). ERCP showed dilatation of cystic duct, which was well separated from gall bladder confirming what was visualised at CT cholangiography but adding no extra information.
This is a rare entity, with only 9 previous descriptions in the literature. This report demonstrates the value of non-invasive Helical CT cholangiography in the diagnosis of biliary tract abnormalities.

CASE REPORT

A 50-year-old female patient gave a 6-year history of dull ache in the right upper quadrant of her abdomen radiating to her back. She had a background history of autoimmune thyroiditis and was euthyroid on thyroxin supplementation. She also suffered from diverticular disease.

On examination, the abdomen was soft with right upper quadrant tenderness. Liver function tests showed alkaline phosphatase of 274 U/L (normal 38 – 104 U/L), gammaglutyl transferase 307 U/L (normal 7 – 32 U/L), alanine aminotransferase 111U/L (normal 10 – 31 U/L). The hepatitis screen was negative for Hepatitis A, B, and C. Antinuclear factor, antimitochondrial antibody, anti-smooth muscle antibody, anti-parietal cell antibody and reticulin antibody were all negative. She had normal levels of serum immunoglobulins.

Ultrasound of abdomen (fig 1) showed a cystic dilatation beside the gall bladder and the common hepatic duct, but was unable to precisely define the exact abnormality. Pre and post oral cholecystographic contrast helical CT scan of the biliary tree (fig 2 and 3) showed cystic dilatation of the cystic duct (choledochocele). ERCP (fig 4) showed dilatation of cystic duct, which was well separated from gall bladder. The rest of the biliary tree was normal. MRCP was not considered necessary in this patient as we had obtained adequate imaging by Helical CT cholangiography.

Figure 1

Figure 1 : US shows cystic dilatation in the region of cystic duct.

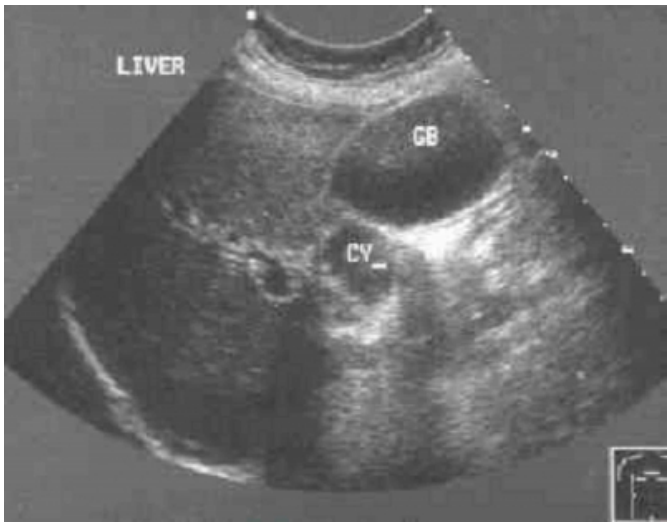


Figure 2

Figure 2 : Post oral cholecystographic contrast Helical CT shows fusiform dilatation of the cystic duct, well separated from opacified gall bladder.

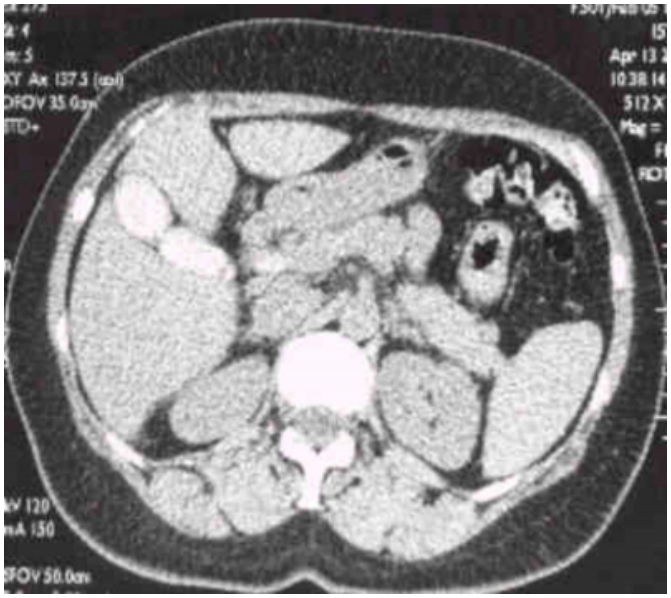


Figure 3

Figure 3 : 3D(MVPR) at gall bladder and cystic duct level shows fusiform dilatation of cystic duct and opacified gall bladder.

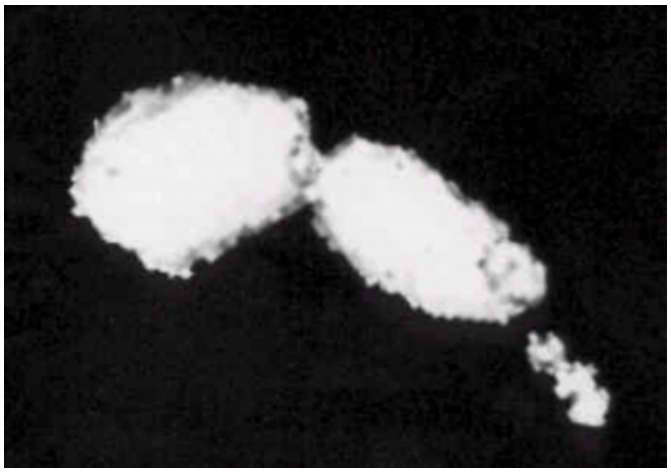
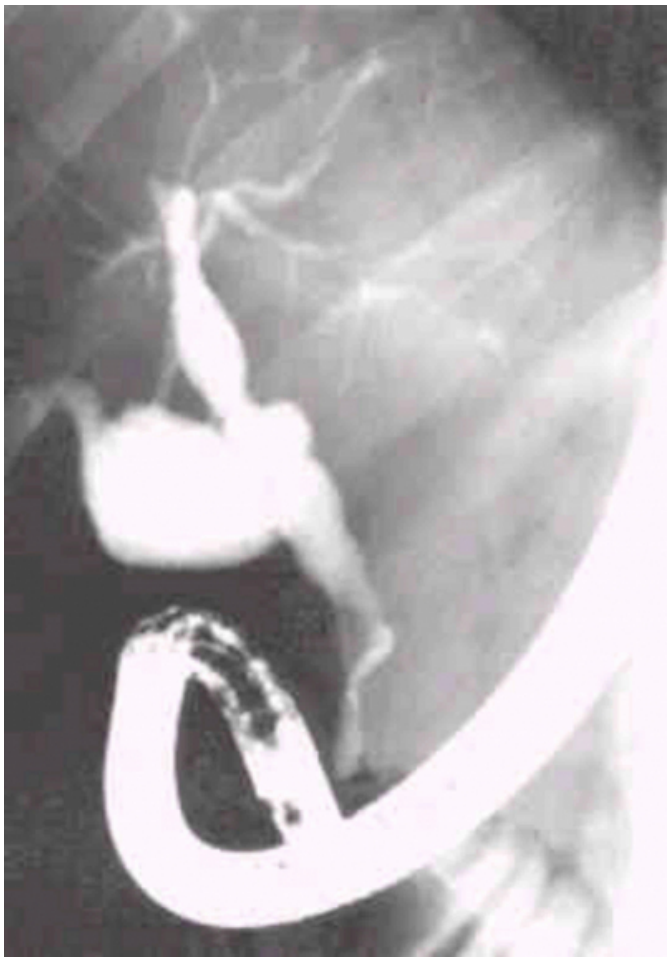


Figure 4

Figure 4 : ERCP shows fusiform dilatation of cystic duct.



Surgical removal of the choledochocele was considered as these cysts have an increased risk of carcinomatous changes, but the patient declined surgery. Presently she is generally well with only occasional vague right upper quadrant abdominal pain.

DISCUSSION

Choledochal cyst is defined as a cystic dilatation of the common bile duct. It is rare, occurring in approximately 1:100,000-150,000 live births [1]. About 80% of these are diagnosed before 10 years of age, when it classically presents as a triad of right upper quadrant pain, a mass and jaundice. In adults this is a rare presentation. Abdominal pain and tenderness are the most common initial features in adults. The classification by Alonso-Lej et al., as modified by Todani et al describes 6 types of choledochal cysts [2]. This classification does not mention the existence of cystic dilatations of the cystic duct. In 1991 Serena et al reported a case of cystic dilatation of the cystic duct and claimed it as the first ever case in the literature [3]. We have however

identified 8 further cases on review of the literature [4].

With the ultrasound choledochocele appears as a fusiform dilated structure close to the gall bladder. However it is not possible to work out the cyst anatomy with ultrasound. ERCP can delineate the structure definitively, but it is an invasive procedure. Greenberg et al developed the technique of conventional CT cholangiography and achieved opacification of the biliary tree in patients undergoing routine abdominal CT [5]. Three grams of Iopanoic acid is administered orally to patient the night before followed by a repeat dose of 3g of the same compound 1½ hours before the examination. Chopra et al for the first time used Helical CT cholangiography after oral cholecystography to visualise the biliary tree in normal asymptomatic volunteers. Helical CT cholangiography was carried out 10-12 hours after ingestion of 3 g of iopanoic acid. The common bile duct and common hepatic duct were adequately visualised in 95 % subjects [6]. Cartagena described visualisation of a choledochal cyst by telepaque enhanced conventional CT and suggested that this is an easy, non-invasive method to demonstrate preoperative anatomy in cases of choledochal cyst [7].

This is the first case of cystic duct choledochocele confirmed with Helical CT Scan using oral contrast material and it demonstrates that invasive ERCP may not be necessary for accurate visualisation of these abnormalities.

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