Giant staghorn common bile duct calculus

Calcul coralliforme géant de la voie biliaire principale

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RÉSUMÉ

Introduction. Un gros calcul de la voie biliaire principale est défini par une taille de plus de 15 mm. On a rapporté peu de cas de calculs géants de plus de 5 cm et exceptionnellement de calculs coralliformes de la voie biliaire principale.
But. Le but est de rapporter un nouveau cas rare de calcul biliaire coralliforme géant et d'en discuter la démarche diagnostique et les éventualités thérapeutiques.
Observation. Nous rapportons le cas d'un calcul coralliforme géant de la voie biliaire principale chez un patient de 65 ans. Son extraction a nécessité 2 interventions chirurgicales et une cholangiopancréatographie rétrograde endoscopique avec sphinctérotomie endoscopique.
Conclusion. La lithiase de la voie biliaire principale, considérée comme une pathologie bénigne, peut parfois être compliqué et traînante. Les calculs coralliformes sont très rares dans les voies biliaires. Nous n'avons trouvé que deux cas publiés de lithiase coralliforme de la voie biliaire principale.

Mots-clés
Calcul coralliforme géant; Voie biliaire principale; TDM; CPRE; Chirurgie.

SUMMARY

Introduction. Stones in common bile duct are defined as 'large' if they are more than 15 mm in size. There are very few reports which describe a giant stone measuring 5 cm or more and exceptionally a staghorn calculus in the common bile duct.
Aim: The purpose is to report a new rare case of giant staghorn gallstone and discuss the diagnostic approach and therapeutic possibilities.
Case report : We report a case of a giant staghorn common bile duct calculus in a 65-year-old patient. Its removal required 2 operations and an endoscopic retrograde cholangiopancreatography with endoscopic sphincterotomy.
Conclusion. Lithiasis of the common bile duct is considered to be a benign, but may sometimes be complicated and time-consuming. Staghorn calculi are very rare in the biliary tract. We found only two published reports of staghorn common bile duct calculi.

Key-words
Giant staghorn calculus; Common bile duct; CT-Scan; ERCP; Surgery.

Stones in common bile duct are defined as large if they are more than 15 mm in size. There are very few reports which describe a giant stone measuring 5 cm or more [1] and exceptionally a staghorn calculus in the common bile duct. We could only find two published reports of staghorn common bile duct calculus [2, 3].
The purpose of this paper is to report a new rare case of giant staghorn common bile duct calculus and to discuss the diagnostic approach and therapeutic possibilities.

CASE REPORT

We report the case of a 65 year-old-patient, operated on in an emergency situation for cholecystitis which had been confirmed by abdominal ultrasound. Intraoperatively, we found an intense pedicle inflammation surrounding an enormous and hard common bile duct mass. A simple cholecystectomy and biliary drainage were performed following the suspicion of malignancy. The postoperative cholangiography showed dilated intrahepatic and extrahepatic bile ducts. Abdominal CT-scan objectified a giant staghorn common bile duct lithiasis, measuring 9 x 4.5 cm (Fig 1).
The extraction of calculus required reoperation with removal of the calculus after fragmentation. Then, an endoscopic retrograde cholangiopancreatography (ERCP) with endoscopic sphincterotomy was performed because of a residual fragment (Fig 2a). Postoperative cholangiography by the T-tube showed a dilated common bile duct with an annular stenosis at its lower third (Fig 2b). The postoperative course was uneventful.
Histological examination showed no evidence of malignancy. The liver function tests were normal. The T-tube was removed 2 months later uneventfully. The relationship between the dilatation of the bile duct and the gall stone is inaccurate, whether it is a consequence or a contributing factor.

DISCUSSION

Bile duct stones, which obstruct the common bile duct, could potentially result in complications, such as cholangitis and pancreatitis. Some patients may remain asymptomatic while others progress to a symptomatic stage [4]. In most cases of choledocholithiasis, a solitary stone is found in the common bile duct [5, 6]. Walter and Snell [7] reported a solitary stone in two thirds of their cases. Staghorn calculi are branched stones that occupy a large portion of the collecting system. Typically, they fill the renal pelvis and branch into several or all of the calices. They are composed of struvite (magnesium ammonium phosphate) and are usually seen in the setting of infection with urease producing bacteria. Giant staghorn common bile duct calculi have been reported in literature: Jayant reported a giant staghorn common bile duct calculus measuring 9 x 4 cm in a 65-year-old man [2] and Hajong reported the second case of giant staghorn common bile duct calculus measuring 8 x 6 cm in a 48-year-old lady [3]. No complications such as rupture or perforations resulting from giant common bile duct calculi have been reported. The best radiological examination to establish the diagnosis is ultrasonography followed by magnetic resonance cholangiopancreaticography (MRCP). Endoscopic treatment is often unsuccessful because of the calculus' size and the only treatment is always surgical.

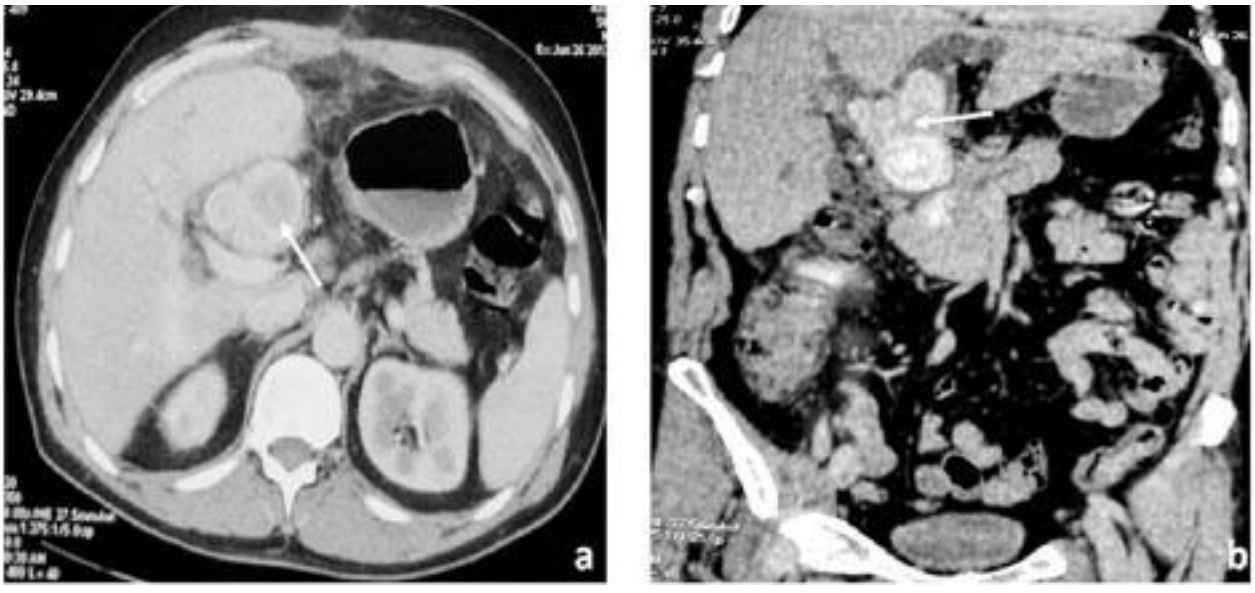

Figure 1: Abdominal CT-scan (a. axial, b. coronal reconstruction): A giant staghorn common bile duct lithiasis (arrows), measuring 9 x 4.5 cm conforming in shape to the common bile duct.

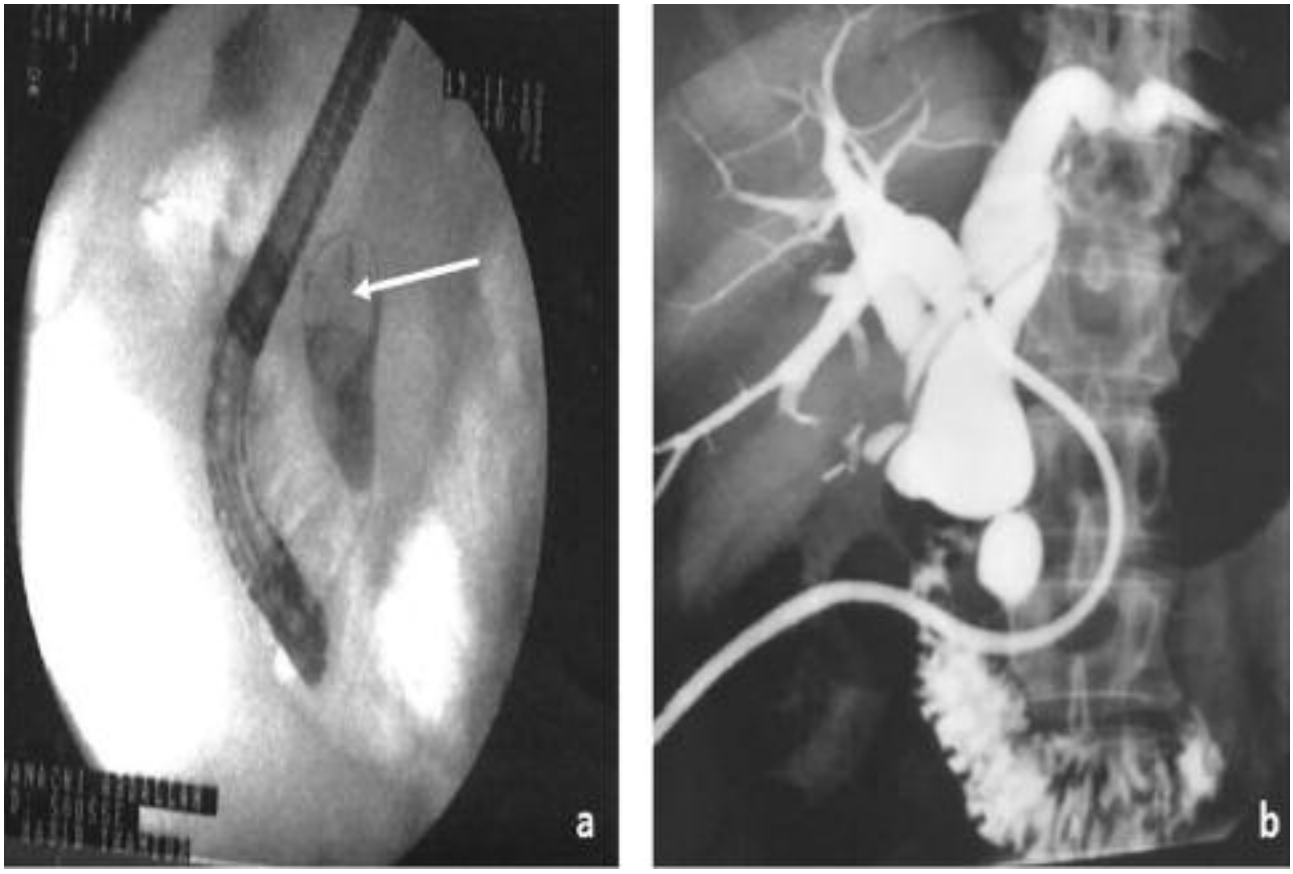

Figure 2 :a. Extraction of residual stone (arrow) during an ERCP. b. Postoperative cholangiography

CONCLUSION

Lithiasis of the biliary tract is considered to be a benign, but may sometimes be complicated and time-consuming. Staghorn calculi are very rare in the common bile duct. We found only two published reports of staghorn common bile duct calculi. The originality of our case is in the clinical presentation mimicking a malignant tumor of the common bile duct, and the combined use of endoscopic treatment and surgery.

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