Jaundice Secondary to a Simple Liver Cyst With Traumatic Intracystic Hemorrhage☆

Ictericia secundaria a quiste hepático simple con hemorragia intraquística traumática

Simple liver cysts (SLC) are malformations that originate in aberrant bile ducts that have lost their communication with the biliary tree and continue to secrete intraluminal fluid. Most cysts are smaller than 3 cm and are usually asymptomatic. Their incidence increases after the age of 50, with a predominance of women (ratio 1.5:1) and a prevalence of 18% in the adult population.[1]

A small percentage of patients present symptoms such as abdominal pain, earlysatiety, nausea and vomiting, all consequences of a mass effect. Due to their large size, physical examination can show evidence of an abdominal mass or hepatomegaly. Complications, such as hemorrhage, rupture or biliary obstruction are uncommon and take place in large-size cysts. Intracystic hemorrhage is rare and normally presents with severe abdominal pain, although it may be asymptomatic.[2]

The presence of 2 associated complications, such as intracystic hemorrhage and jaundice due to compression of the intrahepatic bile duct, is a very rare situation,[3] which is why we present the following case.

The patient is a 71-year-old woman who came to the emergency department after having an accidental fall with trauma to the right flank of the abdomen, presenting progressive jaundice. The patient's medical history included: arterial hypertension, type 2 diabetes mellitus, cholecystectomy due to cholelithiasis, IgG lambda multiple myeloma, and ischemic stroke 8 months before. On physical examination, jaundice of the skin and mucous membranes was observed; the abdomen was soft and non-painful, and no masses or enlarged organs were detected.

Lab work demonstrated: total bilirubin 16 mg/dL (direct bilirubin 13.7 mg/dL), GOT 276 IU/L, GPT 165 IU/L, GGT 678 IU/L, FA 1.124 IU/L, hematocrit 28.6%, hemoglobin 9.3 g/dL, leukocytes 18 000 (neutrophils 48%), prothrombin activity 100%, Ca 19.9 1036 U/L; CEA and alpha-fetoprotein were normal.

Ultrasound revealed a large cystic lesion with dilatation of the intrahepatic bile duct. Computed tomography (Fig. 1) showed evidence of a large SOL in the liver that was cystic in appearance, measuring 12.1 × 9.4 × 9.3 cm, which was located in the right lobe and affected segments IV–V. Magnetic resonance (Fig. 2) showed a large cystic mass that, in the hilar region, caused dilatation of the bilobar biliary radicles. Due to suspected malignancy, positron emission tomography was conducted, which showed no metabolic increase in the liver. Serologies for Echinococcus and *Entamoeba histolytica* were negative.

A percutaneous biliary drain was inserted, that resolved the jaundice. Given the suspicion for intracystic hemorrhage and cystadenocarcinoma, the patient was treated surgically through a right subcostal incision. A hepatic cyst was found in segments IV–V, measuring 12 cm in diameter and completely covered by liver parenchyma, while no lesions were observed in the hepatic hilum. The cyst was deroofed and contained abundant old blood. Intraoperative biopsies were taken, which showed no evidence of malignancy and suggested that the lesion was compatible with an SLC. The definitive pathology report defined the mass as an SLC, which coincided with the intraoperative biopsies.

Jaundice secondary to obstruction caused by an SLC is uncommon,[4–6] occurring in cases of large cysts (greater than 10 cm)[7] and close to the *porta hepatis*.[8] Intracystic hemorrhage is another uncommon complication that requires a differential diagnosis with cystadenocarcinoma.[9] In our case, the size of the cyst, suspicion of intracystic hemorrhage and elevated Ca 19.9 levels led us to consider this possibility.

Therefore, it is important to rule out the presence of cystadenoma, cystadenocarcinoma, communication with the biliary tree and other cystic lesions with infectious etiologies before treating the cysts,[10] as the management of most simple cysts is based on a ''wait and see'' strategy, without requiring

Fig. 1 – Abdominal computed tomography: large hepatic SOL that is cystic in appearance and measures 12.1 × 9.4 × 9.3 cm in the right liver lobe, segments IV and V.

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Fig. 2 – (A and B) Magnetic resonance image of the liver showing a large mass with a heterogeneous cystic signal; polylobate morphology, with inner areas showing low signal intensity, no wall thickening, and bilobar biliary radicle dilatation in the hilar region; (C) Magnetic resonance cholangiopancreatography showing a large liver cyst with dilatation of the intrahepatic bile duct.

treatment in most cases. Other causes of bile duct obstruction should also be ruled out. It is therefore important to conduct ERCP, which, together with cystography, is able to rule out communication of the cyst with the bile duct.[7] If symptoms are present, suction and sclerotherapy are preferred treatments. Although surgical deroofing or fenestration, using either open or laparoscopic approaches, obtain similar or even better results in reducing symptoms, they have significantly higher morbidity[2] (0%–15%), with a percentage of reinterventions of 9%.[1]

Surgery is indicated when it is difficult to rule out malignancy, in cystic lesions of infectious etiology, in recurring cases,[10] and in patients in whom sclerotherapy is contraindicated, such as those with intracystic hemorrhage or the communication of the cyst with the bile duct or peritoneum.[1] The approach of choice for deroofing is laparoscopy as it significantly reduces hospital stay, postoperative pain, morbidity and blood loss,[1] although it is sometimes difficult due to the posterior location of the cysts (segments VII–VIII), which makes open surgery necessary. Furthermore, in cases of suspected malignancy, open surgery should be the first therapeutic option.[10]

In our case, due to the suspicion of intracystic hemorrhage and the impossibility to exclude malignancy, aspiration and sclerosis were contraindicated and open surgery was chosen as the initial therapeutic option.

Conflict of Interests

We declare that there are no funding aspects or any other factors that could lead to a conflict of interests.

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