

PICTURES IN DIGESTIVE PATHOLOGY

Perforation of the gallbladder with communicating pericholecystic abscess: ultrasonographic diagnosis

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CASE REPORT

A 75-year-old male patient with recurrent biliary colics attends the emergency service because of right upper-quadrant abdominal pain and fever for two days. The patient experiences pain when palpated on the right hypochondrium, with Murphy's sign and a temperature of 38 °C.

Laboratory studies revealed leukocytosis with neutrophilia (15,000 leukocytes/mm³, 80% neutrophils) with hepatic enzymes and normal pancreatic amylase.

An initial ultrasound exam was performed, which showed evidence of acute cholecystitis with distended gallbladder, cholelithiasis, sludge, and diffuse thickening of the gallbladder wall (Fig. 1). Adjacent to the gallbladder a heterogeneous collection compatible with an abscess was seen, which communicated with the gallbladder through a break on the wall that was interpreted as a gallbladder perforation with communicating pericholecystic abscess (Fig. 2).

Abdominal contrast-enhanced CT confirmed the pericholecystic abscess, the thickening of the gallbladder wall, and an infundibular gallstone. A dilation of the distal common bile duct could also be seen.

The perforation of the gallbladder wall was not demonstrated by means of this procedure (Fig. 3).

The patient, waiting for elective surgery, was treated with antibiotics, which improved the patient's clinical condition.



Fig. 1. Longitudinal-plane US scan showing distention of the gallbladder (V), intraluminal echogenic sludge (arrow), and diffuse thickening of the gallbladder wall (arrowheads). Between the cursors a gallstone may be seen in the infundibular region, determining an acoustic shadow (asterisk).

Corte ecográfico longitudinal mostrando dilatación de la vesícula biliar (V), barro biliar intraluminal (flecha) y engrosamiento difuso de la pared vesicular (cabezas de flecha). Entre cursores observamos un cálculo en la región infundibular condicionando sombra acústica posterior (asterisco).



Fig. 2. Longitudinal-plane US scan showing a heterogeneous collection (arrowheads) between the gallbladder (V) and liver (H) that communicates with the gallbladder lumen through a gap in the wall (arrow).

Corte ecográfico longitudinal mostrando una colección heterogénea (cabezas de flecha) entre la vesícula biliar (V) y el hígado (H), que comunica con el lumen vesicular a través de un defecto en la pared (flecha).

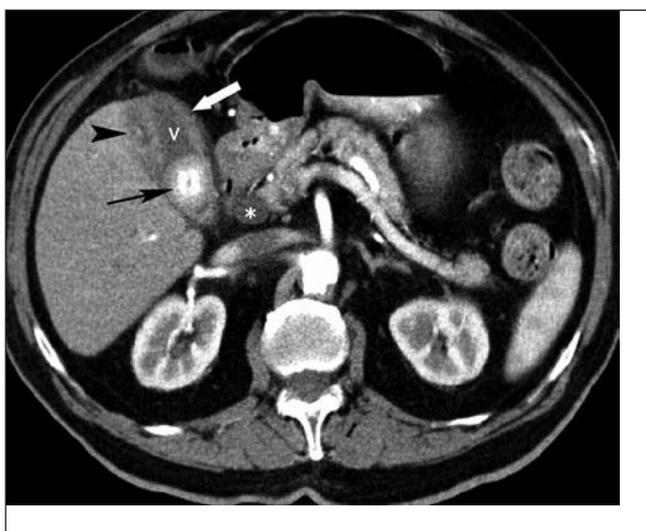


Fig. 3. Post-contrast CT scan at the level of the gallbladder (V) that demonstrates gallbladder parietal thickening (white arrow), a high-attenuation stone within the gallbladder lumen (black arrow), and a pericholecystic abscess with peripheral contrast enhancement (arrowhead). A dilation of the distal segment of the common bile duct may be seen (asterisk).

Corte axial de TC con contraste a nivel de la vesícula biliar (V), que demuestra el engrosamiento parietal vesicular (flecha blanca), un cálculo hiperdenso dentro de la vesícula (flecha negra) y el absceso perivesicular con captación periférica de contraste (cabeza de flecha). Vemos dilatación del segmento distal del colédoco (asterisco).

DISCUSSION

Perforation of the gallbladder wall is an infrequent complication of acute cholecystitis, but it is associated with a high mortality rate without early treatment (1). Three types of perforation (2) have been described, with the subacute form with pericholecystic abscess being most frequently observed (3,4). The clinical diagnosis of gallbladder perforation is usually difficult since symptoms can be undistinguishable from non-complicated acute cholecystitis. Although on most occasions the diagnosis of perforation using images is presupposed from indirect data like the presence of pericholecystic collections, an accurate diagnosis is possible with at least one of these three signs:

- Direct observation of the perforation or “hole sign”.
- Communication between the abscess and gallbladder lumen through a gap in the gallbladder wall.
- Observation of gallstones in the pericholecystic collection (4).

Few cases have been published in which a communication between the pericholecystic abscess and the gallbladder is demonstrated by means of ultrasound scans (3). While we could not confirm these findings with CT, the great majority of published papers indicate that CT (1,4,5), and recently MRI, are more sensitive than ultrasounds for the diagnosis of gallbladder perforation.

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