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Parenchymal mass of the gallbladder

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Clinical presentation: a 74 year-old female with a personal history of arterial hypertension and ischemic heart disease manifesting as stable angina for the last twenty years, presented for occasional discomfort in the right upper quadrant, appearing on and off for the last ten years. During the last twelve months, her symptoms had worsened and she presented postprandial pain in the right upper quadrant, nausea and weight loss (3-4 kg during the last 3 months). An ultrasound examination performed a month before presentation demonstrated gallbladder stones.

The physical examination revealed a slight pain on palpation of the right upper quadrant.

The patient's **biological work-up** was normal; CA 19-9 = 9.65 U/ml (normal values<37 U/ml)

The **gastroduodenoscopy** revealed acute erosive gastritis

Colonoscopy: colic diverticulosis; sigmoid polyp (low dysplasia tubular adenoma); internal hemorrhoids.

Abdominal ultrasound: homogeneous, normo-echoic liver, of normal size. Distended gallbladder, suggestive of chronic hydrops, with a large group of gallbladder stones, probably impacted in the infundibular region (fig 1). The rest of the gallbladder lumen was occupied by an echoic content, which presented as a pseudotumoral sludge ball (fig 2). However, the color and power Doppler examination revealed a rich peripheral vascularization of the gallbladder walls and a central vessel with a strong venous flow, as well as arterial vessels (fig 3-4). Normal pancreas, spleen. Bilateral cortical simple renal cysts up to 1 cm in size. No ascites. No suspicious lymph nodes.

Abdominal CT: homogeneous liver; normal aspect of the vena porta, intra- and extrahepatic bile ducts. The gallbladder was filled with a hyperdense material, at the level of the infundibulum, as well as in the corporeal and fundus region (where the transverse diameter of the gallbladder reached almost 40 mm). After contrast adminis-

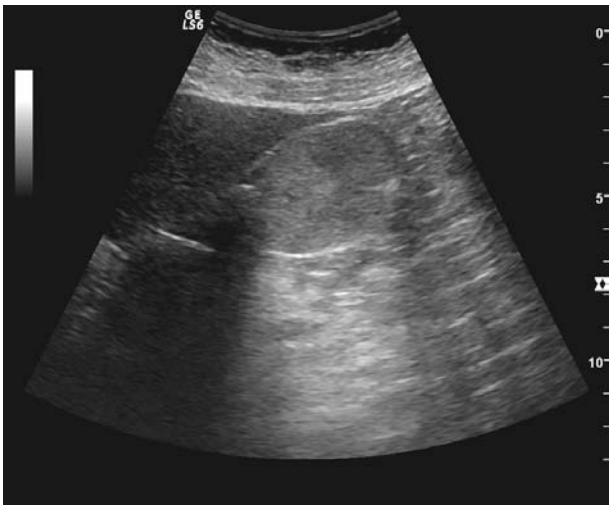


Fig 1.

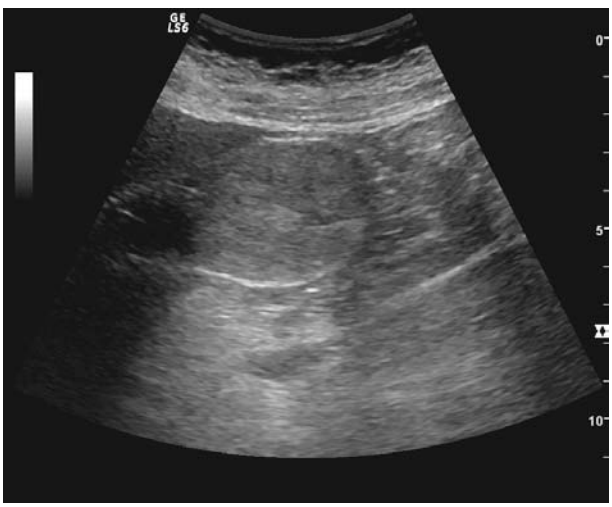


Fig 2.

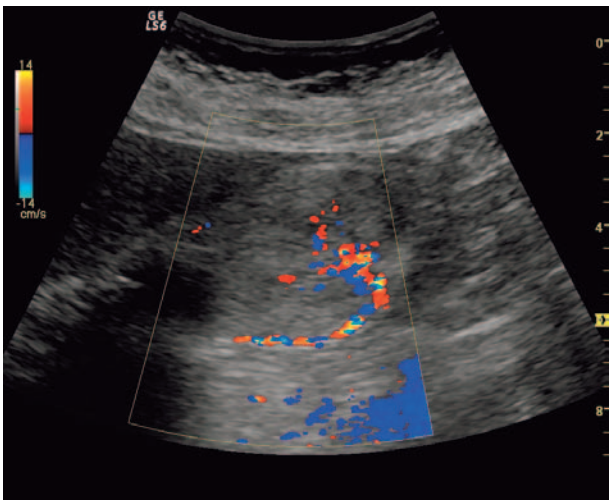


Fig 3.

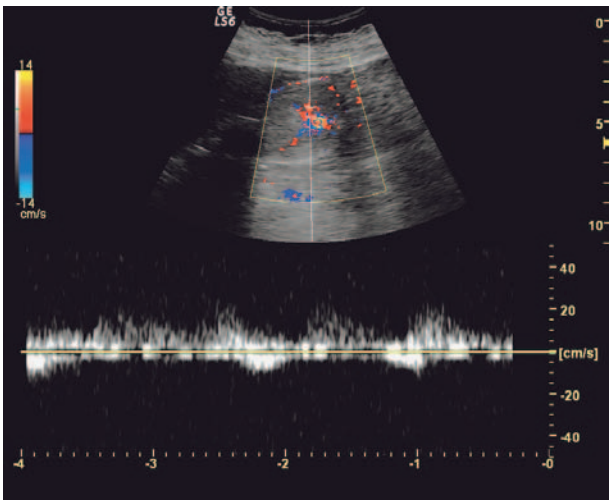


Fig 4.

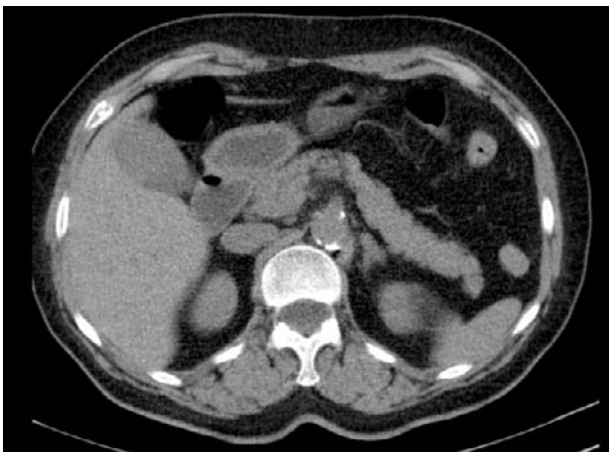


Fig 5.

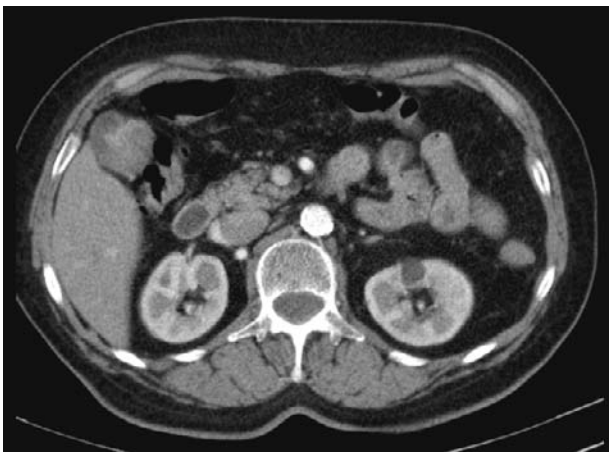


Fig 6.

tration, starting from the arterial phase and progressing through the portal phase there was intense parietal contrast-enhancement, especially at the level of the fundus (fig 5-6). A clear separation plan was visible between the walls of the gallbladder, the hepatic parenchyma and the neighboring intestinal segments.

Questions:

1. What is your diagnosis?

2. Which therapeutic approach would you propose?

3. What clinical and imaging particularities of this case can you identify and what are the unusual aspects of this case?

Answer Quiz vol 12 no. 2

Breast tumor in a 63-year old woman

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Answers to the questions mentioned in the previous number of the journal:

1. What is your ultrasound diagnosis?
2. What are the particular features of the case?
3. What is the differential diagnosis?

The diagnosis is: **Invasive ductal carcinoma not otherwise specified (IDC NOS), well differentiated grade 1 after Scarff-Bloom-Richardson (SBR) classification (IDC NOS Gr.1 SBR).**

IDC NOS is the most common type of invasive breast cancer and appears in 70-80 % of cases [1].

The most commonly used grading system, the Nottingham Histologic Score (also referred to as Scarff-Bloom-Richardson), combines nuclear grade, tubule formation, and mitotic rate to classify invasive carcinomas into three groups that are highly correlated with survival. Survival for patients with well-differentiated grade 1 carcinomas (approximately 20% of the total) gradually declines to 70% at 24 years. In contrast, most deaths for poorly differentiated grade 3 carcinomas (approximately 46% of the total) occur in the first 10 years, and 45% of patients survive long-term. Women with moderately differentiated grade 2 carcinomas (approximately 35% of the total) have better survival initially, but their long-term survival is only slightly better than grade 3 carcinomas [1].

In grade 1 and 2 SBR carcinomas, the celularity in low, and the growth of tumors is ussually slow. The inflammatory reaction in these types of carcinomas is not very pronounced, but there is more stromal reaction and an important desmoplastic response. Because of desmoplasia, they will have spiculated margins. On ultrasound, they will appear as spiculated hypoechoic masses, with hyperechoic area around (correspponding to the desmoplastic reaction) [2].

In high-grade, rapid growing tumors, there is less desmoplastic response and an important inflammatory reaction. They are painfull because of the associated inflammation but also because of neural invasion. Because of the lack of desmoplasia, they will have more circumscibed margins. Necrosis, haemorhage and lymph node metastasis are also common in high grade, and not in low grade carcinomas.

On ultrasound, high grade IDC's will have circumscribed margins, inhomogeneous echostructure, with anechoic areas (corresponding to necrosis and haemorhage). Even when small, they will be assocciated with large tumoral axillary lymph nodes [2].

Differential diagnosis:

Papillary cancer is a special type of IDC and it can arise inside the cysts. On ultrasound it appears as parenchimal proliferations inside a cystic lesion, proliferations that will have malignant features, eg: irregular or microlobulated margins and inhomogeneous structure.

Phyllodes tumor is a rare form of breast tumor. It is classified in benign and malignant (5%). On mammography and ultrasound it mimicks fibroadenomas but clinically it is characterised by a fast growing rate and marked lobulations. On ultrasound it has, tippically, parietal cysts and there are also cited cases with extensive infarction [3,4]. Because it is a sarcoma, it will not give metastasis into the regional lymph nodes.

Lymphoma can result as a manifestation of lymphoma from any part of body, or can occur as a primary breast lymphoma. On ultrasound it appears as well-defined or lobulated hypoechoic mass, with intense blood supply. As any other lymphoma, its appearance can be very polymorphic and there are cases cited with extensive anechoic areas [5].

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