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An Unusual Radiological Presentation of a Primary Hepatic Yolk Sac Tumor

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Case Report

A 39-year-old female presented with the right upper quadrant abdominal pain of 3 months duration. She did not have a fever or jaundice. The physical exam showed a palpable mass in the right hypochondrium measuring 6 cm in diameter. Laboratory findings showed serum total bilirubin level at 1 mg/dl (reference range: 0.1-1.0 mg/dl), serum glutamic oxaloacetic transaminase level at 100 IU (reference range: 0-35 IU/L), serum glutamic pyruvic transaminase level at 150 IU (reference range: 7-56 IU/L) and serum alkaline phosphatase level at 270 IU (reference range: 41 to 133 IU/L). Serum alpha-fetoprotein (AFP) was at 50 µg/L (reference range: 0-15 µg/L) and human chorionic gonadotropin (HCG) was negative. Computed tomography revealed a cystic lesion measuring 122 x 208 x 180 mm and occupying the right hepatic lobe. This mass was well limited and traversed by several septa (Figure 1).

It demonstrated peripheral and septal enhancement on the arterial phase, which was highly suspicious for malignancy. Magnetic resonance imaging revealed a heterogeneous lobulated mass, which was hypo intense on T2 (Figure 2). Faced with this atypical appearance with suspected radiological signs of malignancy and the size of the lesion that occupies the entire right liver, we decided to perform a right hepatectomy. Macroscopically, there was a round tumor mass arising from the right liver. Histologically, there were compact masses and nests of eosinophilic cells with fibrous stroma (Figure 3A). The tumor showed, otherwise, papillary projections with a central blood vessel: « glomeruloid bodies » or « Schiller-Duval bodies » which are pathognomonic of yolk sac tumor (YST) (Figure 3B). Immunohistochemistry studies showed that tumor cells were immunoreactive for AFP and glypican-3. The postoperative period was uneventful. The patient was referred for adjuvant chemotherapy.

Primary YST is a rare tumor arising usually in the gonads [1], rarely in extragonadal organs. Indeed, the liver is a very rare site. Only few cases were reported in the literature since the first case reported by Hart in 1975 [2].

The histogenesis of primary YST of the liver is controversial. It may arise from germ cells having an aberrant migration from the yolk sac to the genital ridge during embryogenesis. Indeed, other theory specule the persistence of pluripotent cells embryonic in mature liver. The clinical behavior of the YST of the liver is nonspecific. The radiological features are multiple and unclear. Our patient had a large cystic tumor with septa. It is an atypical aspect for YST, which confuses other hepatic tumors. Indeed, reported imaging features of YST are essentially huge liver mass with heterogeneous enhancement, central necrosis, and in some cases with intratumoral calcification [3]. Histologically, the presence of Shiller-Duval body is pathognomonic of a yolk sac tumor can be used to differentiate from hepatocellular carcinoma [3]. Otherwise, tumor cells are immunopositive for AFP only in half cases and are immunonegative for CD30, CK7 and CK20 [3]. However, recent review [4] has shown that cells are highly positive for SALL4 and CDX2. The reference treatment is not yet codified for this

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uncommon entity. To our knowledge, this is the first report YST in the liver having such radiological features.

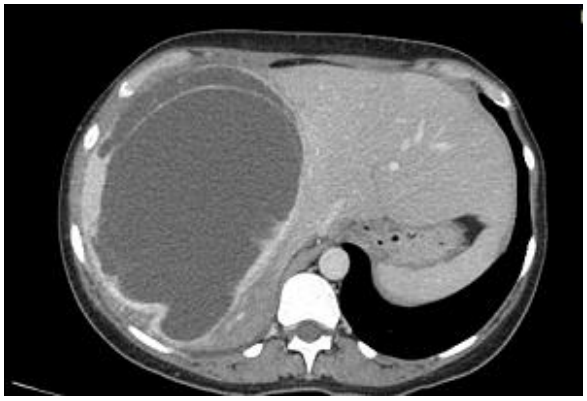

Figure 1: Computed tomography revealed a large cystic lesion in the right hepatic lobe (white arrow).

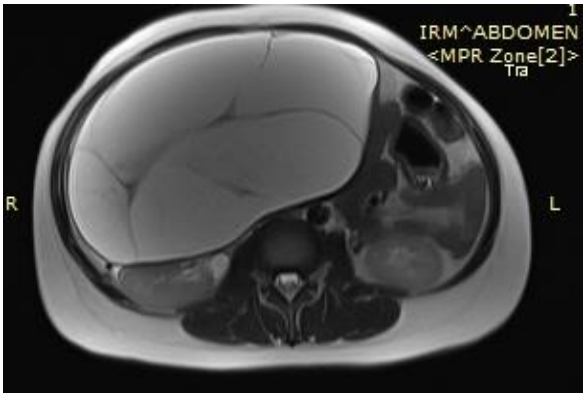

Figure 2: Magnetic resonance Imaging of abdomen revealed a large heterogeneous lobulated mass (red arrow).

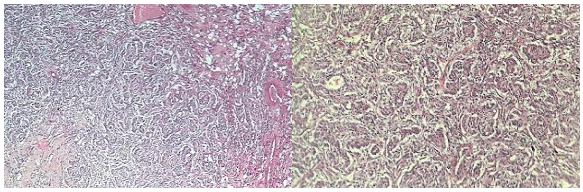

Figure 3: (A) compact masses and nests of eosiniphilic cells with fibrous stroma (hematoxylin-eosin: HEx100) (black arrow). (B) « glomeruloid bodies » papillary projections with central blood vessel (hematoxylin-eosin: HEx200) (black arrow).

References

1. Gunawardena SA, Siriwardana HPP, Wickramasinghe SYLS, Madurawe MN, Fernando R (2002) Primary endodermal sinus tumour of the liver. *Eur J Surg Oncol* 28: 90-1.

2. Hart WR (1975) Primary endodermal sinus tumour of the liver. First reported case. *Cancer* 35: 1453-1458.

3. Vanidassane I, Sharma V, Ramteke P, Yadav M, Batra A (2019) Primary Yolk Sac Tumor of the Liver in an Adult Man. *ACG Case Rep J* 6:1.

4. Ravishankar S, Malpica A, Ramalingam P, Euscher ED (2017) Yolk Sac Tumor in Extragonadal Pelvic Sites: Still a Diagnostic Challenge. *Am J Surg Pathol* 41.