

Thyroid ectopia of the liver: An unusual diagnosis with contrast-enhanced EUS (with video)

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Asymptomatic 61-year-old woman with a surgical history of total thyroidectomy due to symptomatic colloid goiter 19 years prior was referred to our institute for an incidental hepatic mass. Abdominal computed tomography (CT) revealed an 8 cm × 5.5 cm × 6 cm lesion of the *porta hepatis* with irregular margins and focal calcifications, adjacent to the gallbladder and the pancreatic head. The lesion showed heterogeneous enhancement following contrast medium administration [Figure 1a]. The patient was then scheduled for EUS examination for further characterization of the lesion. EUS showed a 6 cm inhomogeneous solid cystic lesion with irregular margins and some tiny calcifications, localized in hepatic segment V and adjacent to the gallbladder [Figure 1b]. Following intravenous injection of ultrasonographic contrast agent (Sonovue, Bracco), the lesion showed prolonged, inhomogeneous, and diffuse contrast enhancement [Video 1]. We then performed EUS-guided fine-needle biopsy (FNB) with

a 20G fenestrated needle (EchoTip ProCore, Cook Medical) from the duodenal bulb. Cytohistological examination revealed several fragments of thyroid tissue comprised mixed follicles with bland-appearing follicular cells and colloid [Figure 2a]. Immunohistochemistry showed positive staining for CK7, CK19, PAX8,

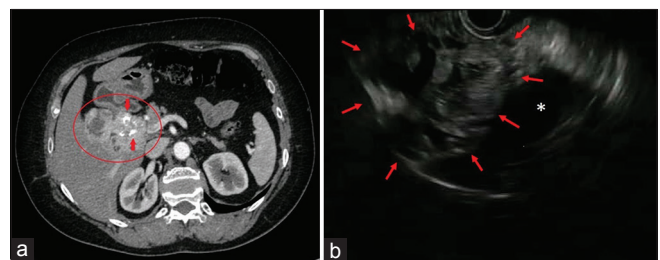


Figure 1. Contrast-enhanced computed tomography scan showing an irregular solid-cystic lesion with irregular margins and inhomogeneous contrast enhancement (circled) in segment V of the liver. Tiny calcifications are visible within the lesion (arrows) (a). B-mode EUS view showing irregular solid cystic lesion adjacent to the gallbladder (*) (b)

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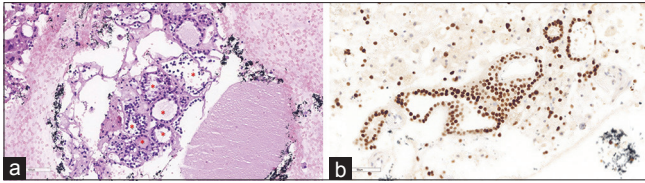


Figure 2. Ematoxilin-eosin view: Fragment of thyroid tissue comprised of mixed follicles (*) with bland-appearing follicular cells and colloid inside (a). Immunohistochemistry showing positive staining for thyroid transcription factor-1 of follicular cells (b)

and thyroid transcription factor 1 [Figure 2b], with negative staining for Hep Par1 and synaptophysin. Ki67 highlighted a low (<1%) proliferation index. These findings were consistent with ectopic thyroid tissue. The histologic diagnosis was confirmed by a I_{125} -scintigraphy, showing active thyroid tissue in the liver, with no other active sites. Subsequent whole-body positron emission tomography-CT, showed no radionuclide pathologic uptake. Based on a multidisciplinary decision, a strict follow-up was planned, and no progression of the lesion was detected after 6 months. The estimated prevalence of thyroid ectopia is 1/100,000–300,000,^[1] with lingual thyroid accounting for approximately 90% of cases.^[2] Intra-abdominal ectopic thyroid tissue is exceptionally rare, and few cases in the liver have been reported.^[3] This is the first documented case

of thyroid ectopia within the liver diagnosed with contrast-enhanced EUS and FNB.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

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