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An unusual cause of liver neoplasm in an older female

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Dear Editor,

We presented a 66-year-old woman with T2DM who had a liver mass discovered incidentally during hospitalization. She was asymptomatic with a right upper abdominal mass that was smooth, mobile, and non-tender. Hepatitis virus markers and tumor markers were normal. The computed tomography (CT) images showed a 4.7×4.0 cm lesion in the left liver lobe with indistinct borders. Further magnetic resonance imaging (MRI) revealed low T1 and high T2 signal intensity with ring-shaped enhancement following contrast administration. Surgical resection was performed, and histology confirmed hepatic angioleiomyoma with thick-walled vessels and spindle cell

proliferation. Immunohistochemistry was positive for SMA, desmin, caldesmon, CD31, and CD34. The patient had no recurrence during 5 years follow-up.

Discussion

Angioleiomyoma is a benign tumor that originates from smooth muscle proliferation and most occurs in the veins, characterized by smooth muscle tissue intertwined with thick-walled vessels(1,2). Angioleiomyoma predominantly occurs on the neck, head, and limbs with small size(3) and is infrequently found in visceral organs. Hepatic angioleiomyoma might be misdiagnosed as other type of liver tumor due to its atypical clinical symptoms, non-specific laboratory results and absence of characteristic imaging findings. Therefore, pathology and immunohistochemistry are necessary for the final diagnosis.

For this patient, the histological presentation reveals massive hyperplasia of thick-walled vessels and vascular lumina, accompanied by spindle cell proliferation, with no evidence of nuclear atypia observed. Furthermore, the immunohistochemistry results showing positivity for CD31 (vascular +), CD34 (vascular +), SMA (+), and Desmin (+) , which also support the diagnosis of hepatic angioleiomyoma.

There were three histological subtypes of angioleiomyoma: solid, cavernous, and venous types. The classification is determined by both variable relationships of smooth muscles and different shapes of vascular cavities(2). Solid-type angioleiomyoma is characterized by the presence of densely packed bundles of smooth muscle cells, which is interspersed with small, thin-walled, slit-like blood vessels. Venous-type is characterized by the presence of thick-walled vessels, with the smooth muscle of the vessel wall merging with intervascular smooth muscle bundles. And cavernous-type is characterized by the presence of dilated vascular channels with only a few smooth muscle cells(4). Solid-type often causes pain, while venous and cavernous types rarely do. In this case, the patient had a palpable abdominal mass without obvious pain and the histological analysis of the surgical samples revealed a significant number of thick-walled blood vessels and vascular cavities, suggesting venous-type angioleiomyoma. Surgical excision resulted in favorable outcomes with no recurrence.

Conflict of interest

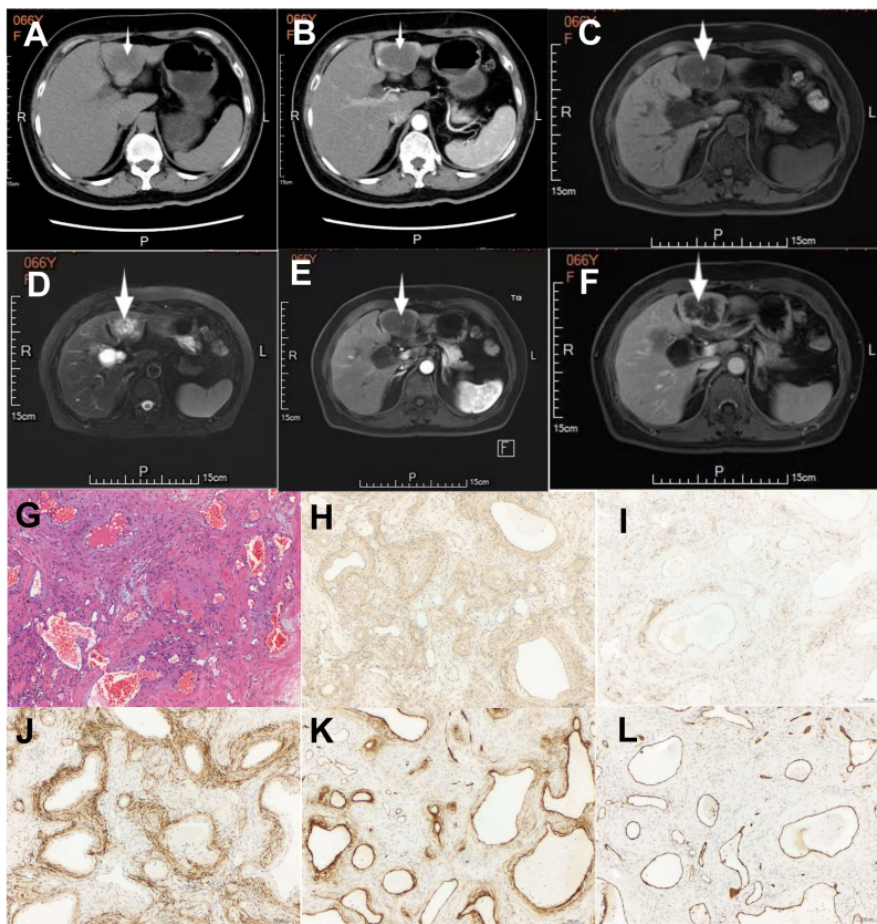
the authors declare no conflict of interest.

Artificial intelligence

The authors declare that they did not use artificial intelligence (AI) or any AI-assisted technologies in the elaboration of the article.

References

1. Hachisuga T, Hashimoto H and Enjoji M. Angioleiomyoma. A clinicopathologic reappraisal of 562 cases. *Cancer* 1984; 54: 126-130. 1984/07/01. DOI: 10.1002/1097-0142(19840701)54:1<126::aid-cnrcr2820540125>3.0.co;2-f.
2. Beissert M, Kenn W, Schultz G, et al. Hepatic angiomyoma: CT and MRI findings. *Abdom Imaging* 2002; 27: 40-42. 2001/12/12. DOI: 10.1007/s00261-001-0028-5.
3. Tsuji T, Satoh K, Nakano H, et al. Clinical characteristics of angioleiomyoma of the hard palate: report of a case and an analysis of the reported cases. *J Oral Maxillofac Surg* 2014; 72: 920-926. 2014/02/01. DOI: 10.1016/j.joms.2013.11.008.
4. Matsuyama A, Hisaoka M and Hashimoto H. Angioleiomyoma: a clinicopathologic and immunohistochemical reappraisal with special reference to the correlation with myopericytoma. *Hum Pathol* 2007; 38: 645-651. 2007/02/03. DOI: 10.1016/j.humpath.2006.10.012.



Imaging, pathology and immunohistochemical pictures of the patient's abdominal mass. A. Non-contrast CT image. B. Contrast-enhanced CT image. C. MRI view pre-contrast T1-weighted image. D. MRI view pre-contrast T2-weighted image. E. Arterial phase of MRI. F. Venous phase of MRI. G. HE staining of hepatic angioleiomyoma. H-L: Immunohistochemistry pictures. The hepatic angioleiomyoma cells were immunoreactive to SMA (H), desmin (I), caldesmon (J), CD34 (K) and CD31 (L) ($\times 100$ magnification).