Splenic hamartoma—a rare finding

Abstract

Splenic tumors are relative. Epidemiologically, splenic hamartoma can similarly affect both genders, regardless of age. Most patients are asymptomatic but there are some cases with hematological symptoms - anemia, thrombocytopenia, and infections, as well as clinical symptoms caused by the tumor mass. The objective of this work is to describe a case of splenic hamartoma highlighting its imaging findings.

Keywords: hamartoma, splenic diseases, magnetic resonance imaging

Introduction

The spleen is the largest lymphatic organ in the body, being of mesodermal origin.1 Splenic functions include immune surveillance, red blood cell degradation, and splenic contraction to increase blood volume during bleeding.1 The spleen is divided into two compartments – the red and white pulps separated by the marginal zone.1 The white pulp is composed of centrally located T and B lymphocytes, while the red pulp is composed of rich plexuses of tortuous venous sinuses.1

Splenic tumors are relatively rare and include malignancies such as lymphomas, angiosarcomas, plasmacytomas, primary malignant fibrous histiocytomas, and metastatic disease.1–4 The most common benign splenic lesions include:5

- Cysts.
- Hemangiomas.
- Hamartoma, which is hardly described in the medical literature.

Splenic hamartoma was first described in 1961 by Rokitansky.3–7 Epidemiologically, splenic hamartoma can affect both sexes similarly, regardless of age, predominantly in older adults.5 About 20% of hamartoma occurs in children.8 They are usually diagnosed after splenectomies or autopsies.5 In this case report, we describe a case of splenic hamartoma diagnosed by magnetic resonance imaging.

Case presentation

A 47-year-old man with abdominal pain for one year. Refers to diffuse abdominal pain in abdominal palpation, mainly in the left flank. Denies trauma, allergies, and surgeries. Normal blood count and white blood count. CT scan demonstrated splenic nodule of nonspecific aspect. MRI demonstrated solid nodular formation within the splenic body, with lobulated contours, well-defined boundaries, with slight low-signal compared to the rest of the spleen in T1-weighted sequence and slightly high signal in T2-weighted sequence - with small cystic foci and enhancement soon after contrast infusion, compatible with hamartoma (Figures 1–3).

Since then, the patient has been in medical follow-up performing imaging exams annually, in which there have been no changes in size or appearance.

Figure 1 MRI axial section in the T1 sequence reveals an oval lesion in the spleen with a slight high signal relative to the rest of the parenchyma (white arrow).

Figure 2 MRI axial section in the T2-weighted image reveals an oval-shaped spleen lesion with a high signal relative to the rest of the parenchyma (white arrow).
The main differential diagnosis is a hemangioma, and MRI is the most appropriate technique to differentiate them. Most lesions are isointense in T1-weighted images and heterogeneously hyperintense in T2-weighted images. In dynamic contrast sequences, it is typical to see low and heterogeneous enhancement in immediate post-contrast images. These are the key features of the differentiation between hamartoma and hemangiomas. In delayed post-contrast imaging, the hamartoma is relatively uniformly and intensely reinforced and may reveal areas with poor central vascularization. Recently, less invasive treatments such as laparoscopy-assisted surgery have been developed.

Acknowledgments
Not applicable.

Conflicts of interest
The authors declare that there is no conflict of interests regarding the publication of this paper.

Patient consent
The written informed consent of the patient was obtained, for the publication of her case.

References
1. Elsayes KM, Narra VR, Mukundan G, et al. MR imaging of the spleen: Spectrum of abnormalities. Radiographics. 2005;25(4):967–982.
2. Namikawa T, Kitagawa H, Iwabu J, et al. Laparoscopic splenectomy for splenic hamartoma: Case management and clinical consequences. World J Gastrointest Surg. 2010;2(4):147–152.
3. Dolcet C, Komprat P, Lindemann J, et al. Incidental finding of a splenic hamartoma with tumour-like extramedullary erythropoiesis. Wien Med Wochenschr. 2011;161(15-16):394–397.
4. Zhang LF, Tou JF, Wang X, et al. Splenic hamartomas in two children. World J Surg Oncol. 2014;12:180.
5. Tavangar SM, Abdollahi A. Splenic Hamartoma: Immunohistochemical Profile. Acta Med Iran. 2017;55(1):77–78.
6. Lee H, Maeda K. Hamartoma of the spleen. Arch Pathol Lab Med. 2009;133(1):147–151.
7. Iakovidou J, Panayiotides J, Papacharalambous X, et al. Splenic hamartoma: a case report. Eur J Surg Oncol. 1995;21(6):688–690.
8. Abramowsky C, Alvarado C, Wylie JB, et al. “Hamartoma” of spleen (Splenoma) in children. Pediatr Dev Pathol. 2004;7(3):231–236.
9. Wang J, Ma X, Ren F, et al. Multi-modality imaging findings of splenic hamartoma: a report of nine cases and review of the literature. Abdom Imaging. 2012;38(1):154–162.
10. Balakci M, Yilmaz E, Yahyayev A, et al. Superparamagnetic iron oxide-enhanced magnetic resonance imaging in a case of spleen hamartoma. Med Princ Pract. 2013;22(3):301–303.
11. Tatekawa Y, Kanehiro H, Nakajima Y. Laparoscopic extirpation of splenic hamartoma with tumour-like extramedullary erythropoiesis. Wien Med Wochenschr. 2005;155(1):394–397.
12. Elenga N, Labbé S, Leduc N, et al. Asymptomatic multinodular splenoma (splenic hamartoma) in a child with sickle cell anemia. Int Med Case Rep J. 2017;10:233–236.