


Arteriovenous Hemangioma of the Mitral Valve: Successful Surgical Removal in an Infant

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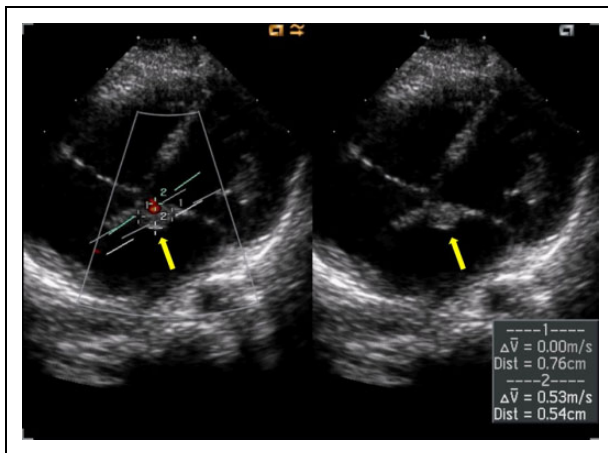


Figure 1. Transthoracic echocardiography: cardiac mass attached to the mitral valve (arrow); red Doppler flow represents a vascularized tumor.

Cardiac tumors are rare entities reported in 0.03% to 0.08% of children.¹ An 18-month-old asymptomatic child with a heart murmur was diagnosed with a left atrial mass. Transthoracic Doppler echocardiography showed what seemed to be an aneurysm at the mitral–aortic junction or a vascular mass (Figure 1). A vascularized hyperechoic mass attached to the atrial side of the anterior mitral leaflet was seen in transesophageal Doppler imaging. The mass also extended to the ascending aortic wall with no impairment of either mitral or aortic valvar function. Cardiovascular magnetic resonance (CMR) imaging showed a mobile, well-defined mass measuring 7.5×6 mm. The tumor was characterized as being isointense in relation to the myocardium on T1- and T2-weighted sequences and late gadolinium enhancement images showed hyperintense enhancement (Figure 2). The diagnosis of fibroelastoma was suggested given the location, signal intensity characteristics, and the high occurrence of these lesions. The tumor was surgically removed and it was described as an

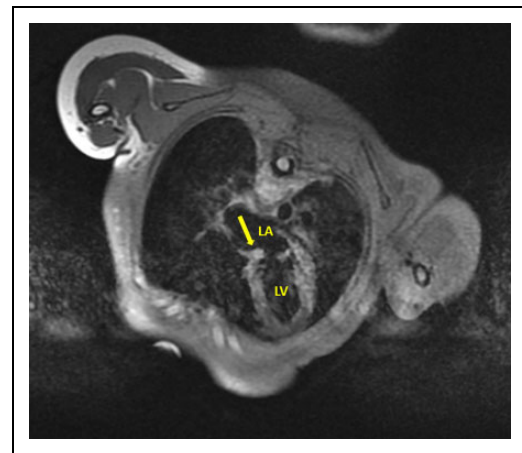


Figure 2. Cardiovascular magnetic resonance (CMR) imaging with late gadolinium enhancement showing hyperintense enhancement of the mass (arrow). LA indicates left atrium; LV, left ventricle.

atypical hard mass (Figure 3A) with projections on the mitral valve, aortic valve, and left atrium surface. Histopathologic features and immunohistochemical profile were consistent with cardiac arteriovenous hemangioma (Figure 3B and C).

Cardiac hemangiomas are rare benign tumors and valvar involvement is extremely uncommon.² Their natural history

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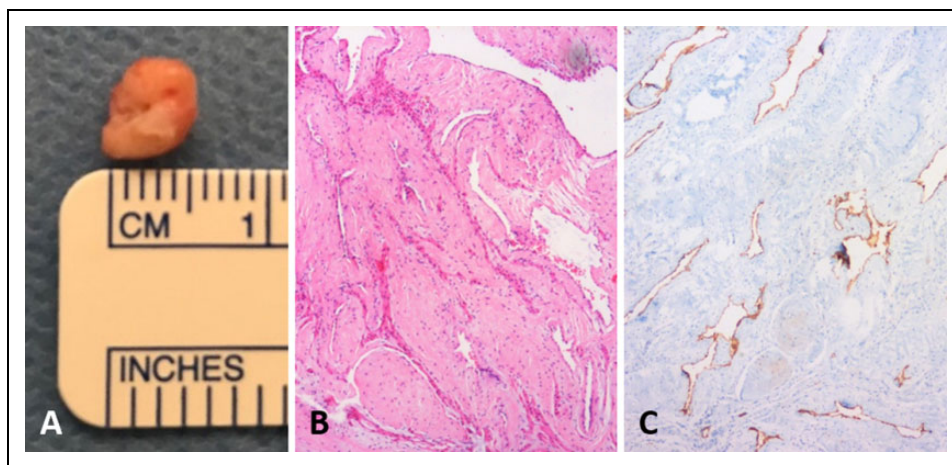


Figure 3. Pathological analysis of excised cardiac mass. A, On gross inspection, an atypical hard mass measuring 6 mm. B, Histopathological examination in hematoxylin and eosin stain, 400 \times , revealed diffuse vascular proliferation with thick-walled vessels. C, Immunohistochemical staining for CD31, 400 \times .

is unpredictable.^{3,4} They can remain stable and asymptomatic or sometimes be complicated with embolism, rupture, or sudden death.³ Although CMR has an important role in the assessment of cardiac tumors as it provides detailed tissue characterization due to high contrast and spatial resolution, only histological analysis can ensure a definitive diagnosis and exclude malignancy.^{1,5} For these reasons, surgical removal is largely recommended.^{3,4} In spite of recent advances in cardiac imaging, the diagnosis of intracardiac tumors remains a challenge. Cases such as the one we describe should remind clinicians that surgical mass removal and histopathologic examination can be critical to achieve a correct final diagnosis, on occasion going against CMR impressions.

Authors' Note

The authors had full control of the analysis of data and production of the written report.

Declaration of Conflicting Interests

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