Images in cardiovascular medicine. Intrapericardial teratoma

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A 1-month-old boy presented with signs of heart failure and tamponade. Two-dimensional echocardiography revealed a complex mass with a large pericardial effusion compressing the heart. Magnetic resonance imaging (Fig 1) defined the relationship of the mass to the pericardium, myocardium, and great vessels. Complete surgical resection was performed without complication (Fig 2). Histology of the mass confirmed the presumptive imaging diagnosis of teratoma. The patient remains free of symptoms and tumor 1 year after surgery.

Intrapericardial teratomas are rare primary cardiac tumors usually diagnosed in neonates and infants. They contain endodermic, mesodermic, and neuroectodermic germinal layers. Intrapericardial teratomas are usually benign tumors but may be life-threatening because of large pericardial effusion and cardiac compression. Echocardiography generally suggests the diagnosis by showing a heterogeneous intrapericardial mass associated with a pericardial effusion compressing the heart.

Two-dimensional echocardiography is considered to be the best diagnostic imaging modality for primary cardiac tumors, but magnetic resonance imaging may have advantages with large tumors in defining the relationship of the tumor to adjacent structures, in visualizing echocardiographic “blind” spots, and in defining tissue characteristics.

References

Figure 1. Magnetic resonance imaging. Axial T1-weighted spin-echo images. A, Main tumor mass (*) is seen displacing mediastinal structures. Thymus (THYM) is displaced rightward and superiorly (not shown), while aorta (AO) and main pulmonary artery (MPA) are displaced posteriorly and splayed. B, Intrapericardial nature of the tumor is demonstrated on a lower image, with tongues of tumor (*) projecting into pericardial space, indenting right atrium (RA). There is an effusion (Eff) and pericardial thickening (arrowheads). LA indicates left atrium.
Figure 2. Gross specimens following surgical resection. A, Tumor bulk is clearly seen, as are two tumor tongues (☆) identified in Fig 1B. B, On cut section, cystic and solid nature of lesion is demonstrated, correlating well with variations in signal intensity seen in main tumor mass in Fig 1A.
Intrapericardial Teratoma
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