A 42-year-old male presented for evaluation of palpitations and chest pain. Physical examination suggested mild mitral regurgitation. Initial echocardiography showed a large mass attached to the interatrial septum. He then underwent cardiac magnetic resonance imaging for tissue characterization of the mass. Spin-echo imaging without (Figure, A) and with (Figure, B) inversion-recovery fat suppression showed a large intracardiac mass (arrow) that practically disappeared with fat suppression. The change in fat signal could also be appreciated by comparing the appearance of chest wall fat (arrowhead) by the 2 techniques. The diagnosis of lipoma was confirmed by histopathologic examination of the surgically excised mass (Figure, C and D). Because hydrogen protons in fat have a shorter T1 relaxation time than that of protons in most other tissues, inversion-recovery magnetic resonance imaging is uniquely able to suppress fat signal and establish a tissue diagnosis noninvasively in cases of lipoma.

**Disclosures**

None.

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