Three-dimensional imaging of atrial myxoma

PRETRE, René, et al.
A 36-year-old man was admitted for investigation of night sweats and increasing exertional dyspnea. On clinical examination, he was afebrile, with normal blood pressure, regular cardiac rhythm, and no signs of cardiac failure. Auscultation revealed a holosystolic murmur, a diastolic rumbling, and an early diastolic sound (“tumor plop”). Routine blood tests were normal except for a sedimentation rate of 80 mm/h (normal, <10 mm/h) and a platelet count at 430 000/L (normal range, 150 000 to 300 000/L).

Echocardiography revealed a voluminous, mobile, and spherical tumor in the left atrium attached to the interatrial septum, suggesting myxoma. There was moderate mitral regurgitation. Size, location, and motion of the tumor were particularly well delineated by transesophageal echocardiography with three-dimensional reconstruction (Figure 1). The echocardiographic findings were confirmed by MRI (Figure 2).

The patient underwent resection of the myxoma and repair of the mitral valve under cardiopulmonary bypass and moderate hypothermia. The myxoma was a 7×5×5-cm tumor attached to the atrial septum, and it was removed with part of the interatrial septum (Figure 3). The atrial defect was closed with a patch of autologous pericardium. Mitral regurgitation was due to prolapse of the anterior leaflet. Shortening of elongated chordae and ring annuloplasty restored valve competence, as assessed by intraoperative transesophageal echocardiography. Anatomicopathological analysis (Figure 4) confirmed the diagnosis of myxoma. The patient had an uneventful recovery and was discharged on warfarin sodium, which was discontinued after 2 months.
Figure 3. Macroscopic view of surgical specimen. Tumor was resected with a piece of interatrial septum.

Figure 4. Microscopic examination of tumor showing an abundant stroma of glycosaminoglycan and dispersed, isolated, or clustered polygonal cells consistent with a cardiac myxoma (hematoxylin-eosin, ×400).
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