Biatrial myxoma: An exceptional case in cardiac surgery

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Cardiac myxomas are benign intracavitary neoplasms. Their incidence in cardiac surgery is approximately 0.3%.^{1,2} Biatrial myxomas are extremely rare. We review our experience with the successful management of a large biatrial myxoma in a middle-aged woman. This particular case is especially interesting because both stalks originated from opposite sides at the same point of the atrial septum, and it is possible that the myxomas grew evenly, one in the right atrium and the other in the left. Therefore one can say that they are myxoma twins.

Clinical Summary

A previously healthy 63-year-old woman was referred to the cardiac surgery center after transthoracic echocardiography showed large tumor masses in the left and right atria (Figure 1). They were freely mobile and prolapsed through the mitral and tricuspid valves into the left and right ventricles during diastole. The mean mitral valve gradient was 18 mm Hg, and the mean tricuspid valve gradient was 10 mm Hg. This woman had a history of progressively worsening exertional dyspnea lasting 6 months. Also, she had episodes of arterial hypertension. The patient's family members, consisting of father, mother, and one brother, had no history of intracardiac tumors.

The patient was scheduled for an operation. The operation was performed through a median sternotomy under extracorporeal circulation by using standard aortic and bicaval cannulation and moderate hypothermia. Myocardial protection was achieved by means of antegrade blood cardioplegia.

When a longitudinal right atriotomy was performed, we found an elastic mass in the right atrium with a short stalk attached to the interatrial septum, close to the fossa ovalis (Figure 2, A). The interatrial septum was incised, and from the opposite side, it was found that both stalks had grown together. On closer inspection, one could surmise that they had developed from a single point. A resection of the right stalk was made along with the entire zone of attachment, and the right myxoma was removed (Figure 2, B). The mass from the left atrium was then completely removed through the excising part at the atrial

Figure 1. Two-dimensional echocardiographic 4-chamber view.

septum. The septal incision defect (45 mm in diameter) was then closed with a polytetrafluoroethylene patch,* and closure of the right atriotomy was achieved (Figure 2, D). After measurement, it was observed that the left atrial myxoma had a diameter of 70 × 60 mm, and the right atrial myxoma had a diameter of 68 × 58 mm (Figure 2, C). Histologic examination revealed myxoma with no signs of malignancy. The patient's postoperative course was uncomplicated.

Discussion

Cardiac myxoma is an intracavitary, round or ovoid neoplasm that is attached to the endocardium. Although the vast majority attach at the fossa ovalis of the interatrial septum, they can arise from any endocardial surface. The majority (60% to 88%) occur in the left atrium, with a smaller proportion in the right atrium (4% to 28%) and in rare cases in left ventricular (8%), right ventricular (2.5% to 6.1%), biatrial (<2.5%), or multiple locations (2.5%).¹⁻⁵

The exact incidence in Lithuania is not known, but these tumors cause 0.47% of all cardiac operations performed at our cardiac surgery center, and this particular incidence of biatrial myxoma was the first such from 99 total cardiac myxoma cases.

For the above-described patient, the diagnosis was clearly and precisely established by using 2-dimensional echocardiographic examination. The same diagnosis was confirmed on the basis of magnetic imaging examination and findings during the operation.

*Gore-Tex patch, registered trademark of W. L. Gore & Associates, Inc, Newark, Del.

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Figure 2. Intraoperative images. **A**, longitudinal right atriotomy; **B**, after the right myxoma was removed; **C**, excised biatrial myxomas; **D**, closure of atrial septal defect.

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