Growth Rate of Left Atrial Myxoma*
Development of a Symptomatic Left Atrial Myxoma Less than Two Years after Coronary Artery Bypass Grafting

Karen I. Marinissen, M.D.; Catharina Essed, M.D.*
Curly de Groot, Adri Schelling, M.D.; and
Frans Hagemeijer, M.D., F.C.C.P.

In April 1984, a left atrial myxoma almost filling the left ventricle was discovered in a patient who had no evidence of myxoma at the time of aortocoronary bypass grafting in September 1982. We conclude that the growth rate of a primary cardiac myxoma may be much faster than expected from previous observations.

Cardiac myxomas, usually benign, arise from multipotential mesenchymal cells in the heart. In the past, cardiac myxoma could only be diagnosed at autopsy. With the present widespread use of angiography and echocardiography, a correct diagnosis can be made during life, and surgery may be performed. The reported time elapsed between the onset of symptoms and the correct diagnosis ranges from 2 to 84 months. There are also some reports dealing with the time span between first operation and recurrent myxoma, which varies from seven months to more than ten years, however, little is known about the rate of growth of the tumor from its inception.

CASE REPORT
Aortocoronary bypass grafting was carried out in September 1982 on a 65-year-old man with intractable angina. An M-mode echocardiogram recorded after surgery in October 1982 showed a normal mitral valve and an echo-free left atrium (Fig 1). No four-chamber view was recorded in 1982.

Eighteen months later, in April 1984, this patient was readmitted to our coronary care unit because of progressive exertional dyspnea and upper abdominal discomfort of four months' duration. On the day before admission, the patient had complained of transient amaurosis. Other symptoms present during the previous four months were loss of weight, muscle tenderness, malaise, paroxysmal vertigo, and nocturnal diaphoresis.

On physical examination the heart was enlarged, with a grade-2/6 mitral regurgitation murmur, possibly a third heart sound, and a pericardial friction rub. The lungs were clear. The liver was enlarged and congested. The electrocardiogram showed no change compared to previous tracings, which showed sinus rhythm and slight ischemic repolarization disturbances. A chest roentgenogram revealed an enlarged heart without signs of pulmonary congestion.

Echocardiography showed a mass in the left atrium (Fig 2 and 3) protruding into the left ventricle during ventricular diastole. On the next day the surgeon removed a left atrial cardiac myxoma, with a stalk attached to the interatrial septum close to the foramen ovale, the septum was not involved. The tumor was 5.4 cm, and microscopic analysis revealed the typical features of a cardiac myxoma (Fig 4).

DISCUSSION
At the time of aortocoronary bypass grafting, the left atrium was normal and empty on echocardiography. The earliest symptoms of the myxoma appeared 14 months later, and during the following four months, the rate of growth of this tumor was such that it almost filled the left ventricular cavity during diastole.

A time span of four months between the onset of symptoms and diagnosis lies within the range of published reports. Our patient had a tumor-free left atrium at the time of aortocoronary bypass grafting, yet within 14 months the myxoma was symptomatic, a rate of growth much faster than we would have expected.

Recurrence after surgical removal of a cardiac myxoma

*From the Department of Cardiology, Sint Franciscus Gasthuis, Rotterdam, the Netherlands.

†Department of Pathologic Anatomy, Erasmus University, Rotterdam, the Netherlands.
may occur very early. Sasaki et al.8 have described the fatal recurrence of a left atrial myxoma eight months after excision of the primary tumor. At autopsy, many fingertip-sized granulomatous tumors were scattered over the entire left atrial wall. Kelly and Bhagwat5 observed the recurrence of a symptomatic left atrial myxoma seven months after its incomplete resection. Read et al.7 have described a repeated recurrence at 15 and 9 months after surgical removal of a cardiac myxoma from the left atrium.

Suggested mechanisms of recurrence are incomplete removal of the primary tumor, the presence of multiple foci, or malignant degeneration of the primary tumor.8 It has also been suggested that a recurring myxoma might grow more rapidly than the primary tumor.9 These considerations are not relevant in our patient, in whom a primary myxoma grew quite rapidly, from undetectable by echocardiography to almost complete filling of the left ventricle in less than 18 months. We expect that routine echocardiographic follow-up of cardiac patients will enable us to learn more about the rate of growth of cardiac myxomas.

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