Recurrent Left Atrial Myxoma

Report of a Case

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SUMMARY
Recurrence of a left atrial myxoma 6 years after the initial resection is reported. This, to our knowledge, is the second such case, and it emphasizes the need for a complete resection of the underlying atrial septum or atrial wall in cases of myxoma.

Additional Indexing Words:
Intracardiac tumors
Emboli

MYXOMA is an infrequent but important intracardiac lesion which occurs most often in the left atrium. Although it has been suggested that atrial myxomas merely represent degenerated thrombi, evidence strongly favors a neoplastic origin.

Since the first successful removal of an intracardiac myxoma in 1955, numerous reports dealing with surgical resection of these tumors have appeared in the literature. In 1966, Newman and associates reviewed 58 attempted excisions of left atrial myxomas and reported no recurrence, and Firor's group reported a 5 to 10-year follow-up of their three operative cases with no reappearance of the tumor. They concluded that simple excision of atrial myxomas was adequate and that a resection of the adjacent atrial septum or wall was unnecessary. Similar opinions have been expressed by others, based on the absence of recurrence and a lack of invasion of the myxoma beyond the elastic fibers of the second endothelial layer.

We recently had the opportunity to study a patient in whom a left atrial myxoma reappeared 6 years after the initial surgical resection. This, to our knowledge, is the second reported recurrence, the first being a case described by Gerbode and his co-authors.

Report of Case

S. C., a white housewife, was well until 1962 (age 34) when she suddenly developed right hemiplegia. This was considered to be due to a cerebral embolus secondary to rheumatic heart disease, although she gave no history of rheumatic fever. Three months after the first episode severe pain began abruptly in her left leg, and she was admitted to Barnes Hospital for the first time on June 14, 1962. Positive physical findings were limited to a soft apical pansystolic murmur, absence of the popliteal and pedal pulses on the left with cyanosis of the leg, and right hemiplegia. A diagnosis of left femoral artery embolization was made and an embolus was removed without difficulty from the superficial femoral artery with return of distal pulses in the left leg. Macroscopic and microscopic examination of the removed material suggested that it arose from a myxoma. A pulmonary artery angiogram subsequently showed a large filling defect, approximately 3 cm in diameter, on the septal aspect of the left atrium.

On June 28, 1962, the left atrium was explored using extracorporeal support. The mitral valve was normal. A large myxoma was found loosely attached at several different areas along the atrial septum. The tumor fragmented easily. It and the underlying endocardium were excised; however, the interatrial septum was left intact. Grossly the tumor appeared as a soft, friable, well demarcated, whitish, glistening mass measuring approxi-
Pulmonary artery angiogram, anteroposterior view (June 21, 1962). Pulmonary venous phase showing opacification of the left atrium. A circular filling defect is seen in the right inferior portion of the left atrium.

Immediately 3 cm in diameter. In some areas it was mucinous; in other regions it was membranous and firm. On microscopic examination it was seen to be composed of myxomatous stroma containing numerous spindle and stellate-shaped cells (fig. 2). A few cells contained double nuclei but mitoses were rare. Numerous areas of hemorrhage and hyalinization were present. The surgical pathologic diagnosis was myxoma.

In October, 1962, she was readmitted to the general surgery service of Barnes Hospital for removal of breast lesions. A bilateral simple mastectomy was performed. The histologic examination of the tissue revealed chronic cystic disease with diffuse fibroadenomas. The stroma of the fibroadenomas was myxoid. The case was reported by Roper and associates.10

The interim course was excellent with progressive improvement of her right hemiparesis until October 1, 1968, when she suddenly developed aphasia and a return of her right hemiparesis necessitating her last admission to Barnes Hospi-

tal. She denied chest pain, exertional dyspnea, pedal edema, inability to lie on the left side, and palpitation.

The physical examination during the present hospital admission showed a pulse rate of 100/min with occasional premature beats. The blood pressure was 135/65 mm Hg, and the temperature was 37.5 °C. The jugular veins were normal and the lungs were clear. There was no cardiac enlargement by palpation. The first and second heart sounds were normal. A grade II/VI pansystolic murmur was present at the apex, but no diastolic rumble or opening snap was heard. Changing the patient's position did not alter the cardiac findings. The liver was not enlarged and peripheral pulses were normal. Examination of the central nervous system revealed signs of right hemiplegia and motor aphasia.

Hemoglobin was 14.7 g/100 ml and hematocrit was 44%. The white blood cell count was 8860/mm³ with normal leukocyte differential. An electrocardiogram showed only sinus arrhythmia and occasional atrial and ventricular premature beats. Cardiac roentgenograms were within normal limits. Examination of cerebrospinal fluid showed no abnormality. Total serum protein was 6.6% and protein electrophoresis was normal. The VDRL was negative.

The redevelopment of hemiplegia suggested the possibility of recurrence of the myxoma with embolism. On October 10, 1968, a right heart catheterization was performed. The pressures in the pulmonary artery, right ventricle, and pulmonary capillary wedge position were normal. A pulmonary artery angiogram showed a small filling defect on the septal aspect of the left atrium (fig. 3). A myxoma measuring 1.5 cm in diameter (fig. 4) was removed using cardiopulmonary bypass. The adjacent interatrial septum was excised and the septal defect thus created was closed with a Dacron patch. The morphology of the tumor was found to be identical to that described at the time of the first operation. The postoperative course has been uneventful.

Discussion

This, to our knowledge, is the second reported recurrence of left atrial myxoma. Gerbode and co-workers in 1967 first described the reappearance of myxoma 4 years after simple excision. These authors advocated resection of the underlying atrial tissue during myxoma removal. At the time of the first operation in our case, the entire tumor along with the underlying septal endocardium was removed, but the septum was left intact. Almost all of the earlier publications on this
subject suggest that this type of simple resection of the tumor is all that is required because recurrence had not been observed for up to 10 years after removal. In addition, in cases where detailed histologic study was undertaken, the tumor was not seen to extend beyond the endothelial layers of the endocardium. Recent reports continue to question the need for wide excision of the septum and point out the rarity of recurrence.

Although recurrence of myxoma is rare, the recurrence in our case and the case of Gerbode and associates points to an invasive nature of the tumor. We feel, therefore, that excision of the underlying atrial septum or wall is justified in every case. Such a procedure will be more in keeping with the surgical principles of tumor surgery without adding greatly to the technical difficulties of the operation. The defect created in the septum or the atrial wall can be easily closed primarily or with a Dacron patch to restore normal anatomical and physiological function. The chances of disturbing the conduction system are extremely small as the tumor usually arises high on the atrial septum near the fossa ovalis.

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References
Figure 3

Pulmonary artery angiogram, anteroposterior view (October 10, 1968). Pulmonary venous phase. Left atrium is opacified. A small filling defect is seen again in the right inferior portion of the left atrium.


Figure 4

Photograph of the resected specimen (1968) depicting the size and lobulated appearance of the tumor.
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