Infected Left Atrial Myxoma With Mitral Valve Endocarditis

We report a rare case of infected left atrial myxoma associated with mitral valve endocarditis. The tumor and a small amount of vegetative growth on the anterior mitral leaflet were surgically excised. Subsequent antibiotic therapy may have prevented the infection from recurring. Histological findings showed myxoma cells embedded in mucinous stroma at the tumor base and an organized thrombus with bacterial colonization at the tumor tip. (JJTCVS 2002; 50: 137–139)

Key words: infected left atrial myxoma, infective endocarditis, surgical resection

Masashi Tanaka, MD, Koji Kawahito, MD, Hideo Adachi, MD, Atsushi Yamaguchi, MD, and Takashi Ino, MD.

Although myxoma is the most common primary cardiac tumor, myxoma complicated by infection is rare. To date, 32 infected left atrial myxomas have been reported in the literature. Only 2 cases of infected myxoma combined with vegetation on the mitral valve have been reported. We here describe an infected left atrial myxoma developing mitral valve endocarditis.

Case

A previously healthy 75-year-old woman admitted to Omiya Medical Center in June 2000 for slight night fever and general fatigue was found, prior to admission at Omiya, to have a left atrial mass and positive blood culture. She was prescribed piperacillin for 3 weeks because her serial blood culture was positive for Enterococcus faecalis. She was referred to us for further examination and extraction of the left atrial mass.

Upon admission, the patient had a fever of 38.1°C, blood pressure of 148/72 mmHg, and heart rate of 102 bpm. A grade II/IV systolic murmur was noted at the cardiac apex. The liver was not palpable and no peripheral edema, embolic episode, or abnormal neurological finding was seen. Blood cell counts and serologic studies disclosed a mild inflammatory response with a white blood cell count of 6000/mm³ and a C-reactive protein concentration of 3.0 mg/dl. Other laboratory findings were normal except for the presence of slight anemia. Transesophageal echocardiography showed a mobile left atrial mass 4.6 cm long, prolapsing into the left ventricle through the mitral valve and pulsating upward with the movement

Fig. 1. Transesophageal echocardiography showing a long narrow mass derived from the atrial septum in the left atrium and a small highly echoic lesion at the tip of the anterior mitral leaflet.
Mild regurgitation was also observed (Fig. 1). A 3-mm highly echoic mass was also observed at the tip of the anterior mitral leaflet (Fig. 1).

Emergency surgery on hospital day 3 due to the risk of systemic embolism was conducted via median sternotomy with moderate hypothermic cardiopulmonary bypass and cold blood cardioplegia. The tumor was excised with the attached atrial septum via a transseptal approach. A small amount of calcified vegetation was observed on the medial scallop of the anterior mitral leaflet and was carefully excised without injuring the mitral structure.

Gross examination showed the $5 \times 1 \times 1$ cm tumor (Fig. 2) to histologically have typical polygonal and stellate myxoma cells embedded in mucinous stroma at the tumor base (Fig. 3) and an organized thrombus with a bacterial colony at the tumor tip (Fig. 4). The calcified lesion on the mitral valve was surrounded by a bacterial colony and infiltrating neutrophils.

Antibiotics were administered postoperatively for 30 days and the patient was discharged with normal CRP and no fever. Six months later, the patient is asymptomatic with no clinical evidence of recurrence.

**Discussion**

Cardiac myxomas may simulate infective endocarditis but are rarely actually infected. The literature reports 32 cases of infected left atrial myxomas,$^{1,2}$ only 2 of which were combined with vegetative growth on the mitral valve.$^{3,4}$ Both may present with severe constitutional symptoms and cause considerable morbidity or even mortality from atrioventricular valve dysfunction. Infected myxomas differ from infective endocarditis in that they are completely curable with prompt surgical resection and usually have no sequelae. In our patient, although constitutional symptoms and mild mitral regurgitation were observed, mitral valve repair was not required.

Left atrial myxomas may present protean manifestations, but echocardiography is useful in diagnosing them correctly. It is difficult, however, to distinguish preoperatively between infected and noninfected atrial myxoma. Cross-sectional echocardiography or angiography is useful in locating the tumor, but cannot visualize or diagnose active infection, which requires isolation of the offending organism. This is often done by sampling blood for cultures, although cultures occasionally yield false negative results. In our patient, the diagnosis of infected left atrial myxoma was confirmed histologically by the presence of neutrophil infiltrates and bacterial remnants.

Therapeutically, infected myxomas require combined medical and surgical treatment. Prompt diagnosis and early surgical excision are essential to a good outcome because tumor emboli are potentially fatal. Compared to the incidence of embolism in uncomplicated endocarditis or noninfected myxoma, that in infected myxoma appears to be two- to three-fold.$^5$