Left Atrial Myxoma Associated With Acute Myocardial Infarction

We describe a patient with left atrial myxoma associated with acute myocardial infarction. Since hemodynamics were impaired even with the support of an intra-aortic balloon pump, the patient underwent removal of the tumor concomitant with coronary artery bypass grafting to the right coronary artery on the fifth day from infarction onset. In circumstances of life-threatening of myxoma associated with acute myocardial infarction, removal of myxoma with coronary artery bypass should be performed in an acute phase of myocardial infarction. (JJTCVS 1999; 47: 452-454)

Index words: left atrial myxoma, acute myocardial infarction, coronary artery bypass grafting

Yukihisa Isomatsu, MD, Yasushi Nishiya, MD, Shuichi Hoshino, MD, Minoru Hara, MD, and Hiroyuki Tsukui, MD.

Case

A 68-year-old male with increasing chest discomfort was admitted to another hospital. He had suffered from syncope for a few minutes three hours prior to the admission. Electrocardiogram (ECG) showed complete atrioventricular block and temporary right ventricular pacing was initiated. ECG two hours after admission showed sinus bradycardia with ST-segment elevation in Leads II, III, and aVf. He was diagnosed with acute myocardial infarction and tissue plasminogen activator was administered. This patient was referred to our hospital for the purpose of medical and/or surgical treatment two days later. Echocardiography demonstrated a left atrial tumor with a diameter of more than 7 cm (Fig. 1). Coronary angiogram, which was done four days after the onset, showed ninety percent stenosis at the proximal segment of the right coronary artery (Fig. 2). The peak of creatine phosphokinase (CPK) was observed at 12 hours after onset with a value of 2408 IU/L. In spite of inotropic agent administration and support of intra-aortic balloon pumping, the patient showed low cardiac output (cardiac index; 2.1–2.4 L/min/m²) and decreasing urination. The operation was performed 5 days after the onset; under moderate hypothermic cardiopulmonary bypass, cardiac arrest was obtained. After Dubost’s incision, the left atrium was opened and a tumor, weighing 115 g, attached by a

From the Department of Cardiovascular Surgery, Toyama Prefectural Central Hospital, Toyama, Japan.

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Address for reprints: Yukihisa Isomatsu, MD, Department of Cardiovascular Surgery, Toyama Prefectural Central Hospital, 2–2–78 Nishi-nagae, Toyama 930–8550, Japan.

Fig. 1. Preoperative echocardiogram, A huge tumor obstructing the mitral inflow was observed in the left atrium.
stalk to the central portion 1 cm outside the mitral annulus of the anterior leaflet was removed (Fig. 3); the interatrial septum was closed with a polytetrafluoroethylene patch. The tumor was histologically a myxoma. Lastly, coronary artery bypass grafting (CABG) with saphenous vein to the right coronary artery was performed. Postoperative angiogram 34 days after the operation showed the same portion of the stenosis of the right coronary artery as preoperatively and a patent saphenous vein graft (Fig. 4). The patient was discharged on the 36th postoperative day.

Discussion

The most common clinical symptom of left atrial myxoma is left heart failure. The number of cases of left atrial myxoma complicated with acute myocardial infarction (AMI) is very small. Eight cases have been reported in which myocardial infarction of the inferior wall was the clinical manifestation which led to the discovery and the operation of myxoma during the patient’s lifetime (Table I). Preoperatively injured coronary artery responsible for AMI was proved to be recanalized postoperatively in four reports. There was no clear statement regarding this point in the remaining four reports. In the present case, coronary angiography showed the stenosis of the right coronary artery at the same portion before and after operation. One of the possible hypotheses of low cardiac output caused by the huge left atrial myxoma was the probable mechanism of infarction in this case due to impaired filling of the right coronary artery which had atherosclerotic stenosis.

There is no agreement on the optimal time of operation and operative procedure for left atrial myxoma associated with AMI. Taking into consideration the low cardiac output in this patient, we performed a removal of the myxoma and CABG simultaneously 5 days after AMI onset. When the hemodynamics of the patient are stable, operation will be performed 2–4 weeks after AMI onset and removal of the tumor with or without CABG will be based on coronary angiogram. On the other hand, when the patient’s hemodynamics are unstable or worsening, operation concomitant with CABG should be done in an acute phase of AMI; however,