Case Report

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Minimal Invasive Thoracoscopic Transmitral Resection of A Left Ventricular Myxoma

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Abstract

Left ventricular myxomas are extremely rare. We report the transmitral approach through right anterolateral minithoracotomy for excision of a left ventricular septal myxoma in a 72-year-old asymptomatic man. A postoperative course was uneventful without arrhythmia.

Key words: *Left ventricular myxoma, minima, minimal invasive thoracotomy*

Introduction

More than half of cardiac tumors are myxomas. However, ventricular myxomas are extremely rare and account for less than 3%. The standard surgical approach for excision is median sternotomy [1,2]. In only one case, a minimally invasive access to the heart was reported through minimal invasive transaortic thoracoscopy [2]. No cases were published for a minimally invasive transmitral access, despite of the fact that this access is routinely done by numerous surgeons worldwide for mitral surgery [3].

Case Report

Clinical History and Presentation

A 72-year-old asymptomatic man had an echocardiographic examination due to recurrent episodes of palpitations. A left ventricular tumor (3.1x1.9 cm) was detected attached to the apical part of the septum (Figure 1). There was neither significant valvular disease nor a history of thromboembolic disease. Coronary angiography excluded significant coronary artery disease. The cardiac magnetic resonance tomography examination with late gadolinium en-

hancement showed inhomogeneous contrast in both T1- and T2-sequences, as described for myxomas.

Surgical Technique

The operation was done using the typical position for minimally invasive, thoracoscopic mitral surgery (Figure 2). After introduction of cardiopulmonary bypass (CPB) through the right femoral artery and vein, minithoracotomy was done in the 3rd intercostal space through a 4cm skin incision. Using a video thoracoscope (optic 2.7mm 30° Endo TIPTM, Karl Storz Endoscope, Germany) and carbon dioxide insufflation (4L/min), the pericardium was opened 2cm anterior to the phrenic nerve. After aortic clamping, cardioplegia was administered through the aortic root (2000ml Custadiol®, Koehler Chemie, Germany). Incision of the left atrium was done through the interatrial groove. For retraction of the left atrium, the MitraXS (St. Jude Medical Inc., USA) was used. Under a perfect view, the resection of the tumor was uncomplicated. Finally, the mitral valve was inspected for competence; the atriotomy was closed, and the heart deaired via the aortic root. Aortic clamping time was 45 min and CPB was 71 min. Transesophageal echocardiography excluded residual tumor mass or a ventricular septal defect.

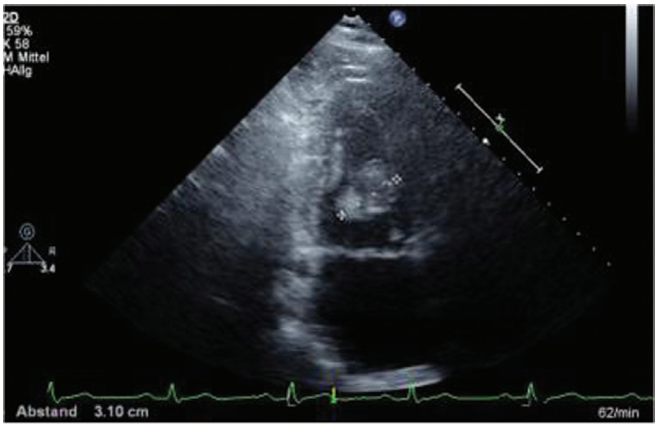

Figure 1. Transthoracal echocardiogram showing a left ventricular myxoma.

Figure 2. Cosmetic result after for minimally invasive thoracoscopic research of left ventricular myxoma (typical position for minimal invasive mitral surgery).

Result

The patient had an uneventful recovery and was discharged at the 10th postoperative day. Histological examination confirmed a polypoid myxoma.

Discussion

The typical location of a left ventricular myxoma is the area of posterior papillary muscle or interventricular septum, although the incidence of ventricular tumors is less than 3% [2]. The surgical procedure is essential for prevention of thromboembolic events and intracardial obstruction. The surgical interventions were described by Talwalkar et al. (1999) [1] through the mitral valve, by Bossert (2005) [4] using right thoracotomy, and by Modi et al. (2009) [2]. Modi et al. described transaortic resection by videoscopic assistants of an apical ventricular myxoma after parasternal incision. Our report is the first description of the left ventricular myxoma resection through right anterolateral minithoracotomy, as used for mitral surgery [5]. This access results in earlier extubation, a shorter time of intensive care unit stay and excellent aesthetic results, compared to conventional median sternotomy.

Minimal invasive thoracoscopic transmitral resection of left ventricular tumors is technically easy, safe and associated with rapid clinical recovery.

Conflict of interest statement

The authors do not declare any conflict of interest or financial support in this study.

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