

## Case Report

# Right atrial pseudomyxoma originated from junction between right atrial wall and tricuspid ring annuloplasty

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## ABSTRACT

We present diagnostic echocardiography results of a patient with intracardiac mass who had undergone primary ASD closure and tricuspid valve annuloplasty after being diagnosed with atrial septal defect and tricuspid failure. The atrial mass originated from free right atrial wall junction and tricuspid ring annuloplasty. Typical morphology of intracardiac mass which was considered to be myxoma during preoperative period was found to be an organized thrombus.

**Keywords:** Pseudomyxoma, Thrombus, Intracardiac mass

## INTRODUCTION

Tricuspid ring annuloplasty is the well-codified treatment modality in approaching in patients with tricuspid valve regurgitation.<sup>1</sup> Although thrombosis associated with ring annuloplasty is seen rarely, it may mimic a primary cardiac tumor such as mixoma. Moreover, right-sided mobile lesions may be a cause of pulmonary embolism. Thus, prompt the surgical resection is needed.

Herein, we present a case of right atrial thrombus originating tricuspid valve ring in the mid-term postoperative period.

## CASE REPORT

A 60 year-old woman without the signs and symptoms, who underwent an atrial septal defect closure and tricuspid ring annuloplasty procedure one year ago, was referred for routine examination. At the time of her

admission, physical examination and laboratory test results including blood cultures were completely normal. Transthoracic echocardiography (TTE) showed mobile intraatrial mass attached the tricuspid valve ring. This mass was floating and prolapsing into the right ventricle through tricuspid valve orifice during diastole by TTE. To further investigate this mass in detail, transesophageal echocardiography (TEE) examination was performed. It showed an isolated mass with small pedicle, which was 2.5 X 2.5 cm in size (Figure 1). The mass was a semi-solid structure and originating from the junction between tricuspid valve ring and atrial wall. Besides, TEE disclosed no tricuspid valve regurgitation.

Surgery was scheduled for the removal of the mass. Via a median sternotomy, the patient was placed on cardiopulmonary bypass and underwent surgery with the use of standard techniques and isothermic blood cardioplegia. The pedicle of a mass was detected near the tricuspid valve ring. The mass with its pedicle was

resected completely by sparing tricuspid valve ring (Figure 2). Subsequently, all intra cardiac structures were observed. There was no any invasion at the other cardiac structures. Postoperative course was uneventful and the patient was discharged on the postoperative day 6. In the following first month and year, control transthoracic echocardiography was done and demonstrated normal findings.



**Figure 1: Black arrow shows serpiginous thrombus in the right atrium on TEE.**



**Figure 2: Intraoperative view of the thrombus.**

Macroscopically, mass was like organized thrombus. The mass have a too small pedicle. Microscopy of the mass revealed that the mass consisted of fibrin ve blood elements and the endothelial surface layer.

## DISCUSSION

It may be difficult to define exact nature of the right atrial mass and mural thrombi by diagnostic radiological imaging. Because all kind of right atrial masses may resemble each other. However, thrombi may lead fatality due to its fragile nature and embolization risk.<sup>2</sup> In addition to this, reasons of the right atrial thrombi can be a wide variety such as insufficient anti-coagulation, central catheters and ring anuloplasti itself. But surgery

should be planned immediately regardless of the reasons of thrombi. That being the case, we decided to remove the mass.

Endothelialisation of the ring material is approximately two weeks. Similarly, infiltration and endothelialisation of intracardiac thrombus is almost two weeks. For this reason, anticoagulation during this time frame may prevent occurrence of new clot and allow the most recently formed thrombi to become sufficiently adherent.<sup>3</sup> Consequently, proper and timely anticoagulation protocol should be applied from the early postoperative period. Although early anticoagulation protocol is unknown in this patient, it is interesting to detect thrombi with pedicle after one year of surgery.

The most important adverse event of right atrial thrombi is pulmonary embolization.<sup>4</sup> But, there is no consensus related to management of the right atrial thrombi, which is less than 2 cm in diameter. It is recommended emergent surgery in these patients when thrombi greater than 2 cm in diameter.<sup>5</sup>

TTE detected right atrial thrombi may be associated with pulmonary embolism and death, Management of mobile right atrial mass can be a therapeutic dilemma due to its unpredictable structure. Thereof, immediate surgery should be planned in order not cause pulmonary embolization.

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