

Two cases of right atrial myxoma in redo patients. A mere coincidence?

F. SANSONE, F. CERESA, F. PATANÈ

SUMMARY: Two cases of right atrial myxoma in redo patients. A mere coincidence?

F. SANSONE, F. CERESA, F. PATANÈ

We describe two cases of right atrial myxoma in redo patients who had previously undergone to coronary artery by-pass grafting (CABGs) and mitral valve replacement respectively. Both of patients experienced effort dyspnea and were assessed by trans-thoracic echocardiography, revealing the right atrial masses. They were operated on for myxoma resection and postoperative course was uneventful. Our report deals with the interesting topic of the location of benign masses that are usually more common in the left atrium. Should we hypothesize that the right atrial manipulation during the previous surgery induces the onset of the right atrial mass? It is an interesting matter to debate.

RIASSUNTO: Due casi di mixoma atriale destro in pazienti già operati. Una pura coincidenza?

F. SANSONE, F. CERESA, F. PATANÈ

Presentiamo due casi di mixoma atriale destro in pazienti già sottoposti ad intervento cardiocirurgico, in un caso di rivascularizzazione miocardica e nel secondo di sostituzione valvolare mitralica. Entrambi i pazienti riferivano dispnea da sforzo e sono stati valutati mediante ecocardiogramma trans-toracico che ha evidenziato la presenza delle masse atriali destre. I pazienti sono stati operati per resecare il mixoma atriale destro ed il decorso postoperatorio è stato privo di complicanze di rilievo. Il report tratta dell'interessante argomento della localizzazione delle lesioni cardiache benigne, in genere più comuni nell'atrio sinistro. È lecito ipotizzare che la manipolazione atriale destra durante i precedenti interventi cardiocirurgici possa aver in qualche modo stimolato la comparsa di queste lesioni benigne nell'atrio destro? Si tratta di un interessante argomento di dibattito.

KEY WORDS: Right atrial myxoma - Redo surgery - Pedicle - Effort dyspnea.
Mixoma atriale destro - Re-interventi - Peduncolo - Dispnea da sforzo.

Introduction

Primary cardiac tumors are quite uncommon and rare compared to metastatic lesions. The incidence of primary cardiac tumors ranges from 0.0017% and 0.03% in autopsy series (1). Among benign primary cardiac tumors, myxomas and papillary fibroelastomas are the most common (2). Cardiac myxomas arise from pluripotent mesenchymal cells and are seen as intracardiac, glistening polypoid masses arising most frequently from the inter-

atrial septum in the left atrium. They are composed of stellate to polygonal myxoma cells in a mucopolysaccharide-rich matrix. The usual location is into the left atrium (75%) and the right atrium is an unusual site (3). Surgical treatment yields good results with a variable risk of recurrences related to the care of resection while in malignant lesions the treatment of choice should be carefully tailored on the extension and the localization of the lesion (4).

Case reports

We present the cases of two patients with right atrial myxoma diagnosed after previous cardiac surgery.

A 74 year-old female, operated for mitral valve replacement with bio-prosthesis eight years before, was admitted to the hospital for ongoing dyspnea (NYHA II) and peripheral edema. Clinical evaluation

"Ospedali Riuniti Papardo-Piemonte" Hospital, Messina, Italy
Division of Cardiac Surgery

© Copyright 2013, CIC Edizioni Internazionali, Roma



Fig. 1 A-B - A) Intraoperative finding. The mass was round, about 4 cm in diameter, with a wrinkled surface characterized by red color in the leaflet facing the inter-atrial septum and yellow color in the surface facing the mitral prosthesis. It was attached to the inter-atrial septum by a thin pedicle of about 5 mm in length, grey in color, with a smooth surface. B) The mass was attached to the inter-atrial septum by a small surface even though it was slightly mobile. It was red in color, about 4.5 cm in diameter, capsulated, with a smooth surface.

revealed a mild systolic murmur on the apex and chemistry did not show abnormalities. The echocardiography showed a normal bio-prosthesis and a dilated right atrium with a mass of about 4 cm in diameter attached by a thin pedicle to the inter-atrial septum, with a diastolic movement towards the tricuspidal annulus, causing significant obstruction. Preoperative angiogram did not show coronary disease; The patient was re-operated through a median sternotomy. The right atrium was opened and the mass inspected: it was round, about 4 cm in diameter, with a wrinkled surface characterized by red color in the leaflet facing the inter-atrial septum and yellow in the surface facing the mitral prosthesis. It was attached to the inter-atrial septum by a thin pedicle of about 5 mm in length, grey in color, with a smooth surface (Figure 1 A). The mass was easily excised and the tissues around the pedicle were carefully cauterized. Histological evaluation confirmed the atrial myxoma and postoperative course was uneventful without recurrences over the late follow up.

A 58 year old male, operated for coronary artery bypass grafting on left anterior descending artery two years before, was admitted to the hospital for the diagnosis of a right atrial mass by echocardiography performed for effort dyspnea. The left ventricular function was preserved and patient had no symptoms related to the mass. He was operated through a right minithoracotomy at the 4th intercostal space and the right atrium opened in the usual manner. The mass was attached to the inter-atrial septum by a small surface even though it was slightly mobile. It was red in color, about 4.5 cm in diameter, capsulated, with a smooth surface (Figure 1 B). It was easily excised with a careful cauterization of the tissues around the attachment. The postoperative course was uneventful and patient was discharged without discomfort. Histological evaluation confirmed the atrial myxoma.

Discussion

Cardiac myxoma is encountered in every age group and there is predominance of females (1). Clinical pre-

sentation is usually different. Frequently, diagnosis is achieved incidentally by echocardiography while in other cases, peripheral embolism may occur (5) or ongoing dyspnea due to mitral obstruction. The left atrium is typically involved in cardiac myxoma whereas the right atrium is most frequently affected by malignant lesions (1). Moreover, malignancies usually occur in younger patients where a quick diagnosis is mandatory for treatment option and survival (4).

Echocardiography is the most important diagnostic modality because it allows a preoperative diagnosis with a fair degree of accuracy regarding size, shape, attachment, and mobility. The usual location is into the left atrium (75%) and the right atrium is an unusual site (3).

The recurrence of cardiac myxoma after a surgical excision depends on unclear mechanisms. Multifocal growth of a benign myxoma or malignant transformation, inadequate resection, intraoperative implantation or embolization, familial disposition, and the abnormal DNA ploidy pattern play an important role in development of recurrent myxoma.

Conclusions

The peculiarity of our report belongs to the occurrence of a right atrial myxoma in redo patients. Since the mechanisms of the onset of cardiac myxoma are unclear, we can speculate that the manipulation of the right atrium during the previous cardiac surgery should activate few pluripotent mesenchymal cells leading to the myxoma onset. It should be an interesting matter to debate.

References

1. Liu S, Wang Z, Chen AQ, Zhou GH, Jiang ZB and Xiao MD. Cardiac Myxoma and Myxosarcoma: Clinical Experience and Immunohistochemistry. *Asian Cardiovasc Thorac Ann* 2002;10:8-11.
2. Samoun M, Sansone F, Burlo M, Calafiore AM. Papillary fibroelastoma of the anterolateral papillary muscle: an unusual case. *J Cardiovasc Med (Hagerstown)* 2006;7:830-2.
3. Vaideeswar P, Butany JW. Benign cardiac tumors of the pluripotent mesenchyme. *Semin Diagn Pathol* 2008;25(1):20-8. Review.
4. Sansone F, Zingarelli E, Actis Dato GM, Flocco R, Punta G, Parisi F, Forsennati PG, Bardi GL, Del Ponte S, Casabona R. A rare case of right atrium mass involving the right coronary artery and the tricuspid annulus. *Int J Cardiol* 2010 Oct 7. Epub ahead of print.
5. Yadav S and Alvarez JM. Catastrophic presentation of atrial myxoma with total occlusion of abdominal aorta. *Interact CardioVasc Thorac Surg* 2009;9:913-915.