CASE REPORT

Left atrial myxoma in transplanted heart

W W Yap, K Bhattacharya, V Pathi

Heart 2005;91:e49 (<http://www.heartjnl.com/cgi/content/full/91/6/e49>). doi: 10.1136/hrt.2005.060095

Primary cardiac tumours are discovered in about 1 in 2000 necropsies. Cardiac myxomas make up half of all benign intracardiac tumours. Seventy five per cent are located in the left atrium. The first left atrial myxoma arising from the left atrium of a transplanted heart is reported.

A 65 year old man underwent orthotopic heart transplantation for end stage heart failure secondary to hypertrophic cardiomyopathy. The donor heart was from a 22 year old man who had died in a road traffic accident. The patient made an uncomplicated recovery from the transplantation. Routine immunosuppression consisted of cyclosporin (Neoral, Novartis), azathioprine, and prednisolone. Neither the donor nor the recipient had a family history of cardiac tumours.

Early follow up echocardiography showed no abnormality. However, an echocardiogram five years later showed an oval, pedunculated mass in the left atrium measuring 3.6 cm × 2.8 cm. It was attached close to the right inferior pulmonary vein. The appearance was in keeping with a myxoma (fig 1). Further images obtained by magnetic resonance imaging with vascular enhancement supported the diagnosis.

After the diagnosis was confirmed, the patient underwent surgery. Aortobicaval cardiopulmonary bypass was established and the left atrium was incised anterior to the pulmonary veins to expose the mass. The pedicle arose from scar tissue posteroinferior to the right inferior pulmonary vein. Intraoperatively, it proved difficult to ascertain the exact relation to the previous suture line. The full thickness atrial wall with a 1 cm margin was excised. The left atrium was then closed directly. The patient made an uneventful post-operative recovery.

The resected mass was firm and smooth measuring 3 cm × 3 cm. On sectioning, it had a gelatinous surface

Figure 1 Transoesophageal echocardiogram showing a myxoma in the left atrium of a transplanted heart.

(fig 2). Histology confirmed it to be a polypoid atrial myxoma that was almost totally necrotic. The stalk of the polyp was based on the left atrial suture line. DNA analysis of fresh tumour tissue obtained at operation showed recipient DNA only with no donor DNA detected. Laser capture of tumour cell nuclei was attempted but was inconclusive due to the necrosis present.

DISCUSSION

One of the long term complications of immunosuppressive treatment for cardiac transplantation is the development of malignancy. Data from large tumour registries suggest that the incidence of common solid organ cancers is not increased, whereas the incidence of squamous cell carcinoma of the skin and lymphoma is increased.¹ There is one report of a patient developing an atrial myxoma after bone marrow transplantation.²

Atrial myxomas are more common in women; 10% are familial and usually present between the third and sixth decades of life. Serious complications of atrial myxomas include embolisation and mitral valve obstruction. Atrial myxoma has a 3% recurrence rate³⁻⁵ despite complete excision. The recurrence rates are higher in the familial group.

To our knowledge, this is the first reported case of myxoma in a transplanted heart. Histologically the myxoma arose on the scar between the donor and recipient left atrium. DNA analysis confirmed that the myxoma was of recipient origin. This analysis should be interpreted cautiously, as thrombus within the myxoma may bias the result.

Figure 2 Resected mass.

In view of the possibility of recurrence, these patients should be followed up with serial echocardiography.

Authors' affiliations

W W Yap, K Bhattacharya, V Pathi, Department of Cardiothoracic Surgery, Western Infirmary, Glasgow, UK

Correspondence to: Dr Wan W Yap, Department of Cardiothoracic Surgery, Western Infirmary, Dumbarton Road, Glasgow G11 6 NT, UK; wanwan@doctors.net.uk

Accepted 1 February 2005

REFERENCES

- 1 **Parameshwar J**, Schofield P, Large S. Long-term complications of cardiac transplantation. *Br Heart J* 1995;**74**:341–2.
- 2 **Baronciani D**, Anelucci E, Polchi P. An unusual marrow transplant complication: cardiac myxoma. *Bone Marrow Transplant* 1998;**21**:825–7.
- 3 **Kirklin JW**, Barratt-Boyes BG. *Cardiac surgery : morphology, diagnostic criteria, natural history, techniques, results, and indications*. New York: John Wiley, 1986:1393–407.
- 4 **Cleveland PC**, Westaby S, Karp RB. Treatment of intra-atrial cardiac tumours. *JAMA* 1983;**249**:2799–802.
- 5 **Shinfeld A**, Katsumata T, Westaby S. Recurrent cardiac myxoma: seeding or multifocal disease? *Ann Thorac Surg* 1998;**66**:285–8.