Cardiac myxoma mimicking extension of renal cell carcinoma

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Abstract

Cardiac myxomas are the commonest benign tumour of the heart. We are describing a rare presentation of a myxoma in a patient with renal cell carcinoma (RCC). Since there was no single reported case of myxoma with RCC, a presumptive diagnosis of RCC with right atrial extension of tumour thrombus was made. Both the tumours were resected in the same operation by radical nephrectomy with open heart surgery.

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1. Introduction

Cardiac myxomas are the commonest primary tumours of the heart. We have recently operated on a patient who was having renal malignancy along with a right atrial myxoma. There are no previous reports of myxoma in cases of renal malignancy. We have presumed the atrial mass to be an intra-cardiac extension of the malignant renal mass. After the combined removal of both tumours, the final pathological report has proved them to be two unrelated entities.

2. Materials and methods

A 55-year-old male patient presented to us with a history of one episode of painless hematuria one month ago and dyspnoea of exertion of two weeks. His physical examination was unremarkable. Chest rontgenography and electrocardiogram were normal. Computerised tomographic scan study showed mass lesion of the right kidney with renal pelvis involvement. Renal vein and inferior vena cava (IVC) were free of tumour.

CT also revealed a mass lesion in the right atrium.

His transesophageal echo revealed a 3×3 cm right atrial mass attached to the interatrial septum without a pedicle (also see Video 1). Coronary angiogram revealed normal coronaries. Since there was no previous report of atrial myxoma with renal tumour we presumed the cardiac lesion to be a tumour thrombus from renal cell carcinoma (RCC) which might have embolised from the kidney and got attached to the atrial septum.

He was taken up for a combined procedure in collaboration with our urology department. An upper transverse laparotomy was made extending across the midline. An upper pole renal mass with no evidence of lymph node involvement or infiltration of Gerota’s fascia was seen (Fig. 1). Renal vein and IVC were found to be free of palpable tumour. Right radical nephrectomy was done. A midline sternotomy was done. Cardiopulmonary bypass (CPB) established with direct superior venacaval (SVC) and IVC cannulation with angled metal cannulae. Cavol tapping and snaring were done. Under mild hypothermia and aortic root blood cardioplegic arrest right atriotomy was done (Fig. 2). The well-circumscribed rounded smooth surfaced mass lesion was found to have septal attachment. It was removed along with the septal attachment.

Septal defect was closed with pericardial patch. He made an uneventful recovery. Histopathology revealed a chromophobe RCC with tumour confined to the renal capsule. Cardiac tumour was an atrial myxoma.

3. Discussion

RCC is the most common malignancy of the kidney. Complete surgical excision is the mainstay of treatment and is associated with reasonably good survival even in patients with atrial extension of the tumour. Renal tumours were pathologically staged according to the Robson classification system. Stage I, tumour confined by renal capsule; stage II, extension to perirenal fat or ipsilateral adrenal but confined to Gerota’s fascia; stage IIIa, renal vein or IVC involvement; stage IIIb, lymphatic involvement; stage IIIc, combination of IIIa and IIIb; stage IVa, spread to contiguous organs except ipsilateral adrenal; and stage IVb, distant metastases [1]. The tumour thrombus can extend into the renal vein (level I), the IVC below the liver (level II), the IVC behind the liver and up to the diaphragm (level III), and above the diaphragm and into the right atrium (level
IV) [2]. There are many reports of combined removal of RCC with atrial tumour thrombus (level IV tumour extension). Most authors recommended CPB whenever the thrombus reached the right atrium [1–5].

Atrial myxoma is the most common benign tumour of the heart. Although myxomas have been reported in both genders and in all age groups, they are most often reported in women in the third to sixth decades of life. Myxomas usually occur sporadically, but at least 7% occur as a part of an autosomal dominant syndrome. Arising from the endocardium, myxomas usually extend into a cardiac chamber. They are usually polypoid, pedunculated lesions with a smooth surface that is frequently covered with thrombus. Complete surgical excision is the treatment as soon as diagnosis is made. The results of surgical excision are good with a low risk of morbidity and mortality.

There has been no case report of these two entities occurring in the same patient in the entire published medical literature. Our patient was having Robson’s stage I RCC. In this patient, a level IV thrombus was the most anticipated diagnosis. Cardiac procedure was done with precautions to prevent embolisation of the mass. Since it is extremely rare for these two separate neoplasms to occur in the same patient it is prudent to approach any mass in the right atrium in patients with RCC as tumour thrombus extension unless otherwise proved.

References