Case report

Acute bicaval obstruction as a result of intracapsular haemorrhage in a right atrial myxoma: report of a case


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Abstract

Right atrial myxomas are rare and presentation is characterised by the gradual onset of one or more of a triad of constitutional, obstructive, or embolic symptoms. We describe a case in which interstitial haemorrhage within a right atrial myxoma resulted in rapid expansion and presentation with features of rapidly progressing bicaval obstruction and atrial flutter. Transthoracic echocardiography failed to detect this tumour; however, transoesophageal echo clearly displayed it and gave information on its attachment and relations which proved to be valuable in the planning of its surgical excision. © 1997 Elsevier Science B.V.

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1. Introduction

The onset of obstructive symptoms due to the growth of an atrial myxoma is typically a slow process [1]. We present an unusual case in which onset was rapidly accelerated by interstitial haemorrhage within the tumour parenchyma, leading to acute onset of severe obstructive features. Presentation was also characterised by the unusual feature of atrial flutter with 2:1 block. This was successfully DC cardioverted to sinus rhythm, an intervention previously unreported in relation to this arrhythmia in association with atrial myxoma.

We found transoesophageal echocardiography to be the investigation of choice in diagnosing our case and discuss its role in the management of suspected atrial myxomas.

2. Case report

A 59-year-old, previously well, male presented with a brief history of dyspnoea, abdominal distension and weight gain of 10 kg. On examination he was plethoric with a high jugular venous pressure; and abdominal examination revealed a 4 cm, smooth, non-pulsatile hepatomegaly with ascites. Pitting oedema was marked in both legs up to the sacrum and genitalia. Systemic examination was otherwise normal.

A 12 lead electrocardiogram demonstrated atrial flutter with 2:1 block which subsequent DC cardioversion successfully converted to sinus rhythm; however, first-degree atrio-ventricular block persisted (P–R interval 0.24 s).

Transthoracic echocardiogram (TTE) revealed only a small pericardial effusion, but subsequent transoesophageal echocardiography (TEE) demonstrated a pedunculated mass in the right atrium measuring 6 cm in diameter (Fig. 1). It was attached to the interatrial septum, causing impingement on the superior and inferior vena cavae, but did not extend into these vessels.
Operative excision confirmed the TEE findings. Histological examination demonstrated a mottled, grey, polypoid myxoma measuring $6 \times 6 \times 4$ cm on a short, narrow, torted tumour pedicle, consisting of a collagenous surface overlying a grossly haemorrhagic and totally infarcted parenchyma (Fig. 2). The haemorrhagic areas were consistent with recent bleeding from within the tumour parenchyma and showed only early signs of organisation.

Following the procedure, the patient made an complete recovery and remains well without medication 1 year post-operatively.

3. Discussion

The common symptoms at presentation of atrial myxoma are those of dyspnoea, vena cava syndrome, chest pain; and a small number with features of embolisation and arrhythmia [3,5]. The onset of symptoms is usually slow and progressive, the mean duration of symptoms at presentation in one series was 15 months [1]. Our case is unusual in that a previously ‘silent’ neoplasm gave rise to acute obstructive features as a result of rapid expansion of the tumour due to interstitial haemorrhage. To our knowledge, this complication is previously unreported. In addition, presentation with atrial flutter is only described in three cases [4,6] and the therapeutic value of DC cardioversion in these cases is undocumented.

It is widely accepted that echocardiography is the most reliable form of investigation in the diagnosis of intracardiac tumours. Both the transthoracic and transoesophageal route are reported to have a high sensitivity, approximately 95 and up to 100%, respectively [3]. For surgical excision to be accurately planned, it is important to gain detailed, accurate pre-operative imaging. The point of attachment of the tumour and its relationship to other structures such as valves or vessels may alter the surgical approach taken and the equipment required in the operating room [7]. Engberding et al. showed TTE to have only 65.5% sensitivity for such details compared with 95.5% for TEE [3]. Other authors have also experienced difficulties in gaining accurate anatomical detail using TTE and found the extra definition given by TEE to be useful [2].

Whilst TTE in most cases will detect myxoma, if substantial amounts of surgically relevant anatomical and haemodynamic information are missed, this has the potential to give rise to unexpected findings in the operating room, increasing operative complication rates and patient morbidity. Unfortunately, the cost of equipment and the training required to carry out TEE means that this tool is unavailable in many centres. Its invasive nature also may make it unpopular with some patients compared with TTE, although in our experience it is well tolerated.

Given the quality of diagnostic information available with TEE in experienced hands, we now consider it to be the diagnostic tool of choice in the investigation of atrial myxoma. TEE may also be used intraoperatively to assess myocardial and valve function after tumour excision.

Fig. 2. Clinical photograph showing the macroscopic histological appearance of acute haemorrhagic necrosis within the myxoma.

Fig. 1. Transoesophageal echocardiogram demonstrating 6 cm diameter pedunculated right atrial myxoma attached to intra-atrial septum. A, atrial myxoma.

References


