CASE REPORTS

Rapidly growing mass on the tricuspid valve in an elderly woman: a diagnostic dilemma

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Abstract

Background: papillary fibroelastoma is a rare, benign cardiac valve tumour, which can mimic conditions such as atrial myxoma and infective endocarditis.

Case report: an elderly lady presented with shortness of breath and chest pain and a mass on echocardiogram, which was confirmed on surgical excision to be a papillary fibroelastoma.

Discussion: there were aspects of this lady’s case that caused confusion over the diagnosis and showed how rare conditions can cause diagnostic problems.

Keywords: fibroelastoma, infective endocarditis, aortic stenosis, elderly

An 85-year-old female presented in January 2003 with increasing shortness of breath, palpitations and chest pain. This had become progressively worse over the preceding 3 months. She was now short of breath at rest.

Past medical history included osteoarthritis, hiatus hernia, duodenal ulcer, hypertension, hypercholesterolaemia and renal calculi. Medication on admission included esomeprazole, simvastatin, amiloride, frusemide and ramipril.

She had been admitted 3 months previously with a similar episode following a trip to the USA. Investigations for pulmonary embolism were negative. Clinically she appeared to have aortic stenosis, but echocardiogram only reported mild LV dysfunction, normal right ventricle and mitral regurgitation. She made a rapid recovery and was discharged.

On examination she was afebrile, had an ejection systolic murmur, which radiated to the carotids, mild pedal oedema and bibasal crepitations. The rest of the examination was unremarkable. She was treated for unstable angina and left ventricular failure.

Owing to her clinical aortic stenosis a repeat echocardiogram was requested. This showed critical aortic stenosis with a gradient of 125 mm Hg, left ventricular hypertrophy, mild mitral regurgitation and a 1.8 cm by 1.7 cm mass on the anterior leaflet of the tricuspid valve. On review of her first echo she did have aortic stenosis but no valvular mass was seen. Because of this it was felt that she had infective endocarditis.

Throughout her stay she had remained afebrile. She had no stigmata of infective endocarditis. Over the following days she had 12 sets of blood cultures taken, all of which were negative. Serology for Bartonella, Brucella, Coxiella, Chlamydia and Legionella was also negative. She remained well and was discharged home with weekly outpatient follow-up.

Over the next 2 months she had cultures taken for fungal and Mycobacterium species, which were negative. Her dyspnoea worsened, but she was not keen on valve replacement surgery. Repeat echocardiogram showed that the mass had not increased in size. The cardiologists still felt that this was an infective process. However, due to all the cultures being negative, the microbiologists felt that infection was unlikely (ESR and CRP remained normal).

In April 2003 she was admitted with another episode of left ventricular failure. She agreed to aortic valve replacement and excision of the mass on her tricuspid valve. Her post-operative recovery was uneventful. At 2 month follow-up she was symptom free.

Tissue histology from the tricuspid valve showed that the mass was a papillary fibroelastoma (Figure 1).

Discussion

Papillary fibroelastoma is the most common primary cardiac valvular tumour. They are uncommon benign tumours. A recent review of the literature found only 725 reported cases [1].
They are most commonly found as an incidental finding on echocardiogram. There are case reports of patients presenting with myocardial infarction [2], pulmonary embolisation [3], or cerebral embolisation [4].

There were several important lessons from this patient’s case.

The ejection systolic murmur was not mentioned on the request for the first echocardiogram in 2002. The cardiology department does approximately 25 echocardiograms per day and has two consultants available to report them. Therefore correct clinical details on requests are vital.

A repeat echocardiogram was needed, as her clinical picture did not fit the original echocardiogram result. If in doubt go with your clinical judgement.

Clinically this lady did not have infective endocarditis, as supported by the microbiological findings. However, the mass had grown so quickly that it looked on echocardiogram that it had to be infective. This led to a problem with the diagnosis of a very rare condition.

The papillary fibroelastoma in this patient was not causing any problems (apart from diagnostic). This lady was not initially keen on valve surgery. However, once her aortic valve was replaced she improved rapidly and is now living independently again.

**Key points**
- Papillary fibroelastomas are rare benign cardiac valve tumours that can mimic infective endocarditis.
- Despite causing a diagnostic dilemma, the fibroelastoma was not causing any symptoms in this case.
- Cardiac valve surgery in elderly patients can be very effective and restore functional independence.
- Insufficient clinical details on request forms for investigations can cause delays in diagnosis.

**References**

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**Natural history of an atrial myxoma**

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**Abstract**

The case described is an 89-year-old male patient with a left atrial myxoma, first visualised in 1997, who was a poor operative candidate owing to severe chronic obstructive pulmonary disease (COPD). The tumour had a cross-sectional growth rate of only 0.2 cm² per year and was asymptomatic over 79 months follow-up: the longest reported follow-up period of a non-calcified