With newer diagnostic methods, clinical (pre-mortem) recognition of atrial tumors is becoming more frequent. Thrombi are the most common cause of mass lesions within the atra, but myxomas and other neoplasms must be considered in the differential diagnosis. Criteria have been proposed to differentiate between the various types of atrial masses, but the reliability of these criteria is uncertain. We describe a patient in whom diagnostic workup of unexplained atrial fibrillation revealed a left atrial mass strongly suggestive of myxoma. The surgical specimen was also grossly consistent with myxoma, but histologic examination of the mass showed it to be a large thrombus.

**CASE REPORT**

A 65-year-old man, previously in good health, was referred for evaluation an irregular pulse. He had a history of heavy smoking, but had no prior hospitalization and was taking no medication. Physical examination revealed no abnormality except for irregularly irregular pulse and apical heart rate of 140 beats/min. Electrocardiographic examination revealed atrial fibrillation with rapid ventricular response. Routine laboratory studies, including thyroid function tests, had normal results. An M-mode echocardiographic examination revealed normal valve and chamber dimensions, but two-dimensional echocardiographic examination demonstrated a large, highly mobile, sharply demarcated mass within the left atrial cavity that appeared to attach to the posterior atrial wall (Fig 1). During cardiac catheterization, right heart pressure levels were normal and a laevophase pulmonary arteriographic examination showed a large, ovoid, pedunculated, mobile mass within the left atrium. Surgical exploration revealed normal left atrium containing a mobile tumor (4.0 × 2.5 × 1.5 cm), which attached to the posterior atrial wall by a 1 cm narrow stalk. The tumor was resected in its entirety. Based on gross inspection, the tumor appeared to be myxoma (Fig 2), but detailed histologic examination revealed it to be composed entirely of organized thrombus. Postoperatively, the patient was cardioverted electrically to normal sinus rhythm and atrial fibrillation has not recurred during six months of follow-up.

**FIGURE 1.** Two dimensional echocardiogram revealing large mass (arrows) within the left atrium.

**FIGURE 2.** The mass resected at surgery. Based on gross inspection, it appeared to be a myxoma but detailed histologic examination revealed it to be composed entirely of organized thrombus.
The differentiation of atrial thrombus from primary cardiac neoplasm is of major clinical importance due to differences in therapeutic approach. Most neoplasms are surgically resected, whereas thrombi may be treated with long-term systemic anticoagulation. Our patient illustrates that this may be a particularly pressing problem when there is no cardiac symptom and the mass is unexpectedly identified during routine echocardiography.

This case also illustrates the difficulty of ascertaining the exact nature of an atrial mass lesion. Myxomas are most commonly located in the left atrium and are usually large, ovoid, pedunculated and highly mobile with narrow-based discrete attachments to other cardiac structures. These atrial tumors often occur in patients without other known cardiovascular disease and with no apparent predisposing factor. In contrast, thrombi are often small and irregularly shaped with either no attachment or broad attachment to other cardiac structures. They usually occur in patients with organic heart disease, generally in the setting of atrial dilatation and either chronic or recurrent atrial fibrillation. We are unable to explain why our patient developed atrial fibrillation or a large atrial thrombus with many features of myxoma. Clinical evaluation and surgical exploration failed to reveal evidence of other organic cardiac disease. This experience suggests that present technology will not permit totally reliable differentiation between myxoma and left atrial thrombus without histologic examination.

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