ESC European Society of Cardiology
European Heart Journal - Case Reports (2020) **4**, 1–2
doi:10.1093/ehjcr/ytaa262

When the bomb is inside the heart: atrial myxoma presenting as ST-segment elevation myocardial infarction

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Received 25 May 2020; first decision 9 June 2020; accepted 13 July 2020; online publish-ahead-of-print 28 August 2020

A 50-year-old smoker and hypertensive woman presented to the emergency department with oppressive chest pain of 3 h duration. The electrocardiogram revealed an ST-segment elevation in the anterior leads (*Panel A*) and the echocardiogram showed a left ventricular ejection fraction of 40% with apical and anterior akinesia, as well as a rounded mass in the left atrium of 2.4 cm × 2.6 cm anchored to the interatrial septum, suggestive of myxoma (*Panel B*). Suspecting an embolic anterior acute myocardial infarction, an emergent coronary angiography was performed, which showed an occlusion of the distal anterior descending coronary artery. An intracoronary catheter aspiration (without stent implantation) was made with a successful angiographic result (*Panels C* and *D*) and a gelatinous, friable, and whitish material compatible with myxomatous tissue was obtained (*Panel E*).

Two days later, tumour resection surgery and autologous pericardium patch implantation in the interatrial septum were performed (*Panel F*). The histopathological examination showed fusiform myxomatous cells arranged in cords, in nests or forming rings around the intratumoural vessels within a myxoid matrix, confirming the diagnosis of atrial myxoma (*Panel G*). There were no post-surgical incidents, and she was discharged 5 days after surgery. She was asymptomatic at the 6-month follow-up visit.

Myxomas are the most frequent primary cardiac tumours, they generally settle in the left atrium (75%) and they mainly occur in women (3:1 ratio). Coronary artery embolization from myxomas is extremely rare (0.06%).

This case illustrates the utility of the echocardiography for detection of uncommon aetiologies of myocardial infarction as well as its importance for the management since it avoided stent implantation and the unnecessary double antiplatelet therapy that would have greatly increased the bleeding risk of surgery.

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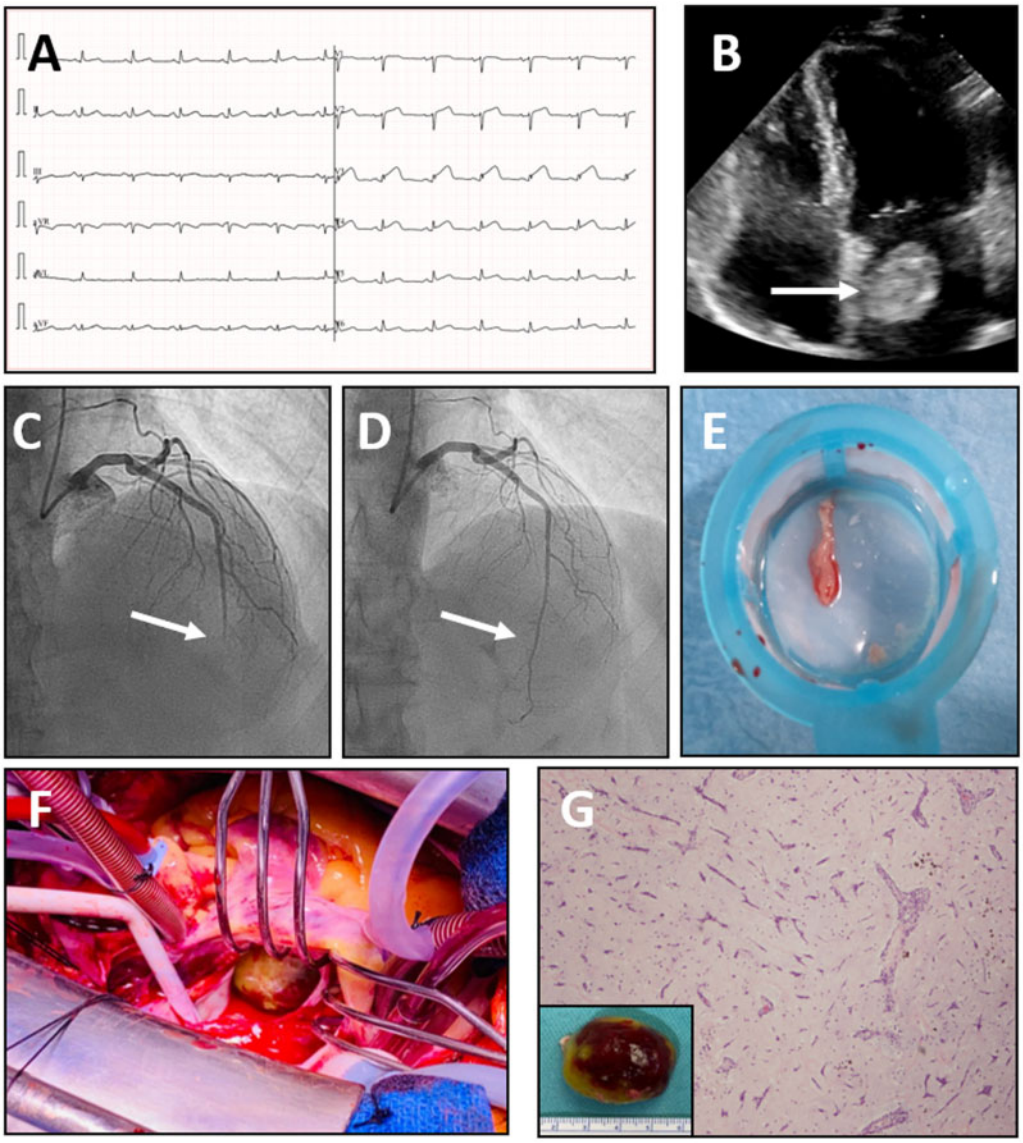
Handling Editor: Panagiotis Xaplanteris



Electrocardiogram (*Panel A*) showing sinus rhythm and ST-segment elevation in the anterior leads. Transthoracic echocardiogram (*Panel B*) exposing a large mass in the left atrium anchored to the interatrial septum suggestive of myxoma. Coronary angiography evidencing an occlusion of the distal anterior descending coronary artery (*Panel C*) and the result after intracoronary catheter aspiration (*Panel D*), which obtained a friable and gelatinous material compatible with myxomatous tissue (*Panel E*). Intraoperative image of the tumour resection procedure (*Panel F*) and histopathological examination of the surgical sample showing myxomatous cells arranged in cords, in nests or forming rings around the intratumoral vessels within a myxoid matrix (*Panel G*).