

Unexpected coronary arterial calcification and thrombosis late after Kawasaki disease

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DESCRIPTION

A 14 year-old boy, with previous Kawasaki disease and coronary artery aneurysms, presented to hospital with severe angina-like chest pain which occurred suddenly while at rest. There was associated pallor, sweating and nausea. Symptoms lasted 1 hour. Initial investigations revealed negative cardiac enzymes and normal ECG. Initial chest radiograph demonstrated an ovoid area of calcification projected over the left side of the heart. CT imaging confirmed the presence of calcification of the left coronary aneurysm (figure 1). Selective angiography demonstrated a giant calcified left main coronary aneurysm with thrombosis and retrograde filling of the distal left anterior descending coronary artery via collateral vessels (figure 2A). A giant right coronary aneurysm with associated severe stenosis was also visualised (figure 2B).

The patient underwent successful coronary bypass grafting 5 days later (left internal mammary to distal left anterior descending artery, and right internal mammary to distal right coronary artery). Postoperative echocardiography revealed normal biventricular systolic function.

Kawasaki disease is the most common cause of acquired heart disease in childhood.¹ Coronary artery aneurysms may develop in up to 20% of untreated children. Risk factors include male sex, extremes of age, elevated white cell count, and persisting fever despite treatment.² In 1% of cases, aneurysms are 'giant' (>8 mm). Given the

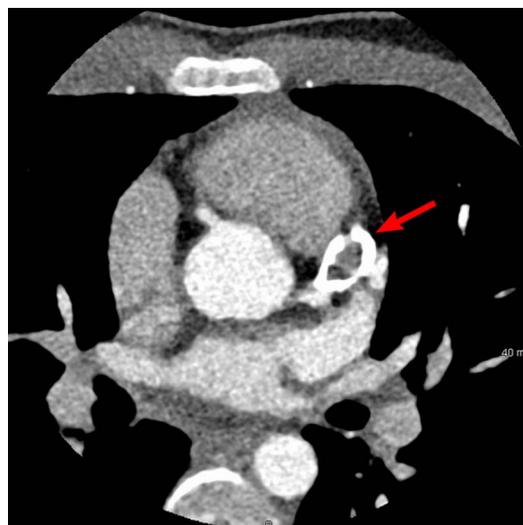


Figure 1 CT coronary arteries. Red arrow shows calcification of left coronary aneurysm.

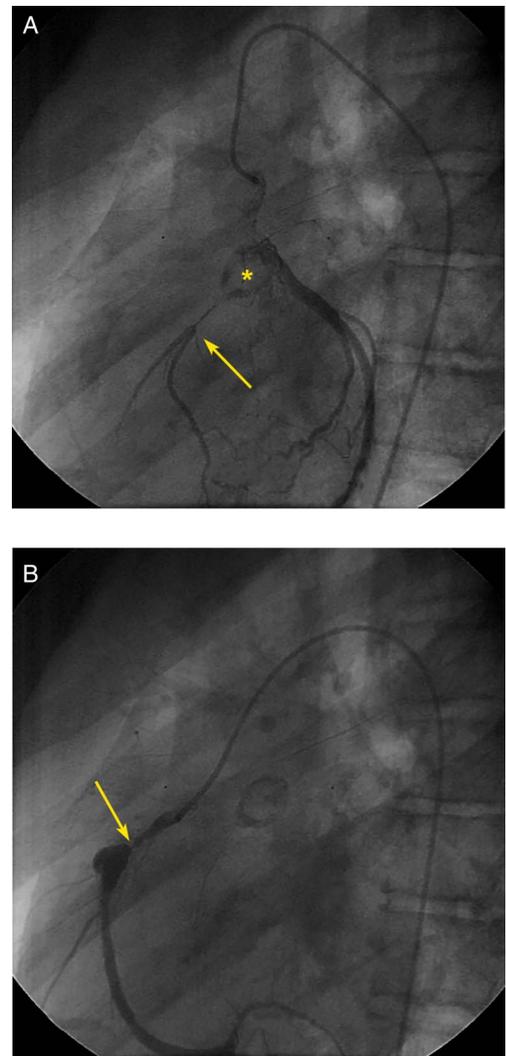


Figure 2 (A) Selective left coronary artery angiogram (lateral view) demonstrating thrombosis of the calcified aneurysm (asterisk) and retrograde filling of the distal left anterior descending coronary artery via collateral vessels (arrow). (B) Selective right coronary artery angiography (lateral view) showing the severe stenotic segment of right coronary artery (arrow) prior to the coronary arterial aneurysm.

significant risk of thrombus formation, antiplatelet and anticoagulation therapies are required.³ Symptomatic patients should also be considered for revascularisation procedures such as coronary artery bypass grafting. Modifiable risk factors, such as dyslipidaemia, elevated blood pressure, smoking and obesity, should be carefully addressed.



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Learning points

- ▶ Kawasaki disease is the most common cause of acquired heart disease in children, and may result in coronary aneurysms in nearly 20% of untreated cases.
- ▶ Giant coronary aneurysm may be complicated by calcification, thrombosis, and even rupture. Coronary artery anatomy is best visualised with CT imaging and selective coronary angiography.
- ▶ Symptomatic patients with giant coronary aneurysms require antiplatelet therapy, anticoagulation, and often revascularisation procedures. Close follow-up is warranted.

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