

Images in Congenital Heart Disease

Magnetic resonance imaging of coronary and systemic aneurysms in Kawasaki disease

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A FEMALE INFANT, WHO PRESENTED AT 2 MONTHS of age with fever and a rash, was diagnosed to have Kawasaki disease. Echocardiography demonstrated a giant aneurysm of the right coronary artery, with multiple small aneurysms of the left coronary artery. Her platelet count was greater than 1,000,000 per cubic millimetre. She was treated with intravenous gamma globulin, and high-dose aspirin. As the rash resolved, her hands and feet began to desquamate, and she developed purpura of some

fingers and toes. Cardiac magnetic resonance imaging using three-dimensional turbo-field-echo sequences with the respiratory navigator technique (Fig. 1), confirmed the presence of a giant aneurysm of the right coronary artery (RCA), which measured up to 10 mm in width and 15 mm in length. The study also confirmed the presence of multiple smaller aneurysms involving the left anterior descending coronary artery (LAD). Gadolinium contrast-enhanced magnetic resonance angiography of the body (Fig. 2),

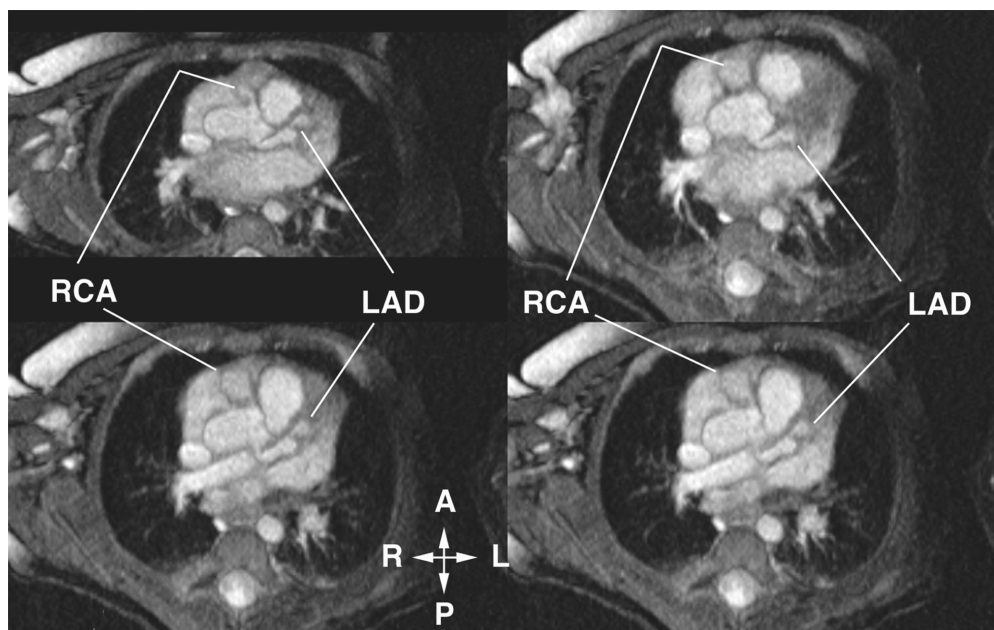


Figure 1.

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Figure 2.

performed using the sensitivity encoding technique, demonstrated multiple areas of aneurysmal dilation and stricture in the subclavian, axillary (*), and brachial arteries bilaterally. The patient was then treated with low molecular weight heparin, steroids, and a second dose of intravenous gamma globulin. Additional therapy included transdermal nitroglycerin to improve the local circulation to her fingers and toes. The purpura gradually resolved over several days, and her platelet count decreased.

Follow-up magnetic resonance imaging 2 weeks later showed the aneurysms of the coronary and systemic arteries to be unchanged. She was discharged home on low molecular weight heparin, steroids, and low-dose aspirin. Another follow-up study 5 months after presentation demonstrated resolution of the lesions in the subclavian, axillary, brachial, and left coronary arteries, although there was still a giant aneurysm of the right coronary artery. This persisted on coronary angiography 1 year after presentation, but the other previously involved vessels showed no abnormalities.