

Multiple-Modality Imaging of Giant Coronary Artery Aneurysms in Kawasaki Disease

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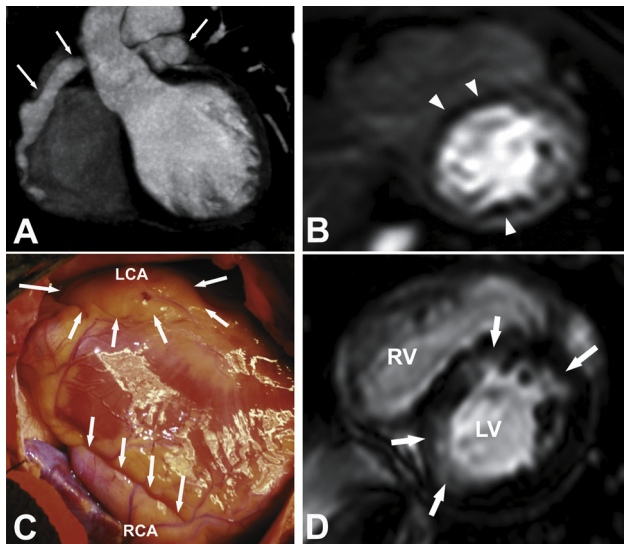


Fig 1.

A 3.5-year-old boy presented with symptoms of high spiking fever, cervical adenopathy, skin rash, bilateral conjunctivitis, oral mucosa edema, and erythema. The diagnosis of Kawasaki disease was delayed until desquamation of the extremities appeared 1 month later, when intravenous immunoglobulins were administered. Transthoracic echocardiography demonstrated giant aneurysms involving both left and right coronary arteries.

Two months later, a coronary angiography (Fig 1A, arrows) confirmed the presence of two giant non-obstructive coronary aneurysms located at the proximal left anterior descending (LAD) and right coronary artery (RCA). Anticoagulation therapy was initiated.

At 6 years of age, the patient developed exercise intolerance and angina pectoris. Exercise testing showed ST-segment depression in leads II, III, V, and VI. A cardiac catheterization demonstrated a complete obstruction of the proximal RCA aneurysm and a limited perfusion of the giant LAD aneurysm related to its distal stenosis (Fig 2, upper panel).

A cardiac magnetic resonance image was obtained and showed diffuse subendocardial perfusion delay on first-pass perfusion imaging (Fig 1B, arrows) and extensive

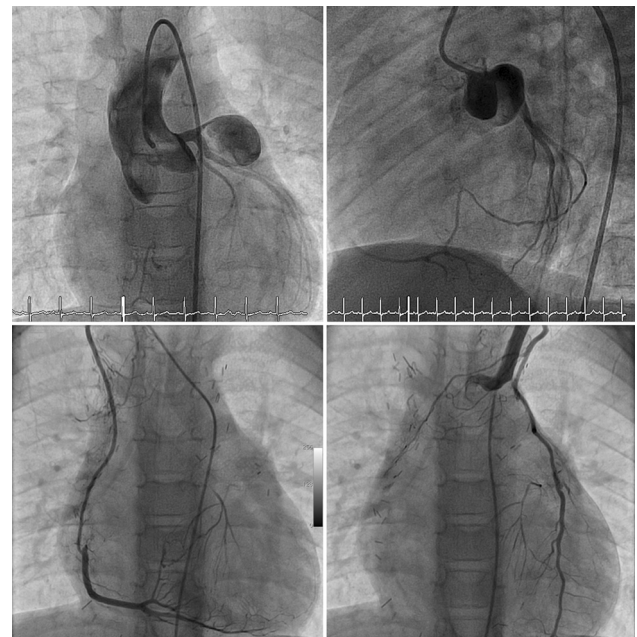


Fig 2.

myocardial delayed enhancement after gadolinium infusion (Fig 1D), consecutive to multiple myocardial infarctions. The child underwent coronary artery bypass grafting (left internal mammary artery on LAD and right internal mammary artery on RCA). The perioperative view of the two giant aneurysms is shown in Fig 1C (arrows). A selective angiographic evaluation 4 weeks after surgery confirmed graft patency with good perfusion of LAD and RCA in their distal segments (Fig 2, lower panel). There were no postoperative complications and no recurrence of angina-like symptoms or electrocardiographic abnormalities, including during maximal cardiopulmonary exercise testing. Our patient, following a previous report by Porter and Gentles from a decade ago [1] illustrates the improvement of imaging and diagnostic modalities in the diagnosis and management of coronary artery diseases and myocardial ischemia. (LCA = left coronary artery; LV = left ventricle; RCA = right coronary artery.)

Reference

- Porter GF, Gentles TL. Images in clinical medicine. Giant coronary-artery aneurysm in Kawasaki's disease. *N Engl J Med* 2001;345:98.

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