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# Pediatric Cardiology & Healthcare

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## Pediatric cardiovascular CT angiography: Maximizing image quality at low radiation dose

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Imaging the pediatric cardiovascular system with computed tomography angiography (CTA) is dependent upon radiation. Patient centric CTA protocols are essential for balancing radiation safety and image quality. These protocols were designed to deliver an appropriate amount of radiation which will ensure acceptable high diagnostic quality and the lowest required radiation exposure for the pediatric patient. Optimal contrast delivery and iterative reconstruction are two strategies to optimize image quality while dialing down the radiation parameters. In this lecture, these and other CTA protocol strategies will be discussed and illustrated. By attending this lecture, the following learning objectives will be achieved: An understanding of patient and technological determinants for CTA protocol decision making; an understanding of primary CTA strategies for low radiation exposure and optimization of image quality; an understanding of secondary CTA strategies for low radiation exposure and optimization of image quality.

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## Super-giant coronary aneurysm secondary to atypical Kawasaki disease in a 11-year old boy

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Kawasaki disease is an acute febrile illness of early childhood. It is seen worldwide with the highest incidence occurring in Asian children under 5 years of age and in the male gender. Candidates not fulfilling the clinical criteria of classic Kawasaki disease are classified as atypical or incomplete. A major sequelae involves the coronary arterial system, leading to aneurysms and occlusions. This is a case of an 11-year-old boy, who was diagnosed with Atypical Kawasaki Disease in 2007 and was medicated on gammaglobulin and high-dose aspirin within day 10 of illness. Despite this, he experienced episodes of chest pain and developed a severe three-vessel coronary artery disease. Coronary angiography showed chronic total occlusion of the right coronary artery and left mid-circumflex artery and an aneurysmal dilation of the proximal left anterior descending artery measuring 12.4 x 11.3 x 25.5 mm, while myocardial perfusion imaging showed moderate inducible myocardial ischemia in the mid-ventricular to basal inferior and infero-lateral segments. He is the first pediatric patient in the Philippines who underwent quadruple coronary bypass and grafting. This case features the significance of early diagnosis and treatment of Kawasaki disease and most importantly, regular cardiologic follow-up, taking into consideration the potential late complications of this pediatric disease.

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