

Myocardial perfusion imaging in pediatric cardiology

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Myocardial perfusion imaging (MPI) is an important procedure in pediatric cardiology in terms of evaluating myocardial ischemia, infarction and damage associated with various congenital or acquired heart diseases, such as Kawasaki disease, anomalous origin of the left coronary artery from the pulmonary artery and complete transposition of the great arteries after arterial switch surgery. This type of imaging can detect myocardial damage in the morphological right ventricle when it functions as a systemic pumping chamber in patients with complex congenital heart diseases after intra-cardiac repair. Myocardial perfusion imaging can also evaluate myocardial damage associated with primary or secondary cardiomyopathy in children. The magnitude of increased right ventricular uptake on MPI is a useful noninvasive means of estimating right ventricular pressure overload due to congenital heart or pulmonary diseases. This article reviews myocardial perfusion tracers and pharmacological stress tests used to diagnose heart conditions in children, and the current clinical roles of MPI in pediatric cardiology.

Key words: radionuclide imaging; myocardial perfusion; Kawasaki disease; heart defects, congenital