

Extensive myocardial infarction (MI) in a 11year old girl – case report

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MI in childhood is a very rare event. It is almost always associated with structural (i.e. Bland-White-Garland, coronary fistulas), hereditary (i.e. hyperlipidemia / hypercholesterolemia, metabolic or other storage disorder) or acquired (i.e. Kawasaki, Kounis, diabetes, tumor) disease.

We report on 11year old girl who was presented after a near drowning episode to a peripheral hospital. The child was in cardiopulmonary shock and had to be ventilated. Despite volume and start with catecholamins blood pressure remained low. A severely depressed myocardial function was stated in a quick echocardiogram. Initial blood work showed white blood cell count of 27'000 with an abnorm I/T ratio, CK 7000U/l, CK-MB 688ug/l, Troponin 12 ug/l. The child's family was suffering from an upper respiratory tract infection with cough and rhinitis. Otherwise the girl's history was unremarkable. After stabilization the child was transferred to our center.

Repeated echocardiogram revealed a severely reduced left ventricular function (ejection fraction (EF) 25-30%) with significant dyskinesia / hypokinesia along the free left ventricular wall while the right ventricular systolic function remained normal. ECG showed sinus tachycardia, deep Q-waves in V3-V5, ST elevation in V1-V2. Based on these findings we primarily diagnosed an acute myocarditis (differential diagnosis acute vasculitis with coronary vasospasm, transient hypoxic ischemia after near drowning).

Within the following 2 days the girl's left ventricular function recovered (EF 50-55%). A sudden episode with nausea and vomiting on day 3 preceeded ventricular tachycardia and subsequent ventricular fibrillation. After resuscitation and ECMO cannulation a coronary angiogram was performed. It revealed a widely spread thin network of arteries along the left coronary artery with a discrete narrowing of the main stem. The right coronary artery was normal. A thin slice CT scan finally revealed an anomalous orifice of the left coronary artery coming from the non-coronary cusp. Surgical unroofing of the left main coronary artery was performed. Unfortunately despite regained normal coronary artery flow the left ventricular function remains severely depressed (EF 20-25%). The girl is listed for heart transplantation.

Conclusion: Presence of segmental myocardial dyskinesia / hypokinesia always implies further diagnostic examination regardless the patient's age.