

### **Congenital Coronary Artery Fistulas: Clinical and Therapeutic Considerations**

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A coronary artery fistula is a link between one or more coronary arteries with another heart cavity or a segment of systemic or pulmonary circulation. These are very rare anomalies which constitute approximately 0.2 – 0.4% of all congenital heart defects. Still, they are clinically significant if they are of medium or large size and are manifested with a series of clinical symptoms such as angina pectoris, arrhythmias, myocardial infarction, endocarditis, progressive dilatation, heart failure and cardiomyopathy, pulmonary hypertension, thrombosis of the fistula and formation of aneurysms with possible ruptures.

We present six patients with a coronary arterial fistula, their history, diagnostic procedures and outcomes. Therapeutic closure of coronary artery fistulas is recommended in symptomatic, but also in asymptomatic patients, if there are significant clinical symptoms with roentgenographic and electrocardiographic abnormalities. In recent times transcatheter closure of coronary fistulas has become a possible alternative to surgery and is becoming increasingly used thanks to improved diagnostic possibilities and technology. If possible, interventional closure of fistulas is precisely the method preferred in pediatric patients. Choice of method depends on the anatomy, presence or absence of additional defects, and experience of an interventional cardiologist or a heart surgeon. This work presents two children with a fistula between the right coronary artery and the right ventricle (RV), one child with a fistula between LAD and RV, child with a fistula between the main tree of the left coronary artery (LCA) and RV, one child with a fistula between LCA and the right ventricular outflow tract (RVOT), and one child with a fistula between LCA and the right atrium (RA). The last one (LCA-RA) is not described in the latest classification of anomalies of coronary blood vessels in children based on MSCT coronarography, so we consider our presentation to be a contribution to the new classification. Along with descriptions of fistulas and presentations of interventional and cardiosurgical interventions, we are also presenting a rare case of spontaneous closing of the fistula within the first six months and of a reopening of the fistula between the right coronary artery and the right ventricle after six years.