

**Transcatheter Embolization Of Coronary Artery Fistulas in Pediatric Patients: Clinical, Angiographic Findings And Long-Term Follow-Up Results Of A Single Center**

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Introduction: Coronary artery fistula (CAF) is a direct connection between a coronary artery and one of the cardiac chambers or great vessels. CAFs account for 50% of all congenital coronary anomalies, presenting in 0.002% of general population. Clinical presentation varies depending on size of fistula, age, presence of myocardial ischemia. Most patients are asymptomatic during childhood. Closure of CAFs are recommended even in asymptomatic patients to prevent fistula related complications( 'steal' from the adjacent myocardium, thrombosis/embolism, heart failure, atrial fibrillation, rupture, endocarditis/endarteritis, arrhythmias). We aimed to evaluate clinical,angiographic,surgical findings, and long term follow-up results of CAF patients diagnosed between 2000-2018. Methods: Clinical,catheterization,surgical data of patients diagnosed as CAF were retrospectively analyzed. Results: CAFs were diagnosed in 38 patients(mean age:6.5±5.3 years(3 days-17years),weight:25±19kgs(3.5-75),24 male,14 female). 58% of patients presented with murmur, in the remaining CAFs were incidentally diagnosed by echocardiography(16%),or with an associated defect(18%). Associated anomalies were DORV/VSD(1), bicuspid aortic valve/severe valvular AS(1), operated subaortik ridge/PDA(1), bicuspid aortic valve(1), AVSD(2), large ASD(1).Diagnosis were confirmed by catheterization in (35/38) or by computed tomography angiography(3/38). 34/38 patients(90%) had single, 4/38(10%) had multiple CAFs. Origin of fistula were left coronary artery(LCA)(17), right coronary(10), left anterior descending (LAD)(9), circumflex artery(2) and they terminated in pulmonary artery(13),right ventricle(13),left atrium(5),left ventricle(2),right atrium(4),coronary sinus(1). In 24/38 patients(63%),proximal coronary artery from which CAFs arise had dilatation. Transcatheter embolization were performed in 16/38 patients(42%)(mean age:4.6.±5.0 years(14 days-16.5years),weight:20±19kgs(4-75),successful in 14/16(88%).Embolization were not performed in 22/38 patients(58%) due to small fistula size and followed clinically. Occlusion devices were Amplatzer Vascular Plugs(6) coils(6), Amplatzer Duct Occluder II Additional size device(3), glue (cyanoacrylate)(1). Mean procedure time:71±52min(40-220),fluoroscopy time:23±13min(2-60). No complications were observed. Surgery were necessary in 5/38 patients(13%), for unsuccessful embolization(2) or during congenital heart disease surgery(3). Mean follow-up period was 4.3±4.0 years(1 month-16 years). During the follow-up, no patients had recurrence of fistula. 2/38 patients(0.05%) had spontaneous occlusion. Control angiography were performed in 12/16 patients after successful embolization, 3/12 had remodelling, regression of the size of the involved coronary artery. Conclusions: Transcatheter embolization of CAFs is an effective and safe procedure in pediatric patients. Follow-up is necessary for early diagnosis of recurrence of fistula.