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THE EFFECTS OF TRANSCATHETER CLOSURE OF CORONARY-PULMONARY ARTERIAL FISTULAS IN ADULTS

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Objective Congenital coronary artery fistula (CAF) is an extremely rare congenital anomaly of the coronary artery. We report our experience with Tran catheter occlusion of coronary-pulmonary artery fistula.

Methods CAFs were identified incidentally in 38 patients with chest pain or dyspnea on exertion during 9438 diagnostic coronary angiography (0.04%). There were 16 female and 22 male patients and the patients' ages ranged from 24 to 68 years. Twenty seven of the patients had single fistula. Eleven of the patients had multiple fistulas. The fistulas originated from the left anterior descending coronary artery in 26 patients, the circumflex artery in four patients, the right coronary artery in two patients, the left main coronary in one patient, the left anterior descending and right coronary artery in three patients, and the left anterior descending and circumflex artery in two patients. CAFs all drained into the pulmonary trunk. Coils

were implanted through a microcatheter, which was passed through a 6F guiding catheter.

Results Fifty three fistulas, arising from the proximal portion of the coronary artery, were sealed successfully in 37 patients and 127 coils were released in all patients. The size of the first coil was about 50% larger than the maximum diameter of the vessel. Because there was an acute angle between the fistula and the coronary artery and the microcatheter could not be positioned, surgical closure was performed in one case. Symptoms have resolved after the procedure in 32 patients. Percutaneous coronary intervention was performed in four of 38 patients associated the coronary heart disease. At follow-up, 18 patients underwent coronary angiography, and two of the patients had small residual flow. A right coronary dissection was related with the procedure and treated with a coronary stent. All patients were asymptomatic during the follow-up.

Conclusions CAFs are incidentally diagnosed during coronary artery angiographies in adults. Transcatheter closure of CAF with coils is safe and effective, and is an alternative to surgery.