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Percutaneous Closure of Clinically and Hemodynamically Important Atrial Septal Defects in the Elderly

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Aim: to outline patient characteristics and procedural success of percutaneous closure in adults over 60 years of age with secundum atrial septal defects treated in the adult congenital heart unit over a 10 years period.

Patients: 54 patients, 29 female, mean age 68.6±5.5, range 60-86 years. All had clinically important shunts with dilated right heart chambers and suitable anatomy for percutaneous closure confirmed by TEE.

Catheterization data: all patients had a diagnostic evaluation while awake, and device closure under general anesthesia and TEE monitoring except for one patient who had local anesthesia and intracardiac echo.

Results: mean Qp/Qs = 2.5±0.8, pulmonary artery systolic pressure 45 mmHg, diastolic pressure 18 mmHg and mean pressure 27 mmHg. Mean right atrial pressure 10 mmHg, RVEDP = 14 mmHg. Mean left atrial pressure 11 mmHg.

ASD closure was performed with Amplatzer septal occluder in 51 patients. Mean device diameter was 26.2±7.8, range 12-38 mm. One patient had a multifenestrated atrial septum occluded with two Amplatzer cribriform devices (35 + 25 mm), one with Solysafe 20 device, and one Occlutech 24 mm ASD device. Four patients had concomitant coronary arteriography, one had PCI performed during the ASD closure procedure.

There were no procedural complications, and most patients were discharged home the following day, after an echocardiographic confirmation of procedural success.

Conclusions: elderly patients with longstanding shunt and significant hemodynamic burden on the right heart can have safe and successful percutaneous device ASD closure.