

## YIA-2

### **Long-term outcome following percutaneous closure of isolated secundum atrial septal defects in children: a french nationwide series of 1000 consecutive patients**

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**Introduction:** Transcatheter closure has become the preferred treatment strategy in most cases of isolated, secundum atrial septal defect (ASD). Although widely used, data on long-term outcomes in the pediatric population are scarce. We aimed to assess procedural characteristics, early clinical outcome, long-term device-related complications and the electrical remodeling after transcatheter closure of isolated ASD in children.

**Methods:** A 1998-2014 retrospective multicentre study was performed at 8 French tertiary institutions, including all patients <18 yo who attempted a percutaneous ASD closure with an Amplatzer Septal Occluder.

**Results:** 1000 children [38% males, median age: 9 yrs (0.7-18.0), median weight: 27 kg (6-92)] were referred for transcatheter ASD closure. They all had a significant left-to-right shunting assessed by right ventricular dilation and/or a 1.5:1 Qp/Qs ratio; Median ASD size was 15 mm in transthoracic echography (TTE).

ASD closure was guided by fluoroscopy and transoesophageal echocardiography in 627 cases (62.7%) or TTE in 373 cases (37.3%). Procedural success rate was 94% with a median occluder size of 19-mm (4 - 40).

Device placement was unsuccessful in 60 patients (6%) due to unfavourable anatomy in 38, early device embolization in 12 and other causes in 10 patients..

Follow-up (FU) data were available for 829 patients. After a mean FU of 53 ± 31 months (range, 5–204), all patients were alive and 96% were asymptomatic. Long-term complications included supraventricular arrhythmias (n=6) and pulmonary hypertension (n=2). No cardiac erosion, late ASO dislodgement or stroke occurred.

Seventy-one women had pregnancy during FU without any associated complication. From an electrical standpoint, supraventricular arrhythmias occurred in 6 patients, no late atrioventricular block was observed and there was no significant difference between preprocedural and last follow-up ECG. **Conclusions:** Our large-scale pediatric cohort confirms that transcatheter closure of isolated secundum ASDs is a safe procedure in children, with a favourable long-term outcome and no life-threatening delayed complication.