

## PW3-6

### **Retrograde transcatheter closure of ventricular septal defects using the Amplatzer duct occluder II device**

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**Objectives:** To describe a new technique of transcatheter closure of VSDs in children. Routine antero-grade closure of VSDs is well established, but required the formation of an arteriovenous loop. We describe the retrograde single catheter approach.

**Methods:** 77 symptomatic children (42 males, median age 46 months, range 0.6 to 240 months, median weight 14 kg, range 4.8 to 38 kg) with various types of perimembranous (n=61) or muscular defects were selected for VSD closure. The VSD diameter had to be <6.5 mm, as this is the maximum available waist diameter of the Amplatzer Duct Occluder II (ADO II). An ADO II device was chosen with a waist diameter equal to or 1mm greater than the minimum VSD diameter. Using a 5F or 6F Judkins right coronary catheter (internal diameter 0.056 to 0.070") and 0.035" Terumo wire combination, the VSD was crossed retrogradely via the femoral artery, and the appropriate ADO II device delivered. The distal (RV) disc was initially deployed, followed by the waist and LV disc, under transthoracic (n=56) or transesophageal echocardiographic guidance.

**Results:** The median VSD diameter was 4.5 mm (4 to 6.5 mm). The mean fluoroscopic time was  $11 \pm 8$  minutes. Two devices embolized, but were successfully retrieved, and the VSD closed with a larger device. Preexisting tricuspid regurgitation in children with perimembranous VSDs invariably improved. At a median follow-up of 14 months, 3 patients had a right bundle branch block; complete closure rate was 90%.

**Conclusions:** Retrograde VSD closure using a single standard guiding catheter is safe, feasible and simplifies the procedure. It should be considered in young, symptomatic patients.