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Thursday, March 22, 1990

8:30AM-10:00AM, Room 36

**Pediatric Cardiology: Interventional Catheterization
Methods to Treat Congenital Heart Disease**

**TRANSCATHETER CLOSURE OF CONGENITAL VENTRICULAR SEPTAL
DEFECTS**

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Between 3/1987 and 8/1989, 18 Pts were catheterized 20 times with intent to percutaneously close native or postoperative congenital ventricular septal defects (VSD). Indications were multiple episodes of endocarditis (n=1), shock (n=2), residual defects despite surgery (n=7), and planned surgery for congenital heart disease (CHD) requiring systemic ventriculotomy to close the VSD (n=9). The Rashkind double umbrella (12, 17mm) or Lock Clamshell occluder (17, 23, 28, 33mm) was used. VSDs were crossed via the IV to guide a venous catheter, long sheath and ultimately a device across the VSD from the right side.

In 4/18 Pts closure was not attempted: the VSD was <2mm (n=2), close to the Ao valve (n=1) or too large (n=1). VSDs in 14 Pts (0.7-44yr, 2-89kg) were 4-14mm in diameter and multiple muscular (n=7), single muscular (n=4), perimembranous (n=1) or patch margin (n=3). The device was placed "accurately" in all cases. One device was malpositioned (6/8 arms on LV side of septum) and retrieved without intra-cardiac release; catheter VSD closure the next day was successful. All 15 released devices remained in stable position and abolished (n=13/15) or significantly reduced shunt through the VSD. Complications were femoral vein thrombosis (n=1), asymptomatic hemothorax (n=1), and umbrella impingement on septal leaflet of tricuspid valve (n=1, corrected by moving a device arm at surgery for CHD). Two Pts required general anesthesia; 1 developed post-extubation stridor. Follow-up (1wk-2yr) has revealed no other problems. Transcatheter VSD closure can be accomplished with limited morbidity and significant success as primary therapy or an adjunct to surgery.