

Pfm-Le VSD coils in closing various challenging ventricular septal defects in children.

Werynski P. (1), Sabiniewicz R. (2), Rudzinski A.(1)

(1) Department of Pediatric Cardiology. Jagiellonian University Medical College, Cracow, Poland. (2) Department of Pediatric Cardiology and Congenital Heart Disease. Medical University, Gdansk, Poland

Interventional VSD closing allows for avoiding surgery, being indicated when operative access is difficult and high risk-associated. The implant type selection depends on VSD location, size, number and interventional team experience. One of the methods used to close various types of VSD is Nit-occlud Spiral Coil system. The objective of the report is presentation of our experience with this system in various VSD types. The material consisted of 18 (10F/8M) patients aged 2-18 years, x-8 years, body mass 10-64 kg, x-28.2 kg, qualified for intervention after preliminary echocardiographic evaluation. There were 10 pts with perimembranous VSD (pmVSD), 4 with midmuscular VSD (mVSD), including 1 pt with multiple muscular VSDs after a previous unsuccessful PAB, and 4 pts with acquired LV-to-RA shunts as a complication of previous cardiac operations. The implant location, size and number were determined based on angiocardiography results. The procedure was in keeping with the manufacturer protocol. Results: In 9/10 pmVSD pts and in all children with LV-to-RA shunts, the procedures were successful without complications. In 1 pt with 8 mm-size pmVSD, a spontaneous coil migration to LPA occurred, necessitating surgical removal and surgical VSD closure. In one pt with complex CHD, 2 mVSDs were successfully closed, but the patient died 3 months later for reasons unrelated to the procedure. In 1 pt with multiple mVSD after PAB, seven VSD's were closed in three consecutive sessions at 36, 38 and 48 months of age, with a total of 7 coils (1st session - 2 coils: 8x6mm, 2nd – 2 coils 8x6 and 10x6mm, 3rd -3 coils: 10x6mm). In follow-up after 26 months, this patient still had one insignificant residual shunt (<1.5mm). The LV systolic function was normal but prolonged IVRT (0.09") and abnormal MPI-0.51 were noted. Conclusions: Pfm-Le VSD coil system is effective, especially in closing atypical, numerous and surgically difficult to access VSDs. Implant plasticity ensures its effectiveness and prevents significant interventricular septal distortion. It also provides an interventional option in treatment of specific defects, such as LV-RA shunts.