

Transcatheter Closure of Perimembranous Ventricular Septal Defects with Nit Occluds Le[^] VSD Coil® : Early and Mid-Term Results of a Multicentre Study.

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Background and Aim: Transcatheter closure of perimembranous VSD's is still a challenging procedure in interventional cardiology. Technical difficulties and concerns about possibility of the high percentage of permanent AV block with the double disk designed devices leads to investigate new device designs for percutaneous closure of perimembranous VSD's. PFM Nit Occlud Le VSD coil ® has a completely different design and closure principle and has been using in the closure of perimembranous VSD's for years. The data about this device is still limited in literature. We report the outcomes of multicenter retrospective study of PFM Nit Occlud Le VSD coil ®.

Patients and Methods: Between October 2011 and November 2015 82 patients with perimembranous VSD enrolled the study. The data of four centers (two from Turkey, two from Egypt) retrospectively reviewed.

Results: The mean age of the patients was $5,5 \pm 4.2$ years (1–19 years), mean weight was 20.5 ± 12.1 kg (8 to 75 kg). Implantation was performed successfully in 81/82 patients (98.7%). In one patient procedure abandoned due to severe tricuspid valve stenosis. VSD size at the left ventricular angiogram 8.2 ± 1.9 mm (4.6-14.6). 70 of patients had ventricular septal aneurism. Five patients had aortic valve prolapses into the defect. The mean value of the Qp/Qs ratio was 1.9 ± 0.4 . The median procedure and fluoroscopy time were 72.8 minutes (35–180 min.) and 27 minutes (13.3–67.4 min.) respectively. Immediate total occlusion rate was 67/82 (81%). Complete closure occurred in 54/59 patients (91%) after 6 months follow up. Intravascular hemolysis developed after the procedure in 6 (7,3%) patients. In one patient, mild aortic regurgitation was seen but it did not progress during follow up. In one case moderate tricuspid valvular regurgitation developed. There were no rhythm problems and embolization during the follow-up period of 35.3 ± 6.6 months. No deaths occurred.

Conclusion: The Nit-Occlud Le[^] VSD coil device is a good alternative for the transcatheter closure of perimembranous VSD's in selected cases. As an advantage, there was no development of a permanent atrioventricular block. Patients with residual shunt should be monitored closely for the development of hemolysis.