

**Transcatheter closure of congenital and acquired Gerbode defects with Nit-Occlud Le VSD (PFM) coil. Immediate and mid-term results.**

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**Background:** The study describes our experience with interventional treatment of congenital and acquired Gerbode defects using Nit-occlud Le VSD coils. The patients were selected based on 2DE exam. The assessment included a detailed location and dimension of the defect, Qp/Qs ratio, and the relationships with nearby valvular apparatus. **Material/methods:** The procedure was performed between 31.10.2014 and 14.01.2016 in seven children (4 F, 3 M), including one infant with native, and six older children with acquired, post-operative LV-RA shunts: in one after correction of ASD<sub>1</sub> and significant anterior mitral valve cleft, and in six after closure of pmVSD (coexisting with other congenital heart defects, such as: CoAo - in two, IAA type B – in other two, and DORV- in one patient). The age of the patients was: 8 month - 17.8 years ( $\bar{x}$  - 10.2 ±5.4 years), body weight: 7.4 kg - 56 kg ( $\bar{x}$ -35.5±16.4 kg). The diameter of the defects based on the 2-DE examination was verified and comparable to found in the angio-cardiographic study ( $\bar{x}$  - 4.2±1 mm vs 4.1±0.36 mm), Qp/Qs ratio was:  $\bar{x}$  - 1.7±0.3. The procedure time was 40-65 min ( $\bar{x}$ -53.6±10.7 min). The size of the coils used was: from 8x6 to 12x6 mm. **Results:** In an infant with direct Gerbode defect shortly after the procedure hemolysis was observed, lasting for three days. This required blood transfusion, therapy with steroids and propranolol. Another patient temporarily experienced increased ventricular ectopy. Immediately after the procedure residual shunt was observed in five patients: mild in one (with direct LV-RA shunt), trivial in four. In two children the defect was completely closed. The follow-up period was 2-36 months ( $\bar{x}$  – 20.7±10 months). Control 2DE study revealed no residual shunt in 6 patients. In one, with longest observation residual shunt was still present (2.7 mm in diameter, below the implant). In another patient serious tricuspid regurgitation co-existing with LV-RA defect, after the procedure decreased to insignificant in the 2-month of follow-up. **Conclusions:** Nit occlude le-VSD coils are useful and safe in transcatheter treatment of direct and indirect LV-RA shunts, however require a lot of experience and skill, especially in the youngest patients.