1. Introduction
With introduction of Rashkind device (RD) in late 70s, transcatheter closure has become a method of choice in treatment of patent ductus arteriosus (PDA).

Different types of occluders have evolved since then with coils and Amplatzer duct occluder type I (ADO I) being most widely used nowadays. Next types of the latter nitinol wire mesh device have appeared: type II (ADO II) and type II additional sizes (ADO II AS); they are designed to close small- and medium-sized ducts in low-weight children.

Objective: to present 25-year results of interventional treatment of PDA in one-year follow-up

2. Materials and methods
- retrospective review of procedural and one-year follow-up data (out-patient clinic)
- 950 elective patients (pts; 65% females) with transcatheter PDA closure
- 1993 → 2018 at a single tertiary centre
- median age: 4.2 years (0.3-84.5; 11.9% adults)
- median weight: 17.5 kg (3.9-136)
- 2% pts with residual shunt after PDA surgery
- median PDA narrowest diameter: 1.8 mm (0.5-10)
- median mean pulmonary artery pressure (mPAP): 18 mm Hg (4.74->25 mm Hg in 11.8% pts)
- 966 devices used in 950 pts (Fig. 2)
- off-label device in 16 pts (1.7%): septal occluder in 7 pts with PDA type II, muscular septal occluder in 6 pts with high mPAP, vascular plug type II in 3 pts with PDA type D, arterial approach in 62.8% pts (96.1% coils, 30.8% ADO II, 98% ADO II AS, venous in RD, ADO I and remaining devices)
- pts divided according to the device (off-label devices excluded from comparison)

3. Results
- there were no differences regarding sex and weight among different implants (p>0.05)
- RD pts were older than ADO II AS (9.6 vs 4.1 years; p=0.049) with no differences between other groups
- coils and ADO II AS were implanted in pts with smaller PDA narrowest diameter than RD, ADO I and II (1.6 and 1.4 vs 3.5, 2.7 and 2.2 mm, respectively; p<0.0001)
- in PDA type A ADO I and in types C, D and E coils/ADO II AS were mainly used
- overall transcatheter PDA closure success rate was 97.8%; procedures with use of nitinol wire mesh occluders (ADO I, II, II AS) had significantly higher success rate than RD and coils (Fig. 3) in 2 pts with ineffective ADO I probe, ADO II and ADO II AS were used; PDA closure was abandoned in 4.7 kg pt with 3.8 mm PDA type C; in 2 pts PDA closed spontaneously during its crossing (duct tissue dissection); all off-label devices were successfully implanted

CONCLUSIONS
- Percutaneous closure of PDA is a safe and efficient method of treatment
- During last 25 years nitinol wire mesh implants’ development and diversity have significantly improved both success and complete closure rates. Such devices give 100% complete closure rate in one year observation
- Retrograde approach reduces the fluoroscopy time

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