OBJECTIVES. Transcatheter closure of AD remains challenging in low-weight patients and using Amplatzer Duct Occluder devices is still considered off-label in infants less than 6 kg. This study aimed to report a large, single-center experience of percutaneous arterial duct (AD) closure in infants <6 kg as well as to compare the most frequently used devices, Amplatzer Duct Occluder type I (ADO I) and Amplatzer Duct Occluder II Additional Sizes devices (ADO II-AS) (St. Jude Medical Corp, St. Paul, MN, USA).

METHODS. From November 2002 to December 2016, among the 764 patients submitted to percutaneous closure of AD at our Institution, 31 were infants <6 kg (mean age 4.8±2.11 months, range 0.03-10; mean weight 5.1±0.94 kg, range 3-6). 14 patients (45%) underwent ADO I (Group I) and 17 pts ADO II-AS (Group II) implantation.

RESULTS. AD diameter was 2.61±0.72 (range 1.5–4.0) mm resulting in QP/QS of 2.57±0.95 (range 1.5-4.5). Mean pulmonary artery (PA) pressure and PA/aortic pressure ratio were 25.58±6.41 mmHg (range 14-38) and 0.50±0.19 (range 0.23-0.91), respectively. Successful device deployment was achieved in all patients without procedural morbidity or mortality. Procedural and fluoroscopy times were not significantly different between groups. However, total absorbed x-ray was significantly lower in the Group II (120.75±69.16 vs 27.64±16.06 mGy, p<0.01). Immediate, 24h and mid-term (12±1 mos) complete occlusion was recorded in 71%, 90%, and 97% of patients, respectively. Mid-term occlusion rate did not significantly differ between the groups.

CONCLUSIONS. Trans-catheter closure of AD with Amplatzer Duct Occluder devices is feasible, safe and effective also in infants less than 6 kg, without significant difference between the most commonly used devices, ADO I and ADO II-AS.