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The Amplatzer Duct Occluder II Additional Sizes device for transcatheter PDA closure in preterms infants : Monocentric experience.

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Introduction : Patent ductus arteriosus (PDA) in preterm infants continues to be a significant clinical problem contributing importantly to both morbidity and mortality. We reports a new technique for transcatheter PDA closure in extremely preterm infants using new commercially available technology. **Purpose :** To present our initial experience with the Amplatzer Duct Occluder II Additional Sizes (ADOIIAS) device.

Methods : Hospital records and catheterization reports of all premature neonates (<32 weeks gestation) who underwent transcatheter PDA closure between March 2015 and March 2016 were reviewed. After only venous femoral puncture, the PDA was closed using a 4Fr delivery system from the pulmonary side. Echocardiography and fluoroscopy were performed for the guidance of ductal closure. Contrast angiography was not used in any patient.

Results : 7 premature infants born at gestational ages ranging between 25 and 30 weeks (median 27 weeks) underwent PDA closure. Median age was 18 days [10 - 32 days], and median weight was 1203 g [860 g – 1400 g] ADOIIAS devices were successfully deployed in all cases. Complete closure was achieved in all patients. Median fluoroscopy time was 5,79 mn (4,1 – 8,31). Median total dose-area product was 16.78 $\mu\text{Gy}/\text{m}^2$ (4.7-39). We doesn't have major procedural complications. There were no instances of device migration, residual PDA, left pulmonary artery coarctation or aortic coarctation at mid term outcomes. All patients were alive at the time of this report.

Conclusion : We demonstrates that transcatheter PDA closure can be successfully performed in extremely preterm neonates using the new ADOIIAS device with a high success rate and low incidence of complications. This report also describes a novel transvenous approach using a combination of echocardiography and judicious use of fluoroscopy to avoid arterial access in this fragile patient.