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Percutaneous closure of patent ductus arteriosus in premature infants: a French national survey.

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Background: Transcatheter closure of PDA in premature infants has been shown to be feasible in small series. Outcomes in large series is currently lacking.

Material: All premature infants (< 36 weeks GA) who underwent transcatheter PDA closure were included in a multicenter French national survey. Demographic data (gestational age (GA), birth weight (BW)) as well as procedural data (weight (PW), age at procedure (AP), procedural success, fluoroscopy time and type of device) were collected. Outcomes and procedural complications were reviewed.

Results: Between September 2013 and June 2017, 102 patients were included. In 71 cases, PDA pharmacological closure had previously been attempted. Mean GA was 27 +/-2.9 weeks. Mean BW and PW were 1040+/-715 g and 1543+/-698 g, respectively. Mean AP was 39+/-26 days. Number of premature infants below 1 kg, between 1 and 2kg and above 2 kg was 21, 59 and 22, respectively. AP was significantly lower in patients with lower weight. Mean fluoroscopic time was 6.5 minutes. Success rate was 99%. One PDA was too large to be closed with unstable device. Device or procedure related complications were reported in 9 patients (8.9%) including three LPA stenoses (requiring surgery in 2 and balloon dilatation in one), two neo-coarctations (one requiring subsequent surgery), and 3 tricuspid valve regurgitations at follow-up. Seven deaths were reported, none being related to the procedure. Mean follow-up was 39.75 +/-13.1 months.

Conclusion: In this large series of premature infants, efficacy of transcatheter PDA closure has been good with an acceptable rate of procedural complications.