Pregnancy in women with percutaneous pulmonary valve implantation

Malekzadeh-Milani S. (1), Ladouceur M. (1,2), Gaillard T. (3), Khimoud D. (2), Pontnau F. (2), Iserin L. (1,2), Nizard J. (3), Boudjemline Y. (1,2)
M3C, Paediatric Cardiology, Hôpital Necker Enfants Malades, Paris, France (1); M3C, Hôpital Européen Georges Pompidou, Paris, France (2); Gynecology, Hôpital La Pitié Salpêtrière, Paris, France (3)

Introduction: Pulmonary valve replacement (PVR) is indicated in adult patients with dysfunctional right ventricular outflow tract. There is little data on pregnancy following PVR, particularly after percutaneous pulmonary valve implantation (PPVI). The aim of this study was to analyze pregnancy outcome in these patients.

Methods: Among 106 adult women with PVR followed in our center, 13 were pregnant. PPVI was performed in 7 of them, 6±2 years before pregnancy (Melody® valve). We retrospectively collected obstetric and cardiologic data.

Results: 7 patients with PPVI had 10 pregnancies at a mean age of 29±6 (ranged from 17 to 38). Five led to a delivery after 20 weeks gestation (WG), and 3 had an abortion. No miscarriage occurred. 3/5 pregnancies were delivered by cesarean section, for obstetrical indications. Obstetric complications occurred in 2/5 complete pregnancies: one severe preeclampsia leading to a premature birth at 30WG, and one spontaneous preterm labor at 35 WG. There was no small for gestational age neonates. The mean gestational age at birth was 36±3WG. No congenital heart disease was diagnosed in the newborns and there was no neonatal or fetal death. During complete pregnancies no maternal cardiac complication occurred. One patient died from endocarditis in the aftermath of an abortion. All patients were treated by aspirin throughout pregnancy and received antibiotic prophylaxis at delivery. The patient who died after abortion received antibiotics prophylaxis but had no aspirin. At median follow-up of 14 months, there was no change in the trans-pulmonary valve maximal gradient (31 vs 27 mmHg) and no pulmonary regurgitation.

Conclusion: This small first series of pregnancies with PPVI seems reassuring for the maternal and neonatal outcomes, except for the risk of infection, which needs careful monitoring by experienced teams.