Technical aspects of fetal cardiac interventions - 6 years experience at one center
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Objective
To evaluate technical aspects of fetal cardiac interventions performed at our center and to verify if the procedures influenced the time and mode of delivery.

Methods
Fetal cardiac interventions were introduced at our center in June 2011. Until April 2017, a total of 96 intrauterine cardiac procedures were performed, including 70 aortic valvuloplasties in 64 fetuses (in 55 fetuses with evolving hypoplastic left heart syndrome (evHLHS) and in 9 fetuses with critical aortic stenosis and hydrops (AS&NIHF), 11 pulmonary valvuloplasties (7 fetuses with critical pulmonary stenosis and intact ventricular septum, PS & IVS and 4 with pulmonary atresia and IVS), 4 balloon septostomies and 11 interatrial stenting procedures (in 8 fetuses with HLHS and closed foramen ovale and in 3 fetuses with critical AS and closed Fo).

Results
Overall technical success rate was 92% and fetal mortality amounted to 10%. A total of 7 procedure-related deaths were recorded among fetuses subjected to aortic valvuloplasty; 5 out of the 7 fetuses suffered from AS & NIHF, and were subjected to aortic valvuloplasty as a salvage procedure. All these fetuses presented with severe heart failure with extremely poor left ventricular function. Median gestational age at delivery in this group was 39 weeks. Vaginal birth rate was 60%; more than 90% of caesarean sections were due to obstetric indications. There were 2 fetal deaths in the group of interatrial stent and 1 in the group of pulmonary valvuloplasty.

Conclusion
Fetal cardiac interventions can be performed relatively safely and with high technical success rate. The risk of adverse outcome in fetuses with AS & NIHF and severely impaired left ventricular function seems to be very high, as the majority of procedure - related deaths occurred in this group. Pregnancy after successful fetal cardiac intervention can be continued until term, with no need for Caesarean section.