OP10.04  Perioperative changes in fetal cardiac function with fetoscopic laser ablation of placental anastomoses in twin-to-twin transfusion syndrome

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**Introduction:** To assess perioperative changes in fetal cardiac function with tissue Doppler imaging (TDI) and speckle tracking echocardiography (STE) before and after fetoscopic laser ablation of placental anastomoses in twin-to-twin transfusion syndrome (TTTS).

**Methods:** 41 consecutive cases of monochorionic pregnancies complicated with Quintero stage III TTTS underwent fetoscopic laser ablation of placental anastomoses. Assessment of fetal ventricular cardiac function in both twins by TDI and STE was performed just before and immediately after the laser procedure.

**Results:** Before fetal laser procedure, the donor showed the significantly elevated heart rate, increased biventricular systolic function and better LV diastolic function compared to the recipient. Perioperative changes demonstrated a significant decrease of biventricular systolic function in the donor, whereas there was a significant improvement of RV systolic and biventricular diastolic function of the recipient.

**Conclusion:** Preoperative cardiac indices reflect the pressure and volume load in the donor and recipient twins. Fetoscopic laser ablation resulted in immediate and significant changes in functional parameters in both twins.

**Abbreviations:** RV, right ventricular; LV, left ventricular; L-SR, longitudinal systolic strain rate; MPI’, myocardial performance index; S’, systolic myocardial velocity.