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Long-term neonatal outcomes after fetoscopic laser ablation for the treatment of TTTS

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Objective

To describe the long-term neonatal outcomes of fetoscopic laser surgery (FLS) for the treatment of twin-twin transfusion syndrome (TTTS).

Methods

A prospective longitudinal study was conducted of 33 pregnant women with TTTS stage II-IV according to the Quintero classification undergoing FLS from 16 to 26 weeks of gestation. Among them, 11 cases underwent coagulation of the placental vascular anastomoses, and 21 cases underwent ablation of the umbilical cord for selective fetal reduction due to TTTS stage IV, selective intrauterine growth restriction (sIUGR), or proximate cord insertions. Neonatal outcomes were analyzed with monitoring long-term neurological complications by Denver II test and MRI 2 years after birth.

Results

Gestational age (GA) of FLS was 20.39 ± 2.42 (16.57 – 25.86) weeks, and the GA at birth was 33.76 ± 4.52 (23.43 – 39.43) weeks. The survival rate was seen for at least one neonate of 90.48% and for both two neonates of 75%. No long-term neurological complications were reported in follow-up of the newborns up to 2 years after birth.

Conclusion

Our study showed positive outcomes of using FLS for the treatment of TTTS, with high live birth rates and no long-term neurological complications. These findings suggest the effectiveness and safety of FLS for TTTS treatment.