

The efficacy of Fetoscopic Laser Surgery for Twin-Twin Transfusion Syndrome on pregnancy outcomes: a case control study

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Objective

The objective of this study was to determine the efficacy of Fetoscopic Laser Surgery (FLS) for Twin-Twin Transfusion Syndrome (TTTs) on pregnancy outcomes.

Methods

This was a prospective, case-control study of 43 pregnant women with TTTs stage II-IV according to Quintero classification from 16 to 26 weeks of gestation carried out at Hanoi Obstetrics and Gynecology Hospital, Vietnam from September 2019 to July 2021. Among them, 10 cases were done expectant management according to the wishes of the patients, 33 cases were performed FLS with coagulation of the placental vascular anastomoses or ablation of the umbilical cord for the selective fetal reduction. The primary outcome was perinatal outcomes with survival rate of neonates and neurological complications. Secondary outcome was obstetric outcomes including miscarriage, still birth, preterm birth and time at delivery.

Results

Study population included TTTs with stage II of 8 cases (80%) and 26 cases (78.8%), stage III of 1 case (10%) and 4 cases (12.1%), stage IV of 1 case (10%) and 3 cases (9.1%) with mean of gestational age at detection of 21.38 weeks and 20.39 weeks in expectant management group and FLS intervention group, respectively. Only one live birth (10%) with cerebral palsy was remarked in expectant management group. In contrast, the survival rate of at least one neonates reached 84.85%, no short-term neurological complications were reported upon follow-up to six months after birth in FLS intervention group. The rate of miscarriage, still birth, preterm birth were 20.00%, 60.00%, 20.00% and 3.03%, 9.09%, 69.70% with time at delivery of 22.06 ± 3.75 weeks and 32.63 ± 5.69 weeks in expectant management group and FLS intervention group, respectively.

Conclusion

Our data suggest that FLS was effective for Twin-Twin Transfusion Syndrome on pregnancy outcomes with high survival rates of neonates, no neurological complications in short-term outcomes by decreasing obstetric complications as miscarriage, still birth, preterm birth.