



TTTS without amniotic fluid discordance due to spontaneous inadvertent septostomy

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Objective

To describe the incidence and survival rate of monochorionic diamniotic (MCDA) twin pregnancies complicated with twin-to-twin transfusion syndrome (TTTS) presenting without amniotic fluid discordance due to spontaneous septostomy.

Methods

From January 2012 to March 2016, a retrospective cohort of consecutive complicated MCDA twin pregnancies with TTTS, without prior invasive procedures, and referred to our tertiary national referral center at Queretaro, Mexico for possible surgical fetoscopy was constructed. The presence of two amniotic sacs was confirmed by revision of prior first or second trimester ultrasound. Spontaneous septostomy of the interfetal membrane was suspected in the presence of polyhydramnios in both amniotic sacs together with both a collapsed donor bladder and a distended recipient bladder.

Results

128 consecutive TTTS cases were diagnosed during the study period and treated by fetoscopic laser therapy at a mean gestational age of 24.4 (range, 15.3–31.6) weeks. Spontaneous septostomy of the dividing membrane was suspected in 4 cases (3.13%) and confirmed in all of them at the time of fetoscopy by identifying both twins occupying the same side of the dividing membrane. Within the group with spontaneous septostomy, umbilical cord entanglement was observed in two cases (50%) with TTTS stage IV and V, and both were managed with cord transection of the hydropic and dead fetus, respectively. The remaining two cases were managed by fetoscopic laser therapy. Within the whole population, the group with spontaneous septostomy showed a significantly lower perinatal survival (50% vs 89.8%, $p < 0.01$ of at least one twin; and 0% vs 51.5%, $p < 0.01$ of both twins, respectively).

Conclusion

Similarly to monoamniotic twin pregnancies, up to 3% of MCDA twins complicated with TTTS may be presenting without amniotic fluid discordance due to spontaneous inadvertent septostomy, and those cases are associated with a lower perinatal survival.