The Fetal Medicine Foundation

Hospital do Divino Espírito Santo

Twin-Twin Transfusion Syndrome:

Case Report

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Objective:

Twin-Twin Transfusion Syndrome (TTTS) is one of the most serious complications of monochorionic multiple gestations. It is associated with a high risk of fetal/neonatal mortality and fetuses who survive are at several risk of cardiac, neurologic and developmental disorders. The main objective of this study was to review the obstetric particularities of a pregnant woman with monochorionic twins, due to a case followed in Hospital Divino Espírito Santo (HDES) of Ponta Delgada, São Miguel Island, Azores.

Methods:

Overview of a clinical case about a monochorionic twin pregnancy that was complicated with TTTS and review of the interventions for management of the disease.

Case Report:

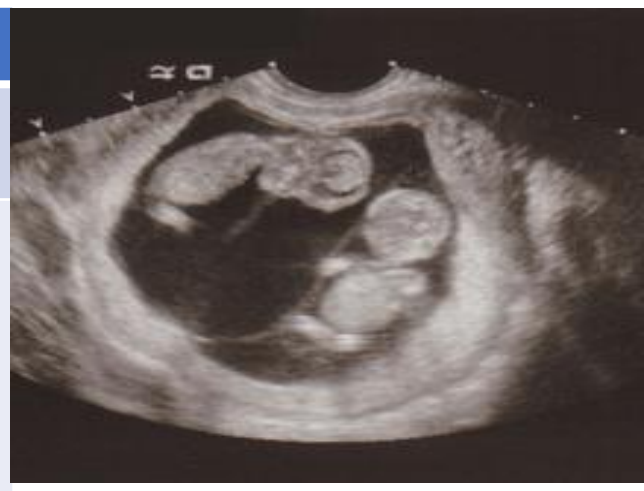
A 22-year old woman, primiparous, with irrelevant personal and familiar history, was referred to obstetric pathology consultation because of **spontaneous monochorionic diamniotic twin pregnancy**.

HDES, Azores - Ultrasound examination of the 19th week (Picture 1):

✓ Intertwin weight discordance of 35%.
✓ The cervical length was 30 mm.

First twin (recipient twin)
- Polyhydramnios;
- Fetal bladder visible;
- Doppler study: Pulsatile flow in the umbilical artery and in the ductus venosus, reversed flow in a-wave of ductus venosus and tricuspid regurgitation;
- Signs of hydrops.

Second twin (donor twin)
- Anhydramnios;
- Nonvisualized bladder;
- Doppler normal.



Picture 1: TTTS.

Alfredo da Costa Maternity, Lisbon

Because of a **IV stage of TTTS**, based on Quintero stages, she made an **amnioreduction**, that removed about 3 liters of amniotic fluid, with no complications.

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20th week: **Selective feticide** of the recipient twin, throught **cord coagulation with laser**.

Fernando Fonseca Hospital, Lisbon

✓ She stayed hospitalized and was submitted to a **weekly ultrasound examination**.
✓ She received **corticosteroids** for induction of fetal lung maturation.
✓ During the 34th week, she presented with a spontaneous onset of labour. An **eutocic delivery** was performed, with the birth of a female newborn, weighing 1740gr, with Apgar score of 9/10.
✓ The premature newborn was admitted to the Neonatal Intensive Care Unit and was discharged at day 14.

Conclusion:

The prenatal diagnosis of TTTS is based upon ultrasonographic evidence of a **single monochorionic placenta** with **polyhydramnios/oligohydramnios sequence**.

Interventions to reduce complications of the disease are available:

- On one hand, **amnioreduction** reduces uterine overdistention, which is a risk factor for preterm labor and preterm premature rupture of the membranes. It also decreases pressure inside the amniotic cavity and thus appears to improve uteroplacental perfusion. There is no consensus regarding how much fluid to remove or how to remove it.
- On another hand, **selective feticide** may be the best option when TTTS is complicated by a life-threatening anomaly in one of the fetuses. The fetus predicted to have the least chance for survival is usually selected for the reduction procedure. The available data do not show a difference in survival according to whether the donor or recipient twin was targeted.

References: (1) Graça L., *Gravidez Múltipla***,** Medicina Materno-Fetal, Chapter 41, 4th edition (2010). **(2)** Cunningham et al – *Multifetal Pregnancy*, Williams Obstetrics, Chapter 39, 19th edition (1993). **(3)** Decherney A. Et al, *Multiple Pregnancy*, Current Diagnosis and Treatment, Chapter 17, 10th edition (2007). **(4)** Kenneth M. et al, *Twin-twin transfusion syndrome: Pathogenesis and diagnosis,* Up-to-Date (2016). **(5)** Kenneth M. et al, *Twin-twin transfusion syndrome: Management,* Up-to-Date (2016).