

Twin-twin transfusion syndrome: revisited

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ABSTRACT

Twin to twin transfusion syndrome is a very rare disorder complicating monozygotic monochorionic pregnancy. Here we are reporting a case of Twin to twin transfusion syndrome in 20 year old primigravida woman. Amnioreduction was planned as a treatment option. However patient underwent premature labor and deliver male twins both of which died later on.

Keywords: Twin to twin transfusion syndrome, Amnioreduction

INTRODUCTION

Twin to Twin Transfusion Syndrome (TTTS) results from an imbalance of blood flow through arteriovenous placental anastomoses between the two fetuses.^{1,2} It complicates 10-20% of monozygous twin gestations, with an incidence of 4-35% in the USA.^{3,4} Severe TTTS is reported to occur in 5.5-17.5% of cases.⁵ Literature is available regarding TTTS from developed countries but there is scarcity in data from India. Here we are describing a case of TTTS with no other complication.

CASE REPORT

A 20 year old primigravida woman visited to department of obstetrics and gynaecology, Sri Aurobindo medical college and PG institute; with a complaint of lower abdominal pain since last 2 days. She had history amenorrhea since six and half months. General and systemic examination was normal. On obstetric examination uterus was 36 weeks size, fetal parts & fetal heart sound could not be localised. Per speculum and vaginal examination was normal.

Routine investigations were normal. Ultrasonography revealed live twin gestation of 26 weeks with single placenta, polyhydramnios [Amniotic Fluid Index (AFI)

was 45 cm] in one sac & oligohydramnios (AFI was 1 cm) in other with non-visualization of fetal bladder. Color Doppler was normal. Patient was planned for amnioreduction but went into premature labor & delivered male twins weighing 565 grams (plethoric) & 440 grams (pale & hypovolemic) which died later (Figure 1). Puerperium was uneventful.



Figure 1: Male twins with weights of 565 grams (plethoric) and 440 grams (pale & hypovolemic).

DISCUSSION

Twin to Twin Transfusion Syndrome (TTTS) is a specific complication of monozygotic monochorionic twins resulting from transfusion of blood from one twin to the other through a deep, artery to vein placental vascular

anastomosis. Subsequently, the donor twin becomes anemic, hypovolemic, hypotensive, and hypoproteinemic. Donor twin undergoes intrauterine growth retardation, and occasionally develops oligohydramnios. In contrast, the recipient twin is heavier, polycythemic, hypervolemic, and faces complications of hyperviscosity of the blood such as hyperbilirubinemia, intravascular thrombosis and cardiac failure.^{6,7}

The degree of severity of the twin transfusion depends on the duration of pregnancy, structural alterations of the vasculature such as vessel caliber, quality of the anastomoses, and the presence/absence of vascular communication in the opposite direction to compensate for the haemodynamic imbalance, and chronicity of transfusion. Severe oligohydramnios can result in the stuck twin phenomenon in which the twin appears in a fixed position against the uterine wall.⁶⁻⁸

TTTS is associated with the death of one or both fetuses in more than 70-80% of untreated pregnancies, particularly if problems developed before 28 weeks' gestation.⁹ The main treatment options in chronic TTTS are serial amnioreduction and Fetoscopic Laser Coagulation of Communicating vessels (FLOC). Data from studies suggested survival rates following serial amnioreduction of 37-60%,⁹⁻¹² and treatment by laser photocoagulation increases the survival rate upto 55-73%.^{13,14}

Therefore endoscopic laser coagulation of anastomotic vessels should be considered in the treatment of all stages of TTTS to improve perinatal and neonatal outcome. Amnioreduction can be retained as a treatment option for those situations in which the expertise for laser coagulation is not available.

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