

## An Unusual Case of Selective Fetal Reduction in a Dichorionic Diamniotic Twin Pregnancy following PPROM with Cord Prolapse in the Second Trimester

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**Background:** Selective fetal reduction (SFR) is a procedure to reduce the number of fetuses in a multiple pregnancy. This may be considered in the setting of structural or chromosomal abnormalities, and obstetric complications.

Preterm prelabour rupture of membranes (PPROM) is a major cause of perinatal, neonatal and maternal morbidity and mortality, increasing the risk of chorioamnionitis, cord prolapse, placental abruption, and preterm birth. The incidence of PPROM in twin pregnancies is 7-10% compared to 2-4% for singleton pregnancies.<sup>1</sup>

**Case:** MX, a 32-year-old G2P0 with a 10-year history of infertility, presented to the Emergency Department at 17+6 weeks of a dichorionic, diamniotic (DCDA) twin IVF pregnancy with vaginal bleeding and lower abdominal pain. Bedside ultrasound demonstrated two live fetuses and anhydramnios in sac 2. Cord prolapse was noted on speculum examination.

Inflammatory markers, vaginal swab and urine cultures were normal. MX was counselled regarding management options and elected to undergo selective termination of twin 1 with a small possibility of twin 2 reaching a viable gestation.



Figure 1: US at 18 weeks showing anhydramnios of twin 2

**Management:** At 18+2, SFR of twin 1 was performed by injecting the prolapsed cord with lignocaine and ligating it at the cervix. Two days later, MX progressed into labour and delivered twin 1 vaginally. The placenta remained in situ, and she was covered with broad spectrum antibiotics for 10 days.

At 24+4, MX presented with abdominal pain and vaginal pressure. Her cervix was 2cm dilated on vaginal examination. The remaining segment of cord from twin 1 had retracted into the uterine cavity. MX was admitted, steroid covered and commenced on antibiotics. Inflammatory markers, vaginal swabs and urine cultures remained normal.

Serial bloods remained stable, and the fetus demonstrated appropriate interval growth. MX was diagnosed with gestational diabetes which was managed with insulin. At 31+5 weeks MX progressed into labour and had a forceps delivery for signs of fetal distress. A live female infant was delivered with APGARs of 9 and 9, arterial cord pH of 7.2 and venous pH of 7.33. MX had a 1700mL postpartum haemorrhage secondary to retained tissue and atony which was managed by operative removal of retained tissue and Bakri balloon insertion. MX's baby was discharged home on day 16. Placental histopathology found signs of acute chorionitis but no funisitis or fetal inflammatory response and there was no growth on placental swabs.

**Discussion:** There are 17 reported cases of SFR of DCDA twins complicated by PPROM.<sup>2,4,5</sup> However, none of these cases had the added complication of cord prolapse. By providing a physical route for ascending infection, the additional complication of cord prolapse poses an even higher risk of chorioamnionitis and pregnancy loss.

It is suggested that SFR increases the latency from PPROM to delivery and increases the number of pregnancies reaching  $\geq 31$  weeks when compared with expectant management.<sup>2</sup> This is thought to be due to cessation of fetal urine production resulting in anhydramnios, in turn allowing the mucous plug to reform and preventing ascending infection.<sup>3</sup>

This case posed a unique management challenge of cord prolapse at pre-viable gestation of a DCDA twin pregnancy. Cord ligation and excision may also assist in the reformation of the mucous plug to provide a physical barrier to ascending infection. In this case, this has allowed the pregnancy to continue to a viable gestation.

### References:

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