

Background

Conjoined twins (CTs) are a rare complication of monozygotic twinning with an incidence of 1/49,000 to 189,000, occurring as a failure of embryonic fission with zygote dividing between days 13 and 15.^[1] In this case, we report a late diagnosis of thoraco-omphalopagus CT at 28-weeks gestation.

Case Report

A 40-year-old Zimbabwean lady booked her pregnancy late. She was a para 3 who had previously delivered normal birth-weight infants at term. At a dating ultrasound, she was diagnosed as having CT and subsequently, a detailed scan was performed by a fetal medicine consultant.

She was found to have thoraco-omphalopagus CT. They were 28-weeks gestation, sharing heart, lung, liver, and gastrointestinal tract (see picture 1 and 2). Twin-1 had no bladder. They were footling breech, facing each other and the placenta was anterior high with a central one-cord insertion which inserts more towards twin 2 at the level of the bladder (see picture 3).

The couple received extensive counselling due to the complexity of the twins’ anatomy, and the chances of survival would be small. Consequently, the twins underwent double fetocide and were delivered via classic caesarean section due to the bi-cephalic diameter being 28cm, making vaginal delivery impossible.

Genetic PCR and array were normal, and post-mortem was declined. Placental histology confirmed the single umbilical cord bearing 5 vessels. However, there were no focal lesions.

Thoraco-omphalopagus Conjoined Twins: A Rare Case Report

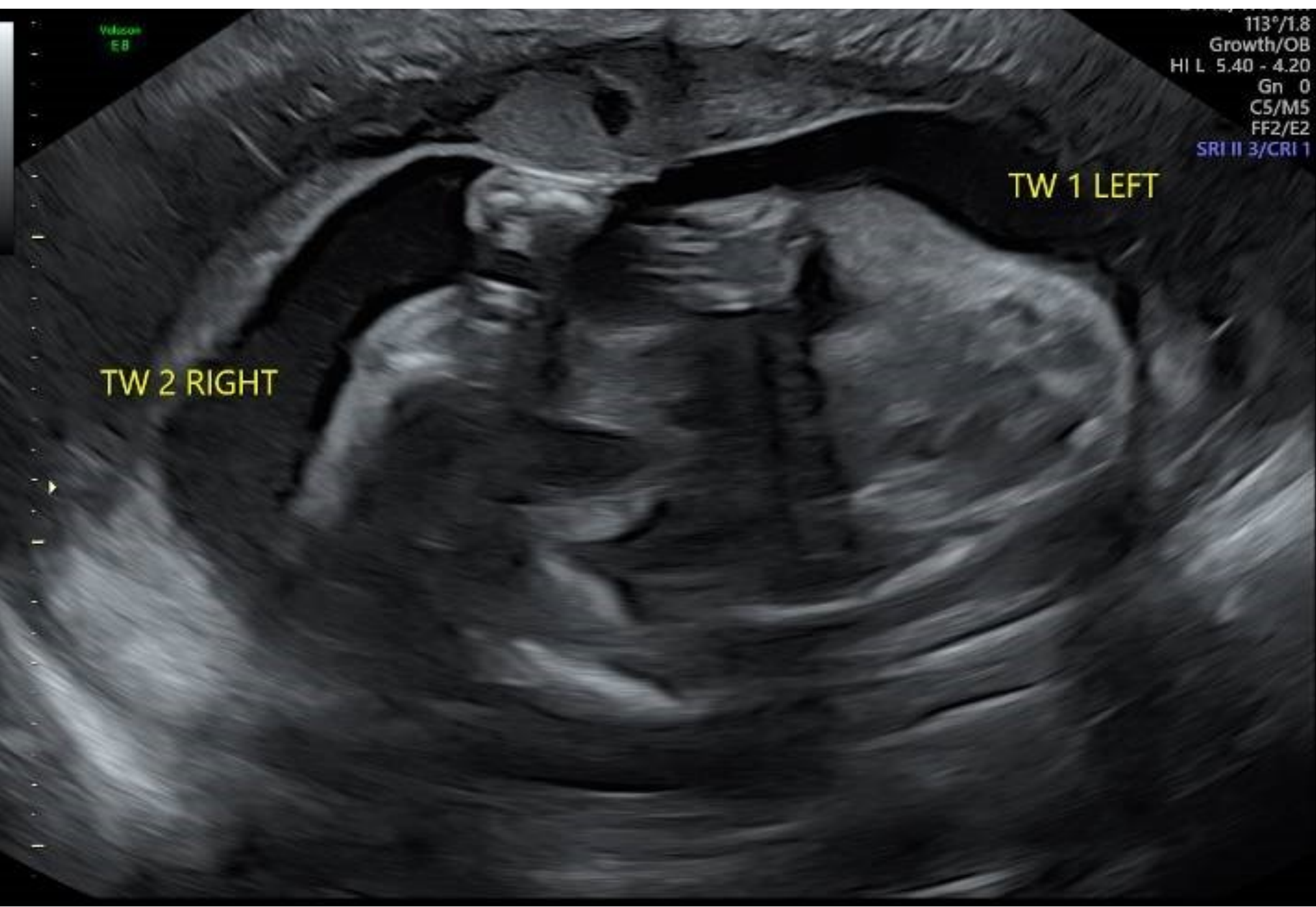
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Discussion

Conjoined twins are classified according to their site of attachment; the most common type is thoraco-omphalopagus, accounting for 75% of CTs.^[1] Most CTs are female, with a reported female/male ratio of 2:1 or 3:1.^[2] Unfortunately, 40% of CTs are stillborn and a further 30% die on their first day.^[3] It is likely to be random, and not related to genetic or environmental causes. Associated conditions include congenital heart disease, abdominal wall defects, neural tube defects, cystic hygroma, and hydrops.^[3]

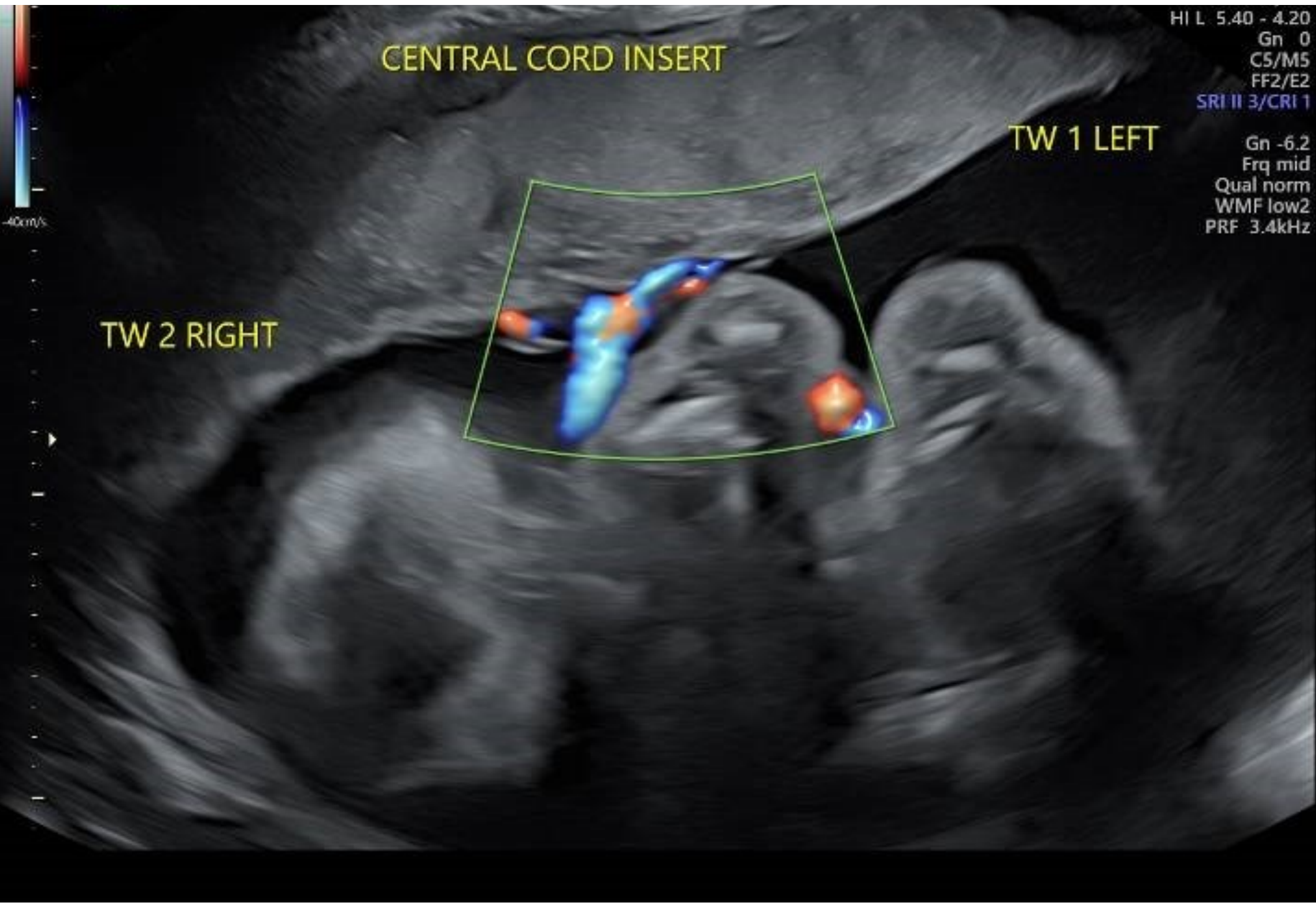
In the second trimester of thoraco-omphalopagus CT, there will be a lack of a separating membrane and an inability to demonstrate separate fetal bodies, with both heads persistently at the same level with no change in their relative positions. Backward flexion of the fetal spine can cause discordant position.^[3]



Picture 1. Ultrasound scan image to illustrate the lie of the twins



Picture 2. Ultrasound scan image to illustrate the sharing of structures



Picture 3. Ultrasound scan image to illustrate central cord insertion



Picture 4. Picture of twins post delivery

Conclusion

The management of CTs is complex and requires careful preparation. Pre-birth management includes prenatal counselling. A multidisciplinary team is essential to anticipate and address the ergonomic challenges and medical issues related to organ fusion, cross-circulation, and associated anomalies.

Key Messages

- ✓ Each set of conjoined twins have distinct anatomical features and care should be tailored towards the individual needs of the patients.
- ✓ A multidisciplinary team approach is essential to address the challenges of management of CTs.

References

1. Creasy and Resnik's Maternal-Fetal Medicine, Multiple Gestation 37, 660-686
2. Gabbe's Obstetrics: Normal and Problem Pregnancies, Multiple Gestations 39, 751-783.e4
3. Fetal Medicine: Basic Science and Clinical Practice, Multiple Pregnancy 44, 532-533.e6