

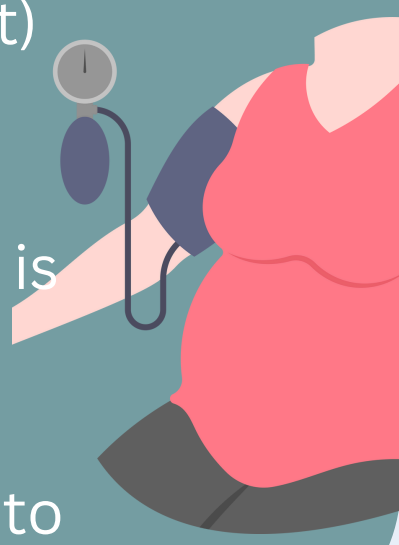


Navigating Complexity: A Case Report of Quadruplet Pregnancy Management in a Primigravida

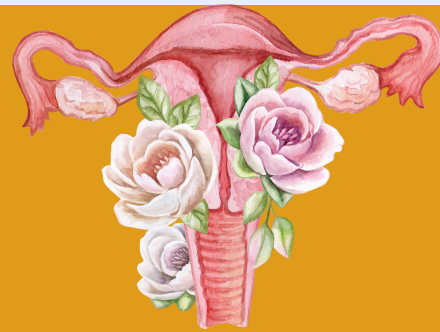
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1 Background

- Identical quadruplets are incredibly rare and result from a single fertilised egg breaking or splitting into multiple embryos.
- Possible causes of quadruplets after a single-embryo transfer (SET) IVF: concurrent spontaneous conception, or Zygotic splitting, which occurs when a fertilized egg (zygote) divides into multiple embryos, leading to identical twins/triplets/quadruplets
- Factors that could increase the risk of zygotic splitting include:
 - Using frozen thawed embryos for SET.
 - Maturing the fertilized egg (blastocyst) in the laboratory for five or six days before SET.
 - Assisted hatching, where a small hole is created in the protein layer surrounding the embryo (the zona pellucida) to help it hatch and attach to the uterine wall



2 Key Issues



Maternal and Fetal Risks:

- Quadruplet pregnancies pose increased risks for both the mother and the babies. Complications include gestational diabetes, cervical shortening, and hypertensive disorders.

Interventions:

- Antenatal corticosteroids and progesterone supplementation are used to optimise outcomes for both the mother and infants.

Multidisciplinary Collaboration:

- Coordinated care involving various healthcare professionals is crucial for managing high-risk quadruplet pregnancies.

Decision-Making Challenges:

- Decisions about timing and mode of delivery are complex, especially considering maternal complications and gestational age.

3 Case Summary

- A primigravida, now para 1+3 with a history of anxiety, depression, PCOS, and endometriosis, conceived quadruplets via IVF with a single embryo transfer.
- Rigorous antenatal surveillance - fortnightly ultrasounds from 16 weeks for cervical length
- Normal tertiary level morphology scan
- Admitted to hospital at 24+4 weeks gestation due to asymptomatic cervical shortening, diagnosed on routine fortnightly ultrasound
- Received antenatal corticosteroids for fetal lung maturity at this time
- Other antenatal complications at this time included migraines and obstetric cholestasis
- Her clinical course was complicated by worsening hypertension and decreasing platelet levels, and she was diagnosed with PET with HELLP syndrome
- This ultimately necessitated an expedited caesarean section at 31+3 weeks gestation
- Patient recovered well postpartum
- All four infants admitted to NICU but demonstrated resilience and responded to medical interventions

4 Multidisciplinary Considerations

- Extensive discussions on maternal and fetal risks.
- Decision-making regarding continuing quadruplet pregnancy vs. fetal reduction.
- Meticulous monitoring of cervical length and fetal growth assessment.



5 Key Learning Points

This case highlights the intricacies involved in managing quadruplet pregnancies complicated by maternal comorbidities and obstetric complications. It underscores the critical importance of a multidisciplinary approach and close collaboration between obstetricians, maternal-fetal medicine specialists, and other healthcare professionals in navigating the complexities of high-risk pregnancies.