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Multifetal Gestation with An Anomalous Twin: An Ethical Obstacle Course

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ABSTRACT

Counseling mothers about fetal anomalies is often challenging due to complex emotions and expectations in pregnancy. Nevertheless, counseling should always consider the desires and values of the parent's while explaining all possible treatment options. Multifetal gestations have an added layer of ethical complexity, as each fetus may have competing interests. We present a patient with a twin pregnancy, complicated by one anomalous fetus and preterm pre-labor rupture of membranes (PPROM), along with the multidisciplinary shared decision making that ensued.

CASE

Ms. N is a 29-year-old with a dichorionic-diamniotic twin pregnancy. At 19 weeks, Twin A was noted to have bilateral severe cerebral ventriculomegaly, a cardiac ventricular septal defect and poor fetal growth. Twin B had a normal fetal anatomy survey. The patient declined selective termination for Twin A after thorough discussion of the concerning ultrasound findings.

At peri viability (23+6 weeks), the patient presented with PPROM of Twin A, complicating the management and prognosis for the unaffected Twin B. The patient was counseled by the neonatology and perinatology teams on the prognosis of Twin A in the setting of the progressing ventriculomegaly, as well as the prognosis of the pregnancy in the setting of PPROM. Limitations in outcome counseling due to this unusual scenario were disclosed to the patient. She was presented with the option of monitoring and intervention (to include urgent preterm delivery) in the event of distress for either fetus. Alternatively, she was given the option of monitoring and intervention for Twin B only. Initially, the patient and her spouse desired monitoring and potential intervention for both twins.

Several days later, during monitoring of Twin A, a prolonged deceleration was noted in the heart rate tracing. The patient was taken emergently to the operating room and prepared for a cesarean section. In the OR, upon resuming fetal heart rate monitoring, Twin A's heart rate was noted to recover, and the patient was returned to her hospital room undelivered. The patient and her spouse requested to re-evaluate their plan for Twin A after this event. After repeat discussions with neonatology and perinatology, the couple ultimately decided to forgo monitoring and subsequent interventions for Twin A in order to progress further in the pregnancy for Twin B's

development. The plan of care moving forward included twice daily fetal heart rate checks for twin A and twice daily non-stress tests (30-60 min of fetal cardiotocography (CTG)) for Twin B (**Figure 1**). Furthermore, they planned to pursue comfort care for Twin A at time of birth and avoid aggressive resuscitation measures.

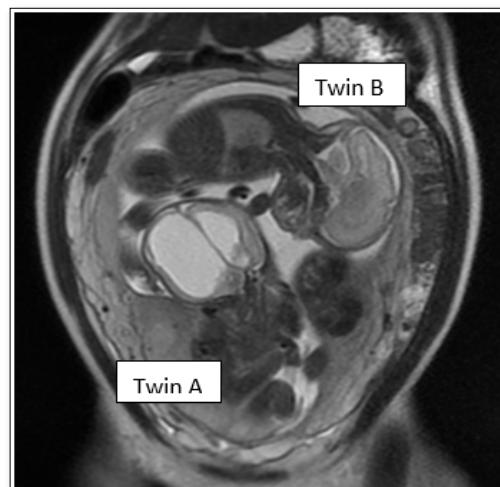


Figure 1. Stark Ventriculomegaly of Twin A (arrow).

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As the patient progressed in her pregnancy, the plan of care was periodically readdressed with the couple, as prematurity risks decreased and the cerebral ventriculomegaly of Twin A worsened. Interventions and goals were regularly discussed with Ms. N while she remained inpatient.

Due to concern for placental abruption, the patient was delivered at 33+4 weeks by cesarean section. She delivered two live-born female infants, with the anomalous Twin A expiring approximately 4 h after birth.

COMMENTARY

The essential issue in this case was balancing an emergent intervention for anomalous twin A with the risks of prematurity in unaffected twin B. Approximately 6% of twin gestations demonstrate congenital anomalies [1]. Multifetal gestation is a known risk factor for premature delivery and subsequent complications for the newborn [2]. For example, over 40% of infants born at 28 weeks with normal development will have severe morbidity such as intraventricular hemorrhage, necrotizing enterocolitis, sepsis, or bronchopulmonary dysplasia, among others [3]. When a congenitally malformed twin has a low likelihood of survival or poor prognosis, the initial plan of care discussion should include the option of selective termination of the abnormal fetus. A multidisciplinary team of providers should be involved in counseling the patient whose wishes and autonomy should be respected. Additionally, the patient should be presented with new data as the pregnancy progresses and given the opportunity to reshape her delivery and neonatal resuscitation plan.

ETHICAL CONSIDERATIONS

Complex ethical questions can evolve in twin pregnancies due to potential competing interests of multiple individuals - each individual fetus as well as the mother. Some may consider it impractical to meet all four basic ethical principles for each life or potential life under these circumstances. If one twin is expected to expire in utero, then the care of the unaffected twin can supersede that of the other. However, if both twins are likely to be live born, the ethical principle of justice suggests that the antepartum course of both fetuses be weighed equally even if the postnatal prognosis is poor for one [4]. An ethical evaluation of this case must also consider the rights of one who is considered "unhealthy". Riggan et al. [5] examined a case involving a twin pregnancy with one anomalous fetus (congenital diaphragmatic hernia) and the limits of acceptable risk for the unaffected twin should fetoscopic tracheal occlusion be performed on the affected twin. In their analysis, they suggest that if both twins are expected to survive to birth, then they share equal moral worth and should be offered the same protections. One could argue that a fetus with an uncertain, but likely poor prognosis, is no less deserving of medical attention.

SHARED DECISION MAKING

Decision making surrounding both selective reduction and delivery at peri viability is fraught with complexity especially in the current politically charged climate surrounding abortion rights and whether the fetus should be regarded as a patient. Decision making in pregnancy is often related to gestational age and options can vary based on state laws. Given the complexity and controversy of these types of situations, shared decision making is of utmost importance in twin pregnancies with an anomalous twin. Patients should be informed of the prognosis if known and be made aware of the uncertainty if unknown. Additionally, they should be offered interventions to include termination or selective reduction (if available), continuing pregnancy and intervening for the health of either twin, or continuing pregnancy and intervening for the health of only the unaffected twin. Additionally, the parents should be counseled on postnatal resuscitation options for the affected twin.

Forgoing interventions on behalf of the affected twin is not an easy decision for parents. Even when making informed decisions, parents still suffer grief. In fact, the phenomenon of the "twinless twin" has been quoted in the literature as the experience of losing one twin while the other twin survives [6]. Women describe feeling especially isolated, as their community may not recognize the simultaneous grief and joy that they experience as new mothers who also lost a child. The dual emotions are complicated for patients, and they can feel that the birth of the unaffected twin is impacted by the grief of the lost twin [6,7].

Alas, Ms. N's case presents a unique example of the importance of shared decision-making between patients and providers. Counseling should be value-neutral on behalf of the physician and should consider the priorities of the parents. Furthermore, counseling should be supportive of the patient's decisions [6]. Importantly, counseling and consent should be allowed to evolve as the pregnancy progresses and new data comes to light. A multidisciplinary team of healthcare providers should be involved in the conversation with the patient to create a comprehensive treatment plan. The input of perinatologists, obstetricians, and neonatologists should be collaborative to help the patient make a well-informed decision.

The views expressed in this paper are those of the authors and do not reflect the official policy of the Department of Army/Navy/Air Force, Department of Defense, or the U.S. Government.

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