Conjoined Parapagus Dithoracic Twins

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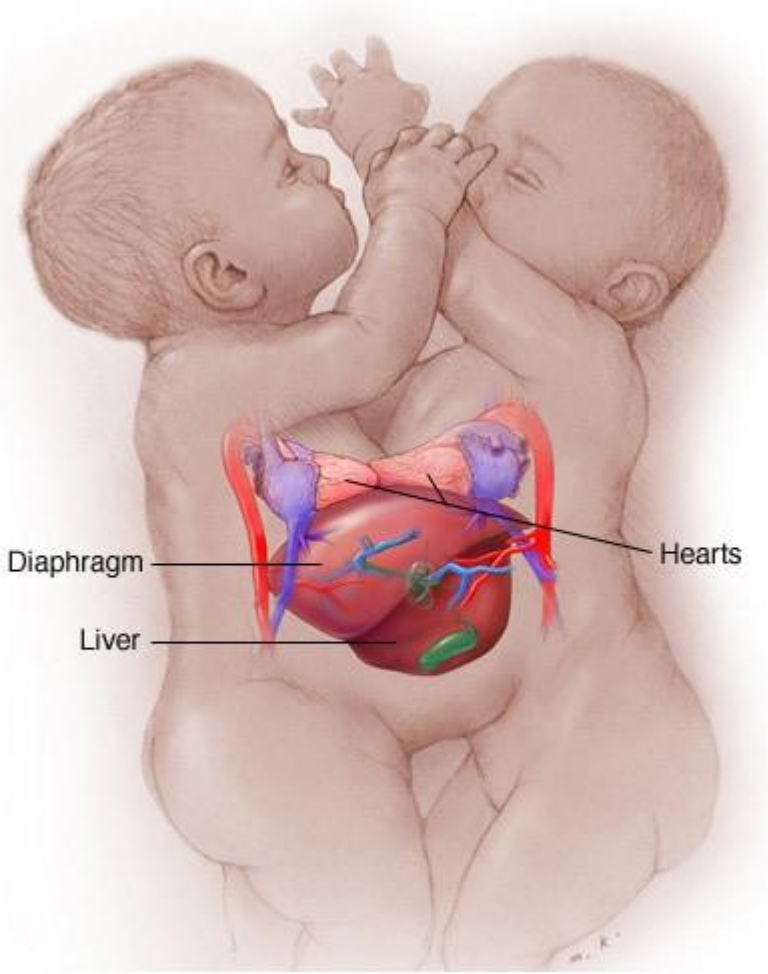

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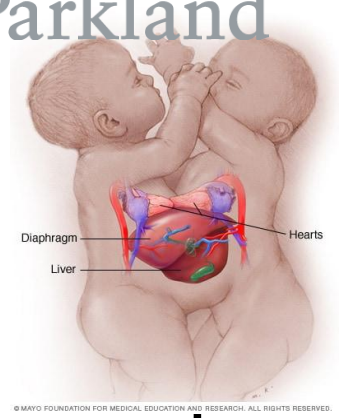
Background



-When the embryo splits later than 8-12 days after conception
    usually between 13-15 days after conception
    separation stops before the process is complete.
    The resulting twins are conjoined.

-The most common form of conjoined twins is the fusion of the anterior thorax and/or abdomen (thoracopagus, omphalopagus and thoraco-omphalopagus), which constitutes 70% of conjoined twins.

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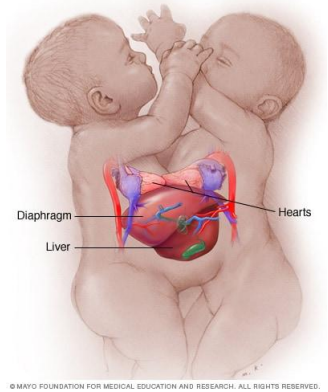
Case Presentation

Multidisciplinary planning

- 40 yo G4P2A1 at 30wks with history of mild persistent asthma, cholestasis of pregnancy, anemia and GERD presented for multidisciplinary delivery planning for parapagus dithoracic conjoined twins.
- Twin A -hydrops with severe CNS abnormalities
- Twin B - normal on imaging, but shared a liver and intestines with fused kidneys and separate bladders
- MFM, NICU, fetal medicine, pediatric surgery, obstetric anesthesia and pediatric anesthesia participated in delivery planning and multidisciplinary simulation.
- At 32 weeks and 2 days, patient presented for a scheduled C-section and BTL under general anesthesia
    - Uterine relaxation was necessary for planned atypical hysterotomy and delivery of irregularly positioned twins.



Anesthetic Management

- Intraoperatively, an additional large bore IV and an epidural was placed without complication.
- Patient was induced with propofol and succinylcholine and intubated.
- A midline vertical incision and J shaped hysterotomy were made with delivery of twins under increased volatile.
- After cord clamp and initiation of oxytocin infusion, uterine tone was good.
- EBL was 1500 mL due to hysterotomy bleeding and classical incision.
- She received 2 units pRBCs given her baseline anemia and blood loss.
- Twins were handed off to NICU and resuscitated with intubation of twin B due to 100% FiO2 requirement and imminent surgical separation at our neighboring children's hospital.
- After closure of fascia, her epidural was dosed incrementally with 15 mL of 2% lido and 100 mcg of fentanyl.

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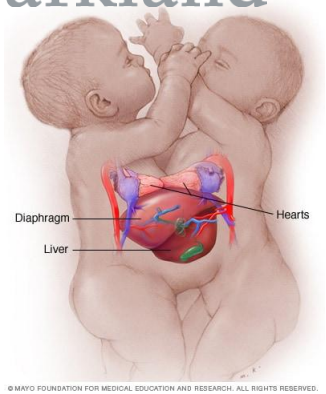
Discussion



Postpartum

- She was extubated in the OR and taken to the recovery room in stable condition.
- An epidural infusion was maintained for 24 hours for post op pain management.
- She met all postpartum goals and was discharged home on POD 4.
- Surgical separation of twin A's head, upper chest, and upper extremities from twin B occurred the same day, with the demise of twin A intraoperatively.
- Twin B had resultant duplicated abdominal organs, intestinal malrotation and dextrocardia and spent 3 months in the NICU before being discharged home.
- At 10 months, twin B returned to OR for resection of residual spine of twin A and hip disarticulation of the third dysplastic lower extremity.

Teaching Points

- When conjoined twins are expected, there are implications for a high risk of morbidity.
  - Maternal: Postpartum hemorrhage and chronic hypertension were more frequently associated with severe maternal outcomes among twin pregnancies.2
  - Twins: conditions indicating organ dysfunction were 2-5 fold higher.2
- Extensive, detailed delivery planning, as in this case, is required between the family and multidisciplinary team to help facilitate a smooth and safe delivery.

References

Sharma UK, et al. Antenatal detection of conjoined twin. J Nepal Med Assoc 2007

Santana DS; WHO Multicountry Survey on Maternal and Newborn Health Research Network. Twin Pregnancy and Severe Maternal Outcomes: The World Health Organization Multicountry Survey on Maternal and Newborn Health. Obstet Gynecol. 2016 Apr;127(4):631-641. doi: 10.1097/AOG.0000000000001338. PMID: 26959199.