

A Case Study of Gastroschisis

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Background

Gastroschisis is one of the most common fetal abdominal wall defects and is associated with evisceration of the bowel and other abdominal organs ¹. Typically identified during the first or second trimester ultrasound, gastroschisis requires multidisciplinary input. Bowel herniation and its exposure to amniotic fluid can lead to intestinal abnormalities due to the potentially compromised mesenteric blood supply. Other adverse outcomes include fetal growth restriction, spontaneous preterm birth and in rarer cases fetal demise.

Case

TR is a 34 year old gravida 3 parity 2 who was diagnosed with gastroschisis on ultrasound at 16 weeks gestation after suspicion of an abdominal wall defect at 12 weeks. She had MFM follow up with regular ultrasounds of fetal growth and bowel diameter. Fetal growth and amniotic fluid levels were followed carefully so to identify any restriction or oligohydramnios. The extra-abdominal bowel was carefully monitored with only mild dilation noted with no oedema or bowel wall thickening. Prenatal counselling by the MFM, NICU and paediatric surgery teams took place with the aim to deliver by 38 weeks. TR went into spontaneous labour at 36+3 and had an uncomplicated vaginal birth. The male neonate was wrapped immediately in cling wrap, orogastric tube inserted and staged closure was started using a silo. Primary closure occurred at 2 days of life.

Reference:

1. Normal and Abnormal Fetal Anatomy. In: Cunningham F, Leveno KJ, Dashe JS, Hoffman BL, Spong CY, Casey BM. eds. *Williams Obstetrics*, 26e. McGraw Hill; 2022. Accessed February 22, 2024. <https://accessmedicine.mhmedical.com.acs.hcn.com.au/content.aspx?bookid=2977§ionid=254035793>
2. Gastroschisis . In Stephenson C.D., Lockwood C.J., Mackenzie A.P. *Up to Date*. 15th Jan 2023. Available from: https://www.uptodate.com.acs.hcn.com.au/contents/gastroschisis?search=gastroschisis%20silo%20image&source=search_result&selectedTitle=1%7E150&usage_type=default&acc=36422#H12
3. Children's Minnesota. What is gastroschisis and where to find gastroschisis treatment. 2024 Available from: <https://www.childrensmn.org/services/care-specialties-departments/fetal-medicine/conditions-and-services/gastroschisis/>



Figure 1: transverse view of the abdomen with normal umbilical cord insertion and integrity of the abdominal wall. ¹

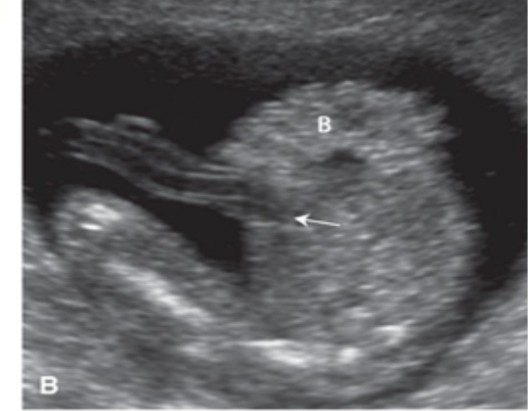


Figure 2: Transverse view of lower abdomen at 18 weeks showing multiple small bowel loops (B) herniating into the amniotic cavity through a right abdominal wall defect ¹.

Discussion

Of all the abdominal wall defects, Gastroschisis has the most favorable prognosis of approximately 98% with excellent long term outcomes ². Primary closure is performed where possible in the first few hours of life. A staged closure using a silastic silo may also be used to stretch the abdominal wall to allow for closure during the first few days of life ¹.

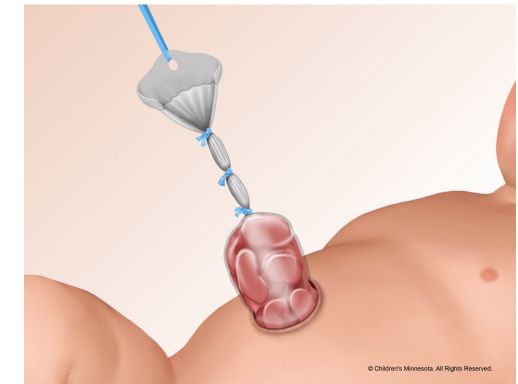


Figure 3: A silastic silo is temporarily used to protect the intestines and return them to inside the abdomen ³.