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GASTROSCHISIS IN THE FETUS – CORRELATION AND PROGNOSTIC SIGNIFICANCE OF PRENATAL ULTRASOUND AND PERIOPERATIVE FINDINGS IN NEWBORNS

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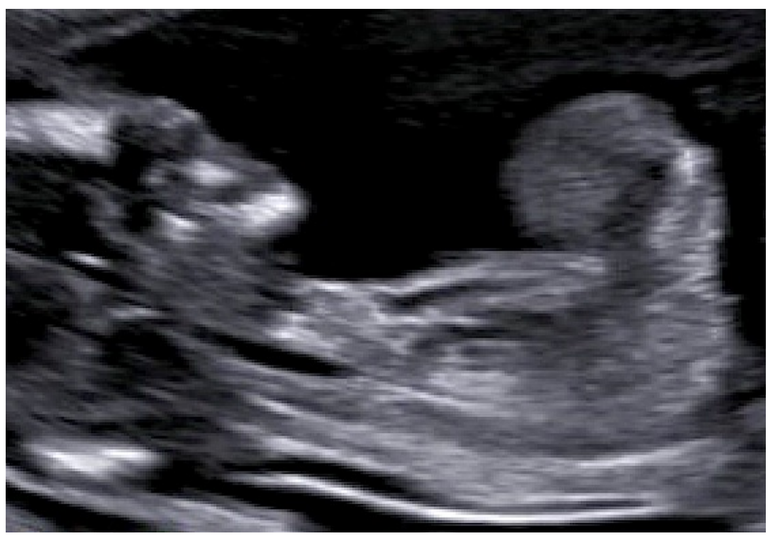
INTRODUCTION

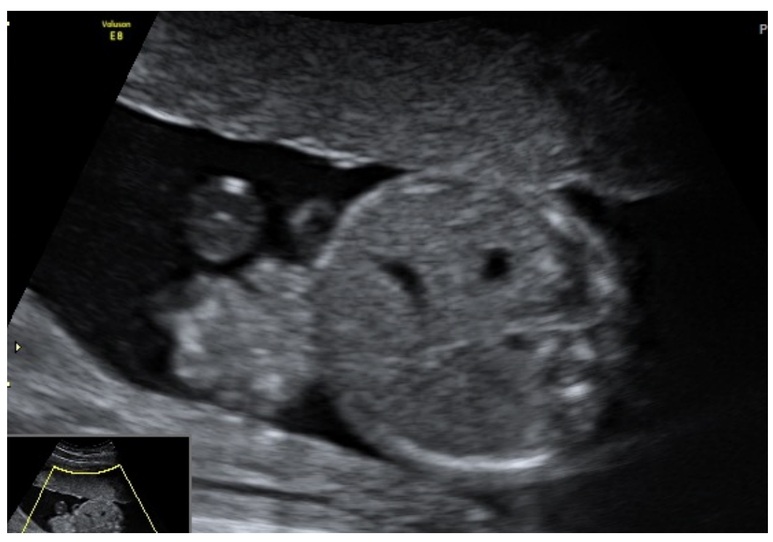
Gastroschisis is a congenital disorder of the closure of the anterior abdominal wall with an **incidence of 2-5/10,000 births**. Proven risk factors include the young age of the mother, smoking and drug use in pregnancy, and maternal infections. Unlike omphalocele, gastroschisis is **not associated with an increased risk of chromosomal abnormalities**, the overall prognosis is good with early detection and surgical treatment.

OBJECTIVE

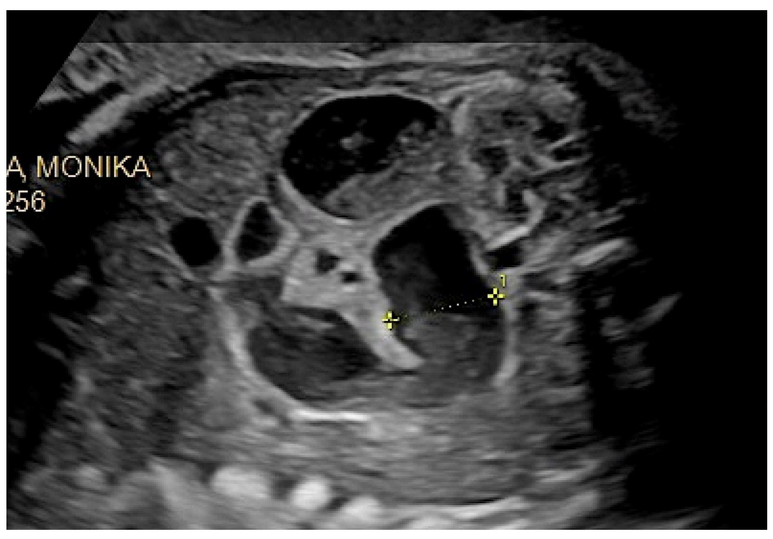
To evaluate early postnatal results in children with prenatally diagnosed gastroschisis focusing on the correlation of ultrasound findings within the prenatal diagnosis and postnatal perioperative results.



Pict 1: gastroschisis in 13th weeks of gestation, bowel herniation throught abdominal wall defect



Pict 2: gastroschisis in 22th weeks of gestation, bowel herniation throught abdominal wall defect



Pict 3: gastroschisis in 34th weeks of gestation, intraabdominal bowel dilatation

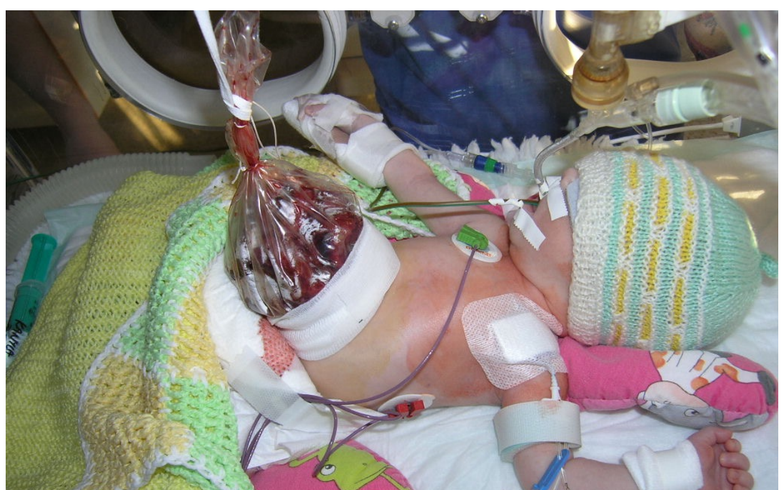
MATERIAL AND METHODS

Retrospective analysis of 26 cases followed and treated at the Department of Gynecology and Obstetrics and the Department of Pediatrics, University Hospital Brno, between 2005-2020.
Evaluation of

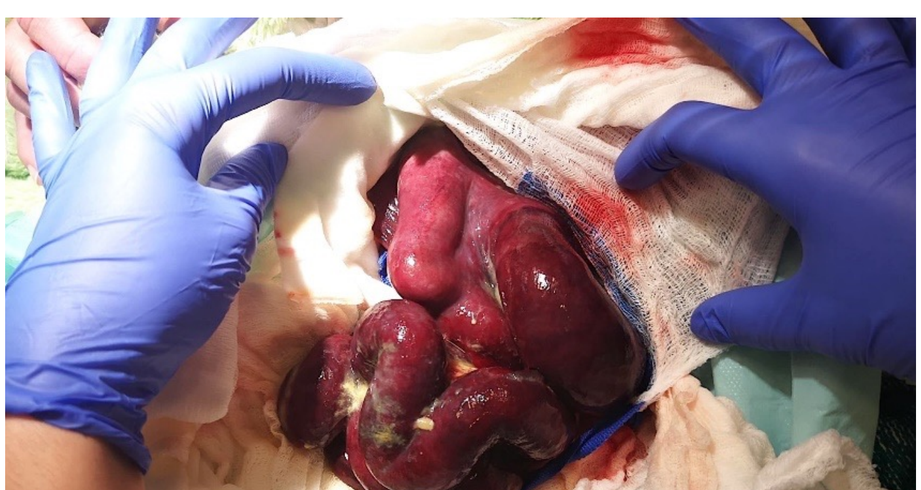
- **prenatal ultrasound findings** (associated congenital malformations, bowel dilatation - intra and extra-abdominal, the thickness of the intestinal wall, amount of amniotic fluid)
- **perinatal outcomes (**timing, method of delivery)
- perioperative findings, the number of surgical procedures, and the postoperative condition of newborns
- **correlation between prenatal and postnatal findings**
- early and late **complications in neonates and infants**

OUTCOMES

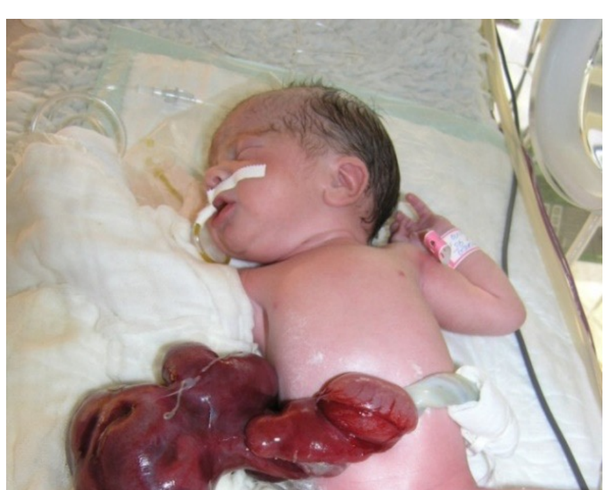
A total **of 26 cases of gastroschisis** were followed, all newborns were transported and surgically treated early postnatally. Of the total number of 26 births, 2 were conducted vaginally (7.7%) and 24 births by primary cesarean section (92.3%) between the 32nd and 39th week of pregnancy. In all cases, live fetuses were born and **surgically treated on the day of birth** (2h 50min – 8h 0min, median 4h 02min). In two newborns (7.7%) **intestinal atresia** was detected perioperatively as an associated congenital anomaly, in both cases the bowel dilatation was described by prenatal diagnostics (22mm extra-abdominally – atresia colon ascendens and 27mm intra-abdominal – jejunal atresia), in these cases the postnatal outcome was complicated, with the need for partial bowel resection, in one of the cases the newborn died in 4 months of life. Another early death of the newborn occurred the 1st day after birth after massive aspiration preoperatively followed by sepsis. In the remaining 24 cases (92.4%), the **postnatal outcome is fine**, without serious complications.



Pict 4: Newborn with SILO-treatement



Pict 5: Gastroschisis, perioperative finding - everted bowel



Pict 6: Gastroschisis, newborn

CONCLUSIONS

Gastroschisis is one of the common congenital malformations with favorable perinatal results requiring a multidisciplinary approach. Although the correlation of prenatal diagnosis with early postpartum findings is good, there is still a need to look for markers that would help us determine optimal pregnancy management. Early postnatal surgical treatment is generally successful with a low risk of serious complications.