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**PRIMARY CLOSURE VS STAGED CLOSURE IN GASTROSCHISIS:
A COMPARATIVE ANALYSIS OF SURGICAL OUTCOMES**

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Introduction. Gastroschisis is a congenital anterior abdominal wall defect characterized by the eventration of abdominal organs, most commonly the intestines, located on the right side of the normally formed umbilical cord. The underlying cause remains unclear, though disrupted mesodermal development and umbilical vein thrombosis are leading theories. The condition occurs in approximately 1 in every 4000 live births and is typically diagnosed by prenatal ultrasound around 14 weeks of gestation. It has a strong association with young maternal age, particularly under 21 years. Prompt surgical intervention is required to reduce the risk of complications and ensure survival.

Objective: the purpose of this study is to compare surgical outcomes between primary closure and staged closure techniques in neonates with gastroschisis.

Materials and methods. A retrospective analysis was conducted on 23 neonates treated for gastroschisis at the Republican Scientific and Practical Centre of Pediatric Surgery in Minsk from 2015 to 2023. Of these, 22 neonates (96%) underwent primary closure – the Bianchi technique, while one neonate (4%) received staged closure (silo plastics) due to the high risk of the compartment syndrome. Parameters assessed included gestational age, birth weight, time to enteral feeding, length of NICU stay, total hospital stay, and postoperative complications.

Results and their discussion. Among the 23 patients, 13 (57%) were male and 10 (43%) were female, with an average birth weight of 3390 ± 260 g. The mean gestational age was 262 days, and 34% were delivered prematurely. The neonate who underwent staged closure had a gestational age of 252 days and a birth weight of 2210 g. The second stage was on the 8th day after the first one. Enteral feeding began significantly earlier in the primary closure group (mean: day 2, range: 2–3) compared to the staged closure case (day 10, range: 7–10).

The mean NICU stay for primary closure was 32.6 ± 19.9 days, while the staged closure patient remained in the NICU for 36 days. Total hospital stays averaged 43.9 ± 20.2 days for primary closure and 54 days for staged closure. Sepsis developed in 26.1% of all patients, affecting 22.7% of those who had primary closure and the single patient who had staged closure. Intestinal obstruction occurred in 21.7% of patients, all in the primary closure group. Short bowel syndrome was observed in 13% of patients, exclusively among those who had primary closure. Necrotizing enterocolitis was identified in 8.7% of the cohort, again only in the primary closure group. Overall, two patients (8.7%), who had undergone primary closure, died because of the Early adhesive intestinal obstruction, septic shock and intrapleural bleeding due to the CVC-placement.

Conclusion. Primary closure of Bianchi resulted in earlier feeding and shorter hospital and NICU stays, making it the preferred technique when feasible. However, it was also associated with notable complications. The single case of staged closure, while involving a longer recovery, was essential in managing elevated abdominal pressure. Staged closure such as siloplastics should be considered in cases where primary closure is not safe. Larger studies are needed to further clarify and support these findings.