Georgian Scientists
ქართველი მეცნიერები
Vol. 8 Issue 4(1), 2026
https://doi.org/10.52340/gs.2026.08.04(1).97



CURRENT ISSUES IN THE POSTOPERATIVE MANAGEMENT OF NECROTIZING ENTEROCOLITIS COMPLICATED BY SHORT BOWEL SYNDROME IN NEONATES

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Background: Necrotizing enterocolitis (NEC) is a major cause of neonatal intestinal morbidity and mortality. Extensive intestinal necrosis and surgical resection may result in short bowel syndrome (SBS), intestinal failure, prolonged parenteral nutrition dependence, and impaired growth.

Aim: To summarize current evidence on the management of NEC when extensive bowel loss leads to SBS, with emphasis on bowel-preserving surgery, nutritional support, and intestinal rehabilitation.

Methods: A narrative review was developed using an evidence-based European guideline on surgical management of NEC, contemporary peer-reviewed reviews, and published studies of multidisciplinary intestinal rehabilitation in children with SBS.

Results: Management requires early recognition of deterioration and coordinated neonatal, surgical, and nutritional care. Pneumoperitoneum is an absolute indication for urgent surgical intervention; other decisions should integrate serial clinical assessment, laboratory findings, and imaging. During surgery, resection should be limited to clearly nonviable bowel while ensuring adequate source control. In selected stable infants, primary anastomosis may be considered, particularly when preservation of bowel length is critical; diversion remains appropriate in other clinical circumstances. After extensive resection, individualized parenteral nutrition supports growth while enteral feeding is introduced and advanced according to clinical tolerance. Human milk, careful fluid and electrolyte management, monitoring for catheter-related infection and intestinal-failure-associated liver disease, and assessment of micronutrient status are important components of care. A multidisciplinary intestinal rehabilitation program can support intestinal adaptation, optimize nutrition, and assess the potential for reducing parenteral nutrition dependence. Evidence remains limited for several surgical decisions, and management must be individualized.

Conclusions: Improving outcomes in NEC-associated SBS depends on timely, evidence-informed

surgical decisions that preserve viable intestine, followed by structured nutritional care and long-term multidisciplinary follow-up. Early referral to an intestinal rehabilitation team is important for growth, complication prevention, and assessment of enteral autonomy.

Keywords: Necrotizing Enterocolitis; Short Bowel Syndrome; Intestinal Failure; Bowel Preservation; Intestinal Rehabilitation