OUTCOMES OF SURGICAL MANAGEMENT AND REHABILITATION IN NEONATES WITH CONGENITAL INTESTINAL OBSTRUCTION

Azizov Mamatkul Kurbanovich
Samarkand State Medical University
Khushbakov Khamza Mamatovich
Samarkand State Medical University
Ochilov Ulugbek Usmanovich
Samarkand State Medical University
https://doi.org/10.5281/zenodo.18193513

ARTICLE INFO

Received: 06th January 2026
Accepted: 07th January 2026
Online: 08th January 2026

KEYWORDS

congenital intestinal obstruction, neonatal surgery, intestinal atresia, intestinal stenosis, intestinal malrotation, Hirschsprung's disease, meconium ileus

ABSTRACT

Congenital intestinal obstruction is one of the most frequent and clinically significant surgical pathologies of the newborn period, occurring with a frequency of 1:1500-1:5000 live births and requiring emergency surgical intervention in the first days of the child's life. This group of gastrointestinal developmental anomalies includes atresia and stenosis of various parts of the intestine, malrotation, Hirschsprung's disease, meconium ileus, and other congenital defects, united by a commonality of clinical manifestations in the form of impaired passage of intestinal contents.

Introduction. The etiopathogenesis of congenital intestinal obstruction is multifactorial and is associated with impairments in the embryogenesis of the gastrointestinal tract at various stages of intrauterine development. Duodenal atresia is most often caused by insufficient duodenal recanalization at 8-10 weeks of gestation, while jejunal and ileal atresia can be the result of intrauterine mesenteric vascular disorders. Intestinal malrotation is associated with a disruption of the normal rotation of the midgut during embryonic development, and Hirschsprung's disease is caused by a disruption in the migration of nerve cells to the intestinal wall.

Clinical manifestations of congenital intestinal obstruction in newborns are characterized by a classic triad of symptoms: vomiting, abdominal distension, and the absence of meconium excretion or delayed excretion. High intestinal obstruction (duodenal) manifests as early profuse vomiting, often with bile, without significant abdominal distension. Low obstruction is characterized by progressive abdominal distension, late vomiting, and complete absence of meconium secretion.

The diagnostic algorithm for suspected congenital intestinal obstruction includes a thorough analysis of the anamnesis, clinical examination, and a complex of radiation research methods. Overview abdominal radiography remains the primary diagnostic method for determining the level of obstruction and the presence of gas in the intestines. Ultrasound and computed tomography are used in complex diagnostic cases. Contrast studies of the gastrointestinal tract are used when it is necessary to differentiate the functional and organic causes of obstruction.

Surgical treatment of congenital intestinal obstruction requires emergency intervention and a highly qualified approach, taking into account the anatomical features of newborns, the severity of patients' condition, and associated developmental anomalies. Modern principles of surgical treatment are aimed at restoring gastrointestinal tract patency while maximizing the preservation of functionally active intestines, minimizing surgical trauma, and preventing postoperative complications.

Postoperative management of newborns with congenital intestinal obstruction is a complex set of measures, including intensive therapy, parenteral nutrition, prevention and treatment of complications, and early initiation of enteral nutrition. Particular attention is paid to restoring gastrointestinal function, correcting water-electrolyte imbalances, and maintaining adequate nutritional status.

Rehabilitation of patients after surgical treatment of congenital intestinal obstruction is a long process that requires a multidisciplinary approach involving neonatologists, pediatric surgeons, dietitians, physiotherapists, and other specialists. Rehabilitation programs are aimed at restoring normal digestive function, preventing the development of short bowel syndrome, correcting nutritional disorders, and ensuring optimal physical development of the child.

CONCLUSIONS: Modern approaches to the surgical treatment of congenital intestinal obstruction in newborns, based on the principles of minimally invasive surgery and an individualized approach, allow achieving survival of more than 90% with timely diagnosis and adequate treatment. Early diagnosis of congenital intestinal obstruction, including prenatal ultrasound screening and postnatal radiation diagnostics, is a critical factor in successful treatment and reducing the frequency of complications. The choice of surgical tactics should be based on the type and localization of obstruction, the general condition of the newborn, the presence of comorbidities, and the experience of the surgical team, with priority given to organ-preserving operations. Laparoscopic methods of surgical treatment show advantages in the form of less surgical trauma, shorter post-operative recovery time, and lower adhesive process frequency compared to traditional open interventions. Complex postoperative intensive therapy, including adequate respiratory support, correction of water-electrolyte imbalances, and early initiation of enteral nutrition, significantly improves treatment outcomes. Rehabilitation programs should be individualized and include a multidisciplinary approach involving neonatologists, pediatric surgeons, nutritionists, and child development specialists to ensure optimal physical and psychomotor development. Further improvement of treatment outcomes requires the development of tissue engineering methods, regenerative medicine, personalized treatment approaches, and the creation of national registries for monitoring long-term treatment outcomes.

List of references:

1.Bedoya, M. M., & Park, J. H. (2009). A review of the diagnosis and management of impacted maxillary canines. Journal of the American Dental Association, 140(12), 1485-1493. doi:10.14219/jada.archive.2009.0099

2.Bjerklin, K., & Ericson, S. (2006). How a computerized tomography examination changed the treatment plans of 80 children with retained and ectopically positioned maxillary canines. Angle Orthodontist, 76(1), 43-51.

3.Crescini, A., Nieri, M., Buti, J., Baccetti, T., & Pini Prato, G. P. (2007). Short- and long-term periodontal evaluation of impacted canines treated with a closed surgical-orthodontic approach. Journal of Clinical Periodontology, 34(3), 232-242.
4.Ericson, S., & Kurol, J. (2000). Incisor resorption caused by maxillary cuspids: a radiographic study. Angle Orthodontist, 70(6), 415-423.
5.Fleming, P. S., Scott, P., Heidari, N., & Dibiase, A. T. (2009). Influence of radiographic position of ectopic canines on the duration of orthodontic treatment. Angle Orthodontist, 79(3), 442-446.