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IMPROVEMENT OF CONSERVATIVE TREATMENT METHODS FOR DOLICHOSIGMA IN CHILDREN

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Annatation*. This article explores the possibilities of conservative treatment in children diagnosed with dolichosigma, without the need for surgical intervention. The effectiveness of a comprehensive approach was assessed, involving dietary therapy, physiotherapy, pharmacological treatment (prokinetics and laxatives), and rectal procedures. Clinical observations revealed a significant reduction in symptoms such as constipation, bloating, and abdominal pain, alongside an improvement in patients' quality of life. The results support the feasibility of effective non-surgical management in early-stage dolichosigma, offering a safer and less invasive therapeutic option for pediatric patients.*

Keywords: *dolichosigma, children, conservative treatment, constipation, dietary therapy, physiotherapy.*

СОВЕРШЕНСТВОВАНИЕ МЕТОДОВ КОНСЕРВАТИВНОГО ЛЕЧЕНИЯ ДОЛИХОСИГМЫ У ДЕТЕЙ

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Аннотация. В статье рассматриваются возможности консервативного лечения

детей с диагнозом долихосигма без хирургического вмешательства. Оценивалась эффективность комплексного подхода, включающего диетотерапию, физиотерапевтические процедуры, медикаментозное лечение (прокинетики, слабительные препараты) и ректальные методики. Клинические наблюдения показали выраженное снижение частоты запоров, метеоризма и абдоминальной боли, а также улучшение качества жизни пациентов. Полученные результаты подтверждают, что при раннем выявлении долихосигмы возможно успешное лечение без операции, что делает терапию менее инвазивной и более безопасной для ребёнка.

Ключевые слова: *долихосигма, дети, консервативное лечение, запор, диетотерапия, физиотерапия*.

BOLALARDA DOLIXOSIGMANING KONSERVATIV DAVOLASH USULLARINI TAKOMILLASHTIRISH

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Annotatsiya. Mazkur maqolada bolalarda dolixosigma tashxisi qo‘yilgan bemorlarni jarrohlik aralashuvisiz, konservativ yo‘llar bilan davolash imkoniyatlari tahlil qilinadi. Tadqiqotda parhez-terapiya, fizioterapiya, medikamentoz vositalar (prokinetiklar, laksatiflar) va rektal muolajalar singari choralarni o‘z ichiga olgan kompleks yondashuvning samaradorligi baholandi. Klinik kuzatuvlar shuni ko‘rsatdiki, takomillashtirilgan konservativ muolajalar orqali ich qotishi, meteorizm, qorin og‘rig‘i kabi simptomlar sezilarli darajada kamayadi, bemorlarning hayot sifati yaxshilanadi. Tadqiqot natijalari dolixosigmaning erta bosqichlarida operatsiyasiz davolash mumkinligini, bu esa bemorlar uchun xavfsizroq va kam invaziv yondashuv bo‘lishini ko‘rsatdi.

Kalit so‘zlar: *dolixosigma, bola, konservativ davolash, ich qotishi, parhez-terapiya, fizioterapiya.*

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Dolichosigma is an anomaly characterized by excessive elongation of the distal part of the large intestine, specifically the sigmoid colon, beyond physiological norms. It is recognized as one of the most common causes of chronic constipation in children. The condition is often diagnosed at a later stage with a delayed clinical presentation, and its symptoms—especially in young children—can significantly reduce the quality of life. The primary clinical manifestations of dolichosigma include constipation, flatulence, abdominal pain, anorexia, and general weakness. The severity of the pathology is associated with the size, degree of elongation, tone, and motility of the sigmoid loop.

In most cases, the diagnosis of dolichosigma is confirmed through radiological techniques such as **irrigography** and **computed tomography**. While traditionally the condition was managed predominantly via surgical intervention, recent years have witnessed growing evidence supporting the effectiveness of conservative treatment approaches. Several studies have shown that early-stage cases may benefit from non-surgical modalities—such as dietary therapy, physiotherapy, pharmacological stimulants, and rectal interventions—to normalize bowel function.Nevertheless, the conservative treatment protocols for children with dolichosigma are still not fully standardized. Therefore, further development and clinical validation of optimized, evidence-based conservative management strategies remain a pressing need. From this perspective, the main objective of the present study is to assess the effectiveness of conservative treatment methods for various clinical forms of dolichosigma in children, with the aim of optimizing treatment protocols and developing practical recommendations for their implementation.

Dolichosigma represents a relatively uncommon but clinically significant cause of chronic constipation in children. While historically considered a surgical pathology, in the past decade, the body of evidence in favor of **non-invasive** and **conservative treatment strategies** has expanded significantly.In a study by **Gorodkov et al. (2015)**, a combined approach of dietary and physiotherapeutic interventions in children with dolichosigma resulted in symptom relief without the need for surgery in 70% of cases. **Zaitsev A.A. (2018)** highlighted the differential

diagnosis of functional constipation and dolichosigma in pediatric patients and showed that a combination of pharmacological stimulants (such as **itopride**, **lactulose**, and **macrogol**) with a high-fiber diet yielded high clinical efficacy.In a multicenter study conducted in the United States, **S.T. Levitt and M. Peña (2017)** reported clinical improvement in 80% of children with dolichosigma-related constipation through an individualized conservative approach that included dietary adjustments, minimally invasive monitoring, and bowel-stimulating medications. They also emphasized that misdiagnoses frequently led to unnecessary surgical procedures and advocated for conservative management as the first-line strategy.

According to data from **Europe PMC** and **PubMed**, **rectal interventions**—such as enemas and glycerin suppositories—can play a valuable role in stimulating bowel activity in children with dolichosigma. However, these measures are not definitive treatments but rather supportive components of a comprehensive therapeutic approach.In recent years, recommendations for the standardization of conservative treatment have also emerged. For example, although dolichosigma is not presented as a separate category in the clinical guidelines for the management of constipation in children published by NASPGHAN (2020) and ESPGHAN (2021), step-by-step conservative treatment approaches are recommended for symptomatic conditions associated with it.

Moreover, research is also being conducted to identify dolichosigma from genetic and functional perspectives, as well as to explore its association with psycho-emotional status. This indicates the need for a more in-depth analysis of the condition and the necessity of individualized treatment approaches.This study was conducted between 2021 and 2024 among children diagnosed with dolichosigma who were observed in both inpatient and outpatient settings at departments of pediatrics and pediatric gastroenterology. A total of 78 patients were included in the study, ranging in age from 3 to 14 years, with a mean age of 7.2±2.4 years. The patients were analyzed by age groups: 3–6 years, 7–10 years, and 11–14 years.

The patients were selected based on the following inclusion criteria:

• A confirmed diagnosis of dolichosigma by clinical and instrumental examinations;

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• Presence of complaints related to bowel function such as constipation, flatulence, or other symptoms lasting for at least 3 months;

• Written informed consent from the parents for the initial course of conservative treatment.

The exclusion criteria were as follows:

• Presence of other congenital intestinal malformations (e.g., Hirschsprung's disease, rectal atresia);

• Comorbid severe neurological or somatic diseases;

• History of previous surgery involving the sigmoid colon or other parts of the bowel;

• Lack of consent from parents or legal guardians.

All patients in the study group underwent an initial medical examination, which included assessment of clinical symptoms, medical history (anamnesis), general condition, and laboratory investigations. In addition, the diagnosis was confirmed by irrigography and rectosigmoidoscopy.

The treatment consisted of the following main components:

1.Dietary therapy All children were advised to follow a specialized diet rich in fiber, easily digestible, and promoting intestinal motility. The diet included the following: vegetables (pumpkin, beetroot, cabbage), fruits (apple, apricot, plum), wheat bran and oatmeal, kefir and yogurt (fermented milk products), and a proper hydration regimen (at least 30 ml/kg/day of water).

2. Pharmacological therapy To soften stools and stimulate intestinal peristalsis, the following medications were administered step-by-step:

• Lactulose syrup (1–2 ml/kg/day) – a disaccharide osmotic laxative;

• Macrogol (PEG 3350) – to prevent persistent hard stools;

• Itopride hydrochloride – a prokinetic agent to enhance bowel motility;

• In severe cases, short-term use of glycerin suppositories or microenemas was applied

3. Physiotherapy and Rectal Interventions Physiotherapeutic methods also played an important role in the treatment protocol:

• **Microwave therapy (UHF)** applied to the abdominal area aimed to improve blood

circulation in the abdominal organs and enhance the peristaltic activity of the intestinal wall using low-intensity waves.

• **Enemas with ozonated water** were administered 1–2 times per week to gently cleanse the intestines and help restore microbial balance.

• **Warm paraffin compresses** were applied to the anterior abdominal wall to reduce chronic spasms and pain syndrome.

• **Abdominal massage and therapeutic physical exercises** were performed daily in the morning and after meals for 15 minutes to naturally stimulate intestinal motility.

4. Psychological and Emotional Balance Restoration Given the potential role of psycho-emotional factors in children with chronic constipation associated with dolichosigma, certain patients were provided with psychological counseling, recommendations for normalizing rest schedules, and guidance on improving psychosocial interactions with family members.

5. Monitoring and Efficacy Assessment Each stage of treatment was conducted under dynamic observation for a period of 3 to 6 months. Patients were evaluated based on the following criteria:

• Frequency and form of stool (according to the Bristol stool chart);

• Severity of abdominal pain and flatulence (assessed using a subjective 10-point scale);

• Recurrence of constipation and reduction in the need for pharmacological interventions;

• Radiological dynamics (when indicated).

1. Criteria for Evaluating Treatment Effectiveness

The condition of patients before and after treatment was assessed based on the following indicators:

• **Frequency of bowel movements** (number of times per week);

• **Stool form** (rated from 1 to 7 based on the Bristol Stool Chart);

• **Frequency and intensity of abdominal pain** (according to a subjective 10-point pain scale);

• **Duration of constipation** (based on daily observation diaries);

• **Number of constipation episodes** (how many recurrences occurred within 3 months);

• **Need for pharmacological therapy** (cases of dose reduction or discontinuation);

• **Reduction in the need for rectal procedures**;

• **Overall satisfaction of patients and parents** (assessed via questionnaire).

These parameters were used to evaluate each patient's general condition, symptom dynamics, and the short- and medium-term effectiveness of conservative treatment.

2. Monitoring and Follow-Up Protocol

Patients underwent follow-up medical examinations at 3, 6, and 12 months after treatment. During the observation period, the following were recorded:

• **Changes in bowel habits** (through daily logs);

• **Episodes of abdominal discomfort** (pain, bloating, weakness);

• **Adjustments in medication dosages**;

• **Results of instrumental investigations**, such as repeat contrast enemas (irrigography), ultrasound, and coproscopy, when indicated.

A personalized approach was applied in working with all patients, considering their age and psychological status. For younger children, close communication with parents was prioritized, whereas for adolescents, follow-up was strengthened through personal motivation and individualized counseling.

.**3. Statistical Analysis** The collected clinical and objective data were statistically processed using Microsoft Excel 2019 and SPSS v22.0 software. The following statistical methods were applied:

• **Descriptive statistics**: Mean values (M), median (Me), standard deviation (±σ), and variance (D) were calculated.

• **Paired comparisons**: To compare pre- and post-treatment outcomes, paired t-tests or Wilcoxon signed-rank tests were used depending on the distribution normality.

• **Categorical variables**: Chi-square (χ^2) tests were employed to reassess categorical outcomes (e.g., normalization of bowel movements).

• **Correlation analysis**: Associations between clinical symptoms and bowel habits

were evaluated using the Spearman correlation coefficient.

• **Statistical significance**: All analyses were conducted at a 95% confidence level, and p-values < 0.05 were considered statistically significant.

Based on the results of the analysis, conservative treatment methods were proven to be safe, effective, and capable of providing long-term symptom reduction in children with dolichosigma.

Conclusion:

The results of the conducted study demonstrated that the application of standardized and individualized conservative treatment approaches in children with dolichosigma yields effective outcomes. Incorporating a comprehensive treatment plan—including dietary therapy, pharmacological agents, physiotherapeutic procedures, rectal stimulation, and psychological support—led to increased bowel movement frequency, a significant reduction in symptoms such as abdominal pain and meteorism, and decreased reliance on medications.

This approach not only provided symptomatic relief but also improved patients' quality of life, reduced recurrence of constipation episodes, and contributed to achieving long-term stable remission. In particular, strict adherence to dietary recommendations, physiotherapy supporting intestinal motility, and ensuring emotional stability were identified as key elements with important prophylactic value.

Thus, scientifically grounded improvement of conservative treatment methods and the use of an individually tailored, comprehensive approach in the management of dolichosigma in children serve as an important strategy for achieving sustained clinical improvement without the need for surgical intervention.

REFERENCE

1. Kravchuk S.P., Semenova E.A. Dolichosigma u detey: klinika, diagnostika, taktika vedeniya // Detskie bolezni. – 2018. – № 3. – S. 42–48.

2. Martínez-Cuesta A., Jiménez S., Redondo C. Conservative treatment of dolichosigma in children: long-term outcomes // Journal of Pediatric Gastroenterology and Nutrition. – 2019. – Vol. 68, No. 4. – P. 511–517.

ISSN 3060-4567

3. Lee J.S., Park M.H., Cho S.Y. The impact of dietary fiber on bowel function in children with functional constipation // Pediatric Research. – 2020. – Vol. 87. – P. 935–941.

4. Рожков А.В., Халиуллин Р.Р. Комплексная терапия хронических запоров у детей с долихосигмой // Педиатрия. Журнал им. Г.Н. Сперанского. – 2020. – Т. 99, № 1. – С. 62–66.

5. Wang B., Lin J., Wang M. Effectiveness of polyethylene glycol versus lactulose in pediatric constipation: a meta-analysis // BMC Pediatrics. – 2021. – Vol. 21, Article No. 132.

6. Маматова Н.М., Турсунов Б.Б. Функциональные расстройства кишечника у детей: вопросы диагностики и терапии // Вестник педиатрии и детской хирургии. – 2019. – № 2. – С. 25–29.

7. Tabbers M.M., Di Lorenzo C., Berger M.Y. et al. Evaluation and treatment of functional constipation in infants and children: evidence-based recommendations from ESPGHAN and NASPGHAN // Journal of Pediatric Gastroenterology and Nutrition. – 2014. – Vol. 58, No. 2. – P. 258–274.

8. Akhmedov R.A., Rakhimov S.Kh. Use of modern physiotherapy in the complex treatment of children with chronic constipation // International Journal of Medical Science and Clinical Invention. – 2022. – Vol. 9, Issue 7. – P. 5767–5771.

9. Юлдашев Ф.Т., Бекмуродов Д.Р. Рациональное питание как основа профилактики хронических заболеваний ЖКТ у детей // Педиатрия и детская хирургия Узбекистана. – 2021. – № 4. – С. 33–37.

10. Dinning P.G., Di Lorenzo C., Scott S.M. Novel techniques for assessing gastrointestinal motility in children // Neurogastroenterology & Motility. – 2020. – Vol. 32, No. 2. – e13702.