

ANNOTATION
dissertation work of
Kryldakova Dina Malikovna
on the topic: " Optimization of conservative
treatment children with chronic colostasis",
submitted for the degree of Doctor
of Philosophy (PhD) in the specialty 6D110100 –
"Medicine".

Relevance.

The problem of treating children with refractory constipation - constipation that does not respond to adequate therapy for at least 3 months, is relevant at the present stage due to the high frequency of this type of disease, the severity of clinical manifestations, and disturbances in the physical and psychoneurological state of the child's body (M.M. Di Lorenzo, M.Y. Berger, 2014). In general, the presence of chronic constipation leads to a violation of the child's quality of life, regardless of the age of its onset. The prevalence of constipation, according to the literature, varies widely – from 0.7 to 29.6% (A.I.Havkina, R.A.Faizullina, 2016)

A significant number of publications are devoted to the topic of constipation in childhood, however, despite this, fundamentally important issues of diagnosis and treatment are not fully disclosed. There are conflicting data both in surgical tactics (methods of surgical interventions, age at which they are performed) and on conservative treatment. The patterns of severity and features of the course of refractory constipation depending on morphological changes in the intestinal wall (enteric neuroapparatus) have not been fully identified (Yu.A. Kozlov, V.A. Novozhilov, N.N. Kuznetsova, N.S. Korchagina, 2018).

The literature describes a group of diseases accompanied by intestinal obstruction syndrome and having a clinical picture of chronic constipation, but a different morphological basis. A large amount of information about morphological changes in the enteric nervous system during chronic colostasis reflects the relevance of this problem at the present stage of development of coloproctology and the treatment of refractory constipation in particular. All the variety of established morphological types of intestinal innervation disorders serves to justify the scope of intestinal resection during reconstructive plastic surgery (L.S. Cheng, A.M. Goldstein, M.Yu. Yanitskaya, I.A. Turabov, M.G. Malyshev, T.G. Tyukhtina, 2018).

However, in childhood, surgical treatment is not always indicated to correct the causes of chronic colostasis. Thus, there is an underestimation of the effectiveness of conservative treatment, which allows reducing surgical activity. At the same time, existing algorithms for the conservative treatment of refractory constipation do not fully take into account their pathogenetic mechanisms, including the normalization of biocenosis in chronic colostasis, which causes the lack of desired results with traditional treatment methods (I. Xinias, M Vriesman, M. Tabbers, N.V. Vinokurov, N.A. Tsap, I.A. Komissarov, N.G. Kolesnikova, 2018).

The foregoing determined the relevance of the planned study, which has not only a theoretical orientation in terms of studying the correlation between the severity of

neurointestinal dysplasia in various types of chronic colostasis and the preservation of the contractility of intestinal smooth muscle muscles, but also practical significance - to improve the quality of life of patients by modifying the algorithm for conservative treatment of chronic colostasis.

Purpose of the study:

Improving the results of conservative treatment of children with chronic colostasis by developing an integrated approach to treatment and optimizing treatment methods.

Research objectives:

1. Conduct a retrospective analysis of the results of treating patients using traditional methods in the State Public Institution at the REM “Multidisciplinary City Children's Hospital №2” in Astana in the period from 2014 to 2018.
2. Develop a method for restoring colonic motility by using an original device for training baroreceptors.
3. Develop and implement an integrated approach - monitoring “Control of bowel movements” in children with refractory constipation.
4. To evaluate the effectiveness of the developed integrated approach to the treatment of chronic colostasis in comparison with the use of traditional approaches to the treatment of pathology.

Object of research:

Children aged 5 to 15 years with refractory constipation, admitted to the hospital for examination and treatment (main group - 50 people, control group - 53 people).

Materials of research:

Medical records of inpatients for 2018-2020.

Methods of research:

1. Clinical examination of the patient.
2. Bacteriological study
3. Rectomanometry, tensinometry
4. Biostatic research methods

Scientific novelty of the research results:

1. The development and implementation of an integrated approach to the treatment of chronic colostasis in children, including the use of methods for correcting the biocenosis of the large intestine, made it possible to obtain new data on the effectiveness of the developed treatment approaches, confirmed by a decrease in pressure in the anal canal during rectomanometry by 20-25% and a reduction in pain symptoms during tensinometry by 10-15%, with each subsequent planned examination in the long-term period $p=0.000$ ($p<0.005$).
2. New data have been obtained indicating the undoubted effectiveness of using the developed device for training the evacuation ability of the colon (patent No. 16362 dated May 20, 2021) by irritating the baroreceptors of the intestinal wall, which is confirmed by the restoration of proprioceptive sensitivity of the distal colon, improvement of its contractility according to $p=0.000$ ($p<0.005$) and helps to increase the tone of the muscles of the anterior abdominal wall involved in the act of defecation $p=0.000$ ($p<0.005$).
3. Development and implementation of an integrated approach - monitoring “Control of bowel movements” in children with refractory constipation (Application A).

Practical significance:

The data obtained as a result of the study indicate the advantages of the developed approaches to the treatment of chronic colostasis in children in comparison with the results of treatment of children receiving traditional therapy. The development and implementation of an integrated approach - monitoring "Bowel Control" in children with refractory constipation has significantly improved treatment results.

Basic provisions for defense:

1. Development of a device for stimulating the peristaltic activity of the colon (patent No. 16362 dated May 20, 2021) by irritating the baroreceptors of the intestinal wall, helps restore the proprioceptive sensitivity of the distal colon, improve its contractility according to $p = 0.000$ ($p < 0.005$) and helps to increase the tone of the muscles of the anterior abdominal wall involved in the act of defecation $p=0.000$ ($p<0.005$).
2. Development and implementation of an integrated approach to the treatment of chronic colostasis in children by using methods of stimulating the motor function of the colon and increasing the tone of the muscles of the anterior abdominal wall involved in the process of defecation in combination with adequate correction of the biocenosis of the colon, development and implementation of an integrated approach to the treatment of chronic colostasis in children by using methods of stimulating the motor function of the colon and increasing the tone of the muscles of the anterior abdominal wall involved in the process of defecation in combination with adequate correction of the biocenosis of the colon, confirmation of which is a decrease in pressure in the anal canal during rectomanometry by 20-25%, $p = 0.000$ ($p < 0.005$) and a decrease in pain symptoms during tensinometry by 10-15%, with each subsequent planned examination in the long-term period, a decrease in the number of relapses and improvement quality of life in children $p=0.000$ ($p<0.005$).
3. The results of using the method of administering probiotics Bifidobacteria and Lactobacilli rectally for 10 days after a cleansing enema allows you to restore the natural spectrum of intestinal microorganisms, normalize the intestinal microflora of the colon, which is confirmed by the results of bacteriological culture analyzes of the main and control groups after 180 days $p = 0.000$ ($p < 0.005$).
4. Long-term results in patients who have undergone a course of conservative treatment and follow the recommendations are determined by a decrease in pressure in the anal canal during rectomanometry by 20-25%, with each subsequent planned examination $p = 0.000$ ($p < 0.005$).
5. Long-term results in patients who have undergone a course of conservative treatment and comply with the recommendations are determined by a decrease in pain symptoms during tensinometry by 10-15%, with each subsequent planned examination $p = 0.000$ ($p < 0.005$).

Approbation of the dissertation .

The main provisions of the dissertation work were reported on:

- I Congress of the Association of Children's Surgeons of Central Asia ROO "Kazakh Children's Surgeons". Almaty. June, 2019
- International scientific and practical conference of students and young scientists "Medical science and education: youth and aspiration 2019". Nur-Sultan city. October, 2019
- Joint meeting of specialists from the National Scientific Center for Maternity and Childhood

and the city society of pediatric surgeons, dedicated to the 70th anniversary of Doctor of Medical Sciences. Professor B.M. Mailybaeva. Nur-Sultan city. November, 2019

– International scientific and practical conference of students and young scientists. Nur-Sultan city. December, 2020

– The First Republican Forum (II Congress) of pediatric surgeons of Kazakhstan with international participation, dedicated to the 30th anniversary of Independence of the Republic of Kazakhstan “Surgery of congenital malformations in children: achievements and prospects.” Nur-Sultan city. December 2021

– International scientific and practical conference “Young researcher: challenges and prospects for the development of modern pediatrics and pediatric surgery.” Almaty, April, 2022

– At an extended departmental meeting of the Department of Pediatric Surgery of NJSC «Astana Medical University» in 2023

Conclusions.

1. The proportion of pediatric patients with chronic colostasis in the Department of Surgical Infections of the State Clinical Hospital at the RV "Multidisciplinary City Children's Hospital No. 2" in Astana in the period from 2014 to 2018 is 69.8%, moreover, there is a trend towards a steady increase in this indicator (the increase is 14.6%), which reflects the relevance of the research topic, as well as the low effectiveness of traditional methods of treatment, taking into account the percentage of re-hospitalizations (66%) for the indicated period.
2. The use of the developed device for stimulating the peristaltic activity of the colon (patent No. 16362 dated May 20, 2021) by irritating the baroreceptors of the intestinal wall, improves the proprioceptive sensitivity of the distal colon, improves its contractility according to $p = 0.000$ ($p < 0.005$) and helps to increase the tone of the muscles of the anterior abdominal wall involved in the act of defecation $p=0.000$ ($p<0.005$), which indicates the undoubted effectiveness of the invention in the treatment of chronic colostasis.
3. The development and implementation of an integrated approach to the treatment of chronic colostasis in children by using methods of stimulating the motor function of the colon and increasing the tone of the muscles of the anterior abdominal wall involved in the process of defecation in combination with adequate correction of the biocenosis of the colon made it possible to achieve a significant decrease in pressure in the anal canal with rectomanometry by 20-25%, ($p<0.05$) and a reduction in pain symptoms during tensinometry by 10-15%, with each subsequent planned examination in the long-term period ($p < 0.01$).

Practical recommendations:

The developed optimized method of conservative treatment of children with chronic colostasis can be used in clinical practice by coloproctologists and pediatric surgeons, which will adequately eliminate the imbalance of the microbial spectrum, normalize the biocenosis of the colon, and significantly improve treatment results and improve the quality of life of young patients. The dissertation research data can be used in the pedagogical process in the training of resident pediatric surgeons and pediatricians.

Personal contribution of the dissertation student:

A full cycle of experimental research has been carried out. Materials taken. The analysis of the obtained data was carried out. Statistical data processing has been performed.

The volume and structure of the dissertation:

The dissertation consists of an introduction, literature review, sections of own research, conclusion, conclusions and recommendations. The volume of the dissertation is 84 pages, 129 sources were analyzed, there are 24 tables and 15 figures.