

COMPARATIVE EVALUATION OF SOME METHODS OF SURGICAL TREATMENT OF VARIOUS FORMS OF HIRSCHSPRUNG'S DISEASE

D.S. Magomedmirzaev, A.A. Zhidovinov, P.E. Permyakov, S.V. Chukarev, D.I. Gaydarova, B.O. Kizaev, A.A. Nagumonova, S.A. Nukhulova, U.K. Abdulmedzhidova

*Astrakhan State Medical University,
N.N. Silitshev Regional Pediatric Clinical Hospital, Astrakhan,
Russia*

ABSTRACT — Hirschsprung's disease is a serious disease of childhood. In this paper we present the results of the surgical treatment of Hirschsprung's disease with the use of Soave–Lenyushkin and Duhamel–Bairov. In a comparative analysis we revealed the efficiency of operations Duhamel–Bairov in rectal and rectosigmoidal form.

KEYWORDS — Hirschsprung's disease, operation Duhamel–Bairov, operation Soave–Lenyushkin, children.

INTRODUCTION

Despite the sufficient study of Hirschsprung's disease, there are still problems of its diagnosis and treatment in children [4], which sometimes persist in adulthood [2–3]. Unfortunately, recently there has been an increase in cases of unsatisfactory results of treatment of this pathology, especially in some of its forms, such as subtotal [5]. Remote long-term comparative data on the functional state of the distal parts of the colon in children with Hirschsprung's disease, operated by various methods, not enough to assess the quality of life of patients [1].

The aim of the study

To optimize surgical treatment of various forms of Hirschsprung's disease.

Research problem

Compare the results of surgical treatment of various forms of Hirschsprung's disease.

Material and methods

In the period from 2012 to 2015 in the children's surgery clinic have been operated on and are currently under the supervision of 26 patients with a diagnosis of Hirschsprung's disease. From the study was excluded 1 patient with total disease. All children underwent radical surgical intervention in a planned manner. The

distribution according to the forms of Hirschsprung's disease among children is presented in the table.

After preoperative examination and the final stage of surgical treatment all patients were hospitalized three times every 3 months for examination and rehabilitation therapy. In the subsequent hospitalization was carried out annually if on clinical indications it wasn't required to do it more often. The minimum follow-up period was 3 months, maximum 12 months. Statistical study of the obtained material was carried out using simple and grouped variation series with the definition of the arithmetic mean of simple and weighted (M), the coefficient of variation (C), the mean square deviation (s), the evaluation of the reliability of individual indicators and their differences using the student's t-test for series with a normal distribution. All studies that required active conscious participation of the patient with the implementation of the commands were carried out in children older than 4 years. Upon admission to the Department, all children with Hirschsprung's disease underwent a comprehensive examination, which included anamnesis collection, General clinical and rectal examination, rectoromanoscopy, fibrocolonoscopy with colon biopsy, ultrasound (ultrasound) of the colon, irrigography, histological examination of remote areas of the colon, assessment of the quality of life.

RESULTS

The basis of the surgical treatment of longer forms of Hirschsprung's disease lies etiological principle is the removal of the affected part of the colon (ganglionic zone, transition zone, suprastenotic extension) and the relegation of its normal place in the anatomical and functional relation to the area of the colon. All patients, depending on the surgical intervention, were divided into 2 groups (1 and 2). In group 1, surgical interventions were performed in an open manner using Duhamel–Bairov operations and its modifications (42%). In group 2, surgical interventions were performed in an open manner using Soave–Lenyushkin and its modifications (52%). In children with subtotal form of Hirschsprung's disease, a modified Duhamel–Bairov operation was performed. The disadvantages include the technical complexity of the implementation.

Table 1. Distribution of children with different forms of Hirschsprung's disease

Hirschsprung's disease	Age of children, years								Total
	0 – 1		2 – 4		5 – 7		8 – 17		
	boys	girls	boys	girls	boys	girls	boys	girls	
Subtotal form	1								1
Rectal form			2	1					3
Rectosigmoid form	5	2	4	2	7	2			22
Total	6	2	6	3	7	2			26

Immediate and long-term results of surgical treatment were observed in 2 patients with rectal and 23 patients with rectosigmoid form, as well as in 1 patient with subtotal form of hirschsprung's disease, previously divided into 2 groups depending on the type of operation (group 1 — surgical interventions were performed in an open way using operations of Duhamel–Bairov and its modifications group 2 — surgical interventions were performed in an open way using operations of Soave–Lenyushkin and its modifications). In-depth examination was conducted in 3 and 12 months. During examination after 3 months in group 1, a good result was observed in 61.3 per cent, and satisfactory in 25,4%, poor — 13,3% of children. In group 2, the good result was 85,7%, satisfactory 14,3% of children; unsatisfactory result was absent. At inspection through 12 months. in group 1, good results were obtained in 74,9%, and satisfactory in accounting for 21,3%, unsatisfactory in 3,8% of children. In group 2, the good result was at 92,3% of the children, satisfactory to 7,7%, an unsatisfactory result was absent.

Over time, there has been a positive trend in both groups compared, but the best result was observed after surgery performed in an open manner using Soave–Lenyushkin operations and its modifications (group 2).

Objective research data also varied at different times. In the immediate postoperative period at endoscopic examination in group 1 in patients with good and satisfactory result of treatment mucosa did not differ from that in healthy children. In patients with unsatisfactory results, moderately expressed inflammatory changes in the mucosa of of colon were observed. No inflammatory changes were found in patients of group 2. In the remote postoperative period in group 1 inflammatory changes were absent. Pathological changes were not detected in biopsies of patients with good and satisfactory results. In colon biopsies taken from patients with unsatisfactory results at the level of +1 and +10 cm from the anus, changes characteristic of the sluggish inflammatory process were visualized.

Endoscopic examination carried out after 12 months in group 2, showed no microscopic inflammatory changes on the part of the colon mucosa in all patients.

Through 3 months after radical surgical treatment, all patients underwent barium-based irrigation. In group 2, all patients after Soave–Lenyushkin had no major radiological signs of hirschsprung's disease: aganglionic zone, transition zone and suprastenotic expansion.

On irrigography, performed in patients after the operation Duhamel–Bairov, also absent the main symptoms of Hirschsprung's disease, but were specific to this operation radiographic signs: extended the stump of the rectum, consisting of two parts (front — rectum, rear — relegated intestine) and colorectal septum. Features had a x-ray picture in patients operated on for Subtotal form of Hirschsprung's disease. On irrigography with barium was determined in a cropped, reduced colon extending at an angle of 90° from the cecum, i.e. the axis of the caecum was situated at a right angle relative to the axis of the reduced colon. Control irrigography carried out 12 months later during irrigography after surgery for the subtotal form, elongation of the lower intestine and the approach of the axis of the caecum to the direction of the axis of the lower colon were established, which improves the passage of intestinal contents.

In the early postoperative period after the surgery Soave–Lenyushkin complications occurred developed in 2 patients: distance of the mucous membrane of the rectum in 1, stenosis of colo-rectal anastomosis in 1. The distance of the mucous membrane of the rectum occurred due to excessively asymmetric fixation of the lower intestine in the anus. The latter was eliminated by means of wedge-shaped excision of the spaced mucous membrane of the rectum. Stenosis of colorectal anastomosis appeared as a result of inflammation at the site of fixation of the lower intestine in the anus. Attempts to underwent bougienage of stenosis of the rectum failed were unsuccessful. The effect was obtained only after the operation of transanal excision of stenosis. There were no early or late postoperative complications in group 1.

CONCLUSION

1. The close relationship and compliance with clinical, functional and morphological criteria of various forms of Hirschsprung's disease in children.
2. A comprehensive examination of children with long-term forms of Hirschsprung's disease in the immediate and long-term postoperative period showed that the most effective method of surgical treatment in rectal and rectosigmoid form is the operation of Duhamel–Bairov and its modifications. Comprehensive examination of children with long-term forms of Hirschsprung's disease in the immediate and long-term postoperative period showed that the most effective way of surgical treatment in rectal and rectosigmoid form is the operation of Duhamel–Bairov and its modifications
3. Use transmesenteric downgrading of the colon in the left side channel with the subtotal form of Hirschsprung's disease allows to obtain results not less satisfactory in all patients.
4. After surgical treatment, the best indicators of quality of life in the Immediate and long-term postoperative period were achieved after surgery Duhamel–Bairov and its modifications. How-

ever, it should be noted that even in the remote postoperative period, the quality of life indicators have not reached normal parameters in any of the studied groups.

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