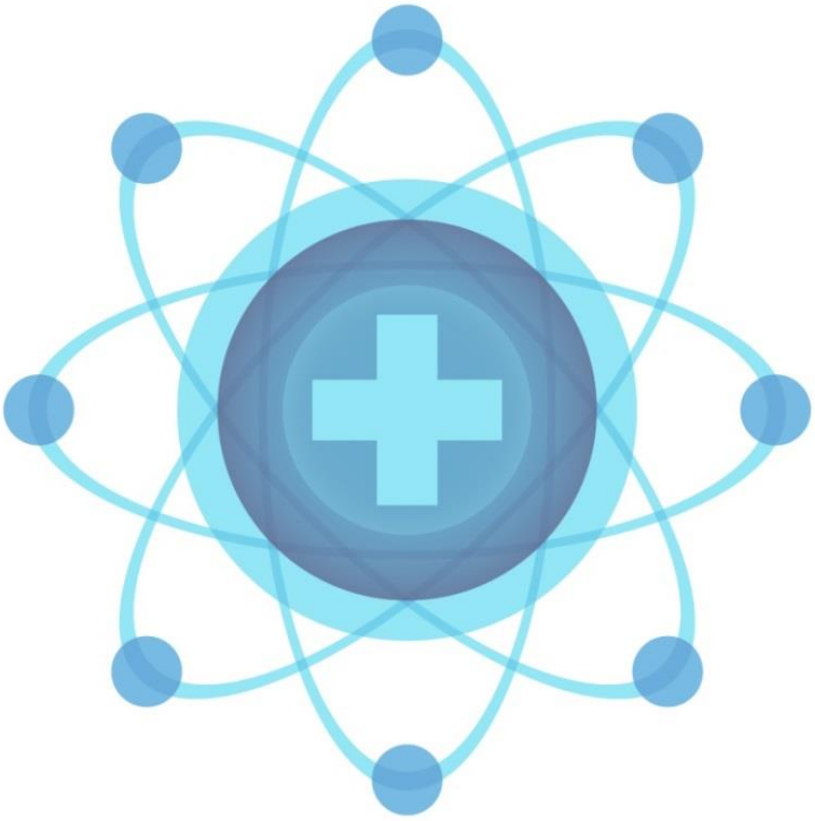


INTERNATIONAL MEDICAL SCIENTIFIC JOURNAL

ART OF MEDICINE

Founder and Publisher **North American Academic Publishing Platforms**
Internet address: http://artofmedicineimsj.us
E-mail: info@artofmedicineimsj.us
11931 Barlow Pl Philadelphia, PA 19116, USA +1 (929) 266-0862

Chief Editor

Available at https://www.bookwire.com/
ISBN: 978-0-578-26510-0

10.5281/zenodo.7276651

FEATURES MORPHOLOGICAL BASES OF COLON RESECTION IN CHILDREN

Raupov Farhod Saidovich
Bukhara state medical institute, Bukhara, Uzbekistan

Abstract: Surgical correction of colon pathologies is a necessary treatment measure. Operative, surgical correction is often subject to congenital and acquired pathologies of the colon in children, which are accompanied by resection of one or another part of the intestine.Despite the developed strategy for colon resection, postoperative complications remain the subject of discussion between domestic and foreign experts, which forces us to look for the cause of unsuccessful results and indicates the presence of shortcomings in the resection criteria.Improving the methods of surgical interventions, taking into account the anatomical and physiological characteristics of the colon, is one of the promising areas of research.

Keywords: anorectal region, colon, resection, white laboratory rats, reconstructive and recovery operations.

Relevance. In recent years, significant progress has been made in the field of pediatric coloproctology. Despite this, unsatisfactory results of surgical correction of pathologies of the colon and anorectal region in children are observed in 30% to 60% of cases [1,6,7]. In the surgical treatment of colon pathologies in children, the surgeon always strives to restore intestinal continuity. After surgery, the distal part of the colon loses its physiology, physiological curves and sphincters often disappear, which often leads to impaired intestinal motility and intestinal patency [2,8,10].

During the primary resection of colon pathologies in children, technical errors are often made associated with unreasonable indications for resection: underestimation of abnormal branching of the arcade mesenteric vessels; their significant intersection; overstretching of mesenteric vessels; underestimation of areas of necrosis and inflammation, etc., which often cause complications in the postoperative period [3,7]. At the same time, they did not always strive to preserve the blood supply, lymphatic drainage, innervation and create a physiological space, conditions for free peristalsis and restore the function of the corrected organ. [4,9,11]. The existing set of methods of corrective operations proposed by the authors to restore the anatomical structure of the organ, mainly relied on improving the technique of the operation when lowering the colon and rather than on the creation of physiology [2,3,10].

The study of the functional results of the same type of radical and reconstructive operations often indicate the inadequacy of the same results obtained,

10.5281/zenodo.7276651
which indirectly indicates the presence of possible unaccounted for anatomical and physiological features of the colon and the body as a whole [4,8,11].

Unsatisfactory results of colon resections, based on traditional evaluation criteria, indicated the need for intraoperative preventive measures to prevent possible complications, taking into account the morphological features of the colon in children [5,7,9].

In our opinion, the main issues that need to be addressed in determining the effectiveness of the level of surgical correction of colon pathologies are: a comprehensive assessment of the anatomical and functional state of the colon, including structural features of the mesenteric vessels, innervation, physiological curves, functional segments, the state of the sphincters and etc. [2,7,10]

Purpose of the study. The study of the morphological features of the colon of white laboratory rats in the experiment. Suggests the obtained experimental data to be included in the criteria for colon resection in children.

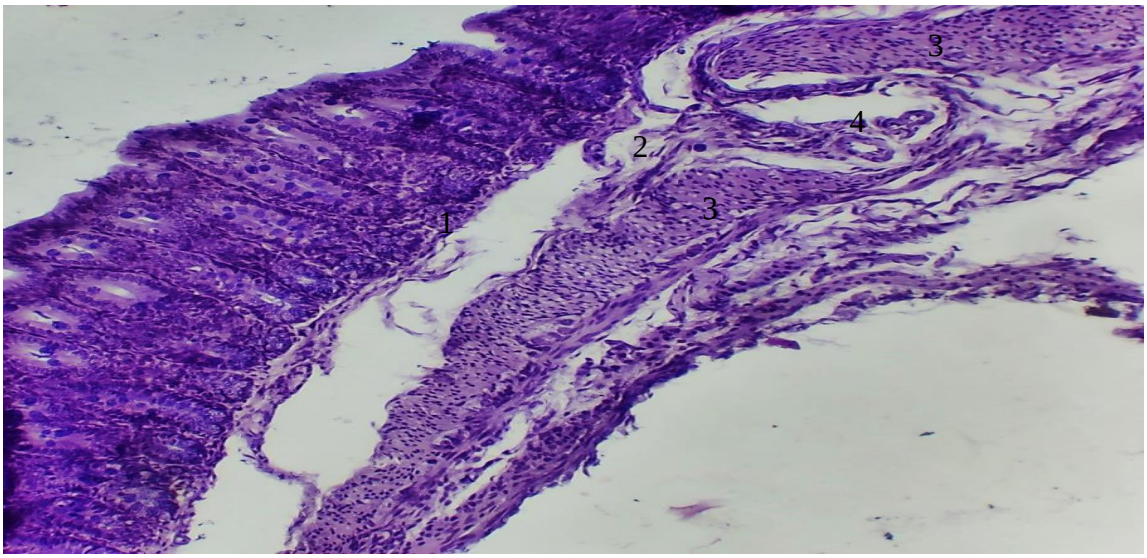
Material and methods. To conduct an experimental scientific study, 58 white laboratory rats of both sexes, aged from birth to 9 months, were used. The material for microscopic examination was fresh samples of the colon of white laboratory rats, in the early postnatal period of life: - on the 1st, 7th, 14th and 21st days of life, as well as in the late postnatal period of life: - at the age 1st, 3rd, 6th and at 9 months.

The production and fixation of the experimental histological material was carried out according to the generally accepted method. For staining microsections obtained from prepared histological materials, the most common staining methods were used - staining with hematoxylin and eosin, as well as staining of connective tissue and muscle tissue using the Van Gieson method. Histochemical research methods were also used.

Result and discussion. When studying the obtained histological materials, it was found that the muscular membrane of the colon of white rats consists of two mutually perpendicularly directed smooth muscle fibers. The inner - circular layer consists of several mutually parallel groups of smooth muscle fibers, with a slight slope. These groups of circular fibers, wrapped in a sheath, consisting of loose-fibrous, elastic fibers, form a sheath.

The outer longitudinal layer of the muscular membrane also consists of mutually parallel bundles of smooth muscles, wrapped in a connective tissue case. In some places, in the region of the sphincters, between the layers there are connective tissue fibers, originating from the adventitia and penetrating the muscular and submucosal layers, reaching its own. The muscular membrane of the colon in the region of the sphincters thickens significantly (see Fig. 1.2), in some places they form vascular-connective collagen layers located between the submucosa and the muscular

outer membranes (see Fig. 1.4). The directions of the layers are from inside to outside, from bottom to top. The longitudinal layer of the muscular membrane of the colon in white rats is not only the outer part of the muscular membrane, but at the same time is the outer border of the intestinal wall, outside it is covered with a thin layer of visceral peritoneum.



Rice. 1. Structures of the walls of the caecum of 14-day-old rats.
1. Mucous membrane. 2. Submucosa. 3. Muscular membrane. 4. A layer of connective tissue fibers located between the outer and mucous membranes of the caecum. Hematoxylin-eosinstaining. About. 10 x approx. 7.

In postnatal ontogenesis in white rats, the collagen fibers of the colon in the sphincter area form the basis of the submucosal layer, while the bundles in the submucosa are distributed unevenly, fan-shaped, and intertwined in places (see Fig. 2.2). The bundles of collagen fibers adjacent to the outer muscle layer change their direction in places and, being between the bundles of the outer longitudinal and inner circular muscle layers, separate the bundles of these muscle layers from each other (see Fig. 2.1). The bundles of collagen fibers lying closer to the integumentary epithelium are directed in different directions and do not have a specific orientation.

At the base of large folds of the mucous membrane, part of the bundles of collagen fibers, intersecting with each other, form a network. Bundles of collagen fibers that lie at the base of large folds of the mucous membrane, bending, are directed to these folds, and the distribution density of bundles of collagen fibers is greater at the base than at the top of the folds. Around the vessels of the submucosa, bundles of collagen fibers are oriented circularly, evenly surrounding the vessels from all sides (see Fig. 2.4).

Rice. 2. Structures of the walls of the colon in 21-day-old rats.
1. Muscular membrane, wrapped in a collagen network. 2. Collagen fibers in the submucosa. 3. Mucous membrane. 4. Microvessels - arterioles, venules, capillaries. Van Gieson coloring. Ob.10 x Ok.10.

In white laboratory rats, the blood supply to the colon in the area of the sphincter is carried out from the superficially located main vessels and intramural microvessels of the muscular and mucous membranes. In the area of sphincters, branches depart from these paired vessels, each of which is divided into two girdle branches, directed oppositely to each other along the perimeter of the intestinal tube. On the opposite side of the mesentery, they anastomose with each other, smaller arterial vessels (arterioles) extend from them, penetrating into the depths of the muscular and submucosal layers.

Conclusions:

1. Layers of the colon walls in rats in postnatal ontogenesis in the area of the sphincter, shrouded in fibrous structures of connective tissue, consisting of bundles of collagen fibers. These collagen fibers form the structural basis of the colon walls in the sphincter area in rats and are most pronounced in the submucosal layer.

2. Bundles of collagen fibers intersecting with each other in all layers form a network, which is one of the structural foundations of the retaining, sphincter apparatus of the colon of albino rats.

4. In the bundles of the muscle layer, there are groups of unidirectional muscle fibers wrapped in a connective tissue, collagen case, which is the muscular basis of the sphincter.

5. Between the arterioles and venules there is a small circulatory capillary vascular network, they are branches of the corresponding arterial and venous vessels segmentally encircling the perimeter of the intestinal tube, providing trophism of the layers of the intestinal wall in the area of the sphincters.

6. When choosing the optimal level of resection or colostomy, it is very important to choose the most distally points for the removal of the intestine, which should be based on anatomical and physiological features, including the localization of the sphincters of the colon.

BIBLIOGRAPHY

1. Aliev M.M., et al./Results of primary radical correction of children with anorectal malformation // Pediatrics, 2012, No. 1-2, pp. 60-63.
2. Hirschsprung's disease in children. / Hand. for doctors / ed. A.Yu. Razumovsky, A.F. Dronova, A.N. Smirnova, V.V. S.-214
3. Raupov A.S., Mekhriddinov M.K. // Functional changes after extensive resections of the large intestine in children / Problems of biology and medicine 2020 No. 1 Pp.113-115.
4. Raupov F.S. Possible dysfunctions of the large intestine after resection in children//Problems of Biology and Medicine. - 2020. - No. 3 (119). - pp. 78 - 81.
5. Raupov F.S. Influence of resection of the large intestine in various volumes on intestinal microbiocenosis // New day in medicine. - 2020. No. 2 (30). - S. 504 - 507.
6. Khamraev A.Zh., Rakhmonov D.B., Raupov F.S.//Fecal incontinence after repeated operations on the colon in children. anatomical and physiological reflections / Problems of biology and medicine. 2020, No. 5 (122) P. 144-150.
7. Khamraev A.Zh., Rakhmonov D.B. / Causes and tactics of surgical correction of postoperative insufficiency of the anal sphincter in children / / Tashkent. Pediatrics. No. 2. 2019.C 90-96.
8. Ergashev N. Sh. et al. /Anatomical forms and types of surgical correction of anorectal anomalies in children: // Bulletin of emergency medicine. - Tashkent, 2014. - N2. - C. 133-134
9. Andrea Bischoff, Jason Frischer,et all. /Damaged anal canal as a cause of fecal incontinence after surgical repair for Hirschsprung disease– a preven table and under – reported complication // J. Pediatr. Surg. Int- 2017. Vol. 52. P. 549–553.
10. Maggie L. Westfal, Allan M. Goldstein/ Diagnosing and Managing Hirschsprung Diseasein the Newborn// J.Neo Reviews.-2018. Vol. 19, N.10.-P. 577-589.
11. Lagares-Tena L, Corbella-Sala C, Navarro-Luna A, Muñoz-Duyos A (2017) Sacral neuromodulation in a faecal incontinence patient with unknown sacral partial agenesis. Colorectal Dis19(5):502–504.https://doi.org/10.1111/codi.13661
12. Sadulloeva, Iroda Kurbonovna. "Ashurova NG Clinical and immunological features of congenital heart defects in adolescent girls." Europe's Journal of Psychology 17.3 (2021): 172-177.

10.5281/zenodo.7276651
13. Saidjonovna R. D. Method For Improving The Prevention Of Dental Caries In Children Using The Device Aerodent //Web of Scientist: International Scientific Research Journal. – 2021. – Т. 1. – №. 01. – С. 26-32.
14. Ахророва Ш. Б. Диабетической полинейропатии при сахарном диабете i типа //журнал неврологии и нейрохирургических исследований. – 2021. – №. Special 1.