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Clinical and anamnestic characteristics of patients with different subtypes of chronic slow transit constipation

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In recent years, chronic slow transit constipation (CSTC) continued to be an actual clinical challenge due to its high prevalence, multifactorial pathogenesis, and the limited efficacy of current therapeutic strategies. The literature still lacks clear evidence regarding the correlation between the clinical manifestations of CSTC and specific histological alterations within the intestinal wall.

Objective – to identify the clinical course in peculiarities in patients with CSTC depending on the histological subtype of the colonic wall.

Materials and methods. The study included 107 patients diagnosed with chronic slow-transit constipation (STC group) who underwent evaluation and surgical treatment at the clinical departments of Bogomolets National Medical University between 2011 and 2023. The diagnosis of STC was established according to the Rome IV criteria.

Results. The Cajal subtype was associated with the youngest age of disease onset (8.67 ± 5.08 years), the longest duration of symptoms (25.24 ± 11.18 years), and the highest prevalence of family history (90.5 %). This subtype had the lowest average body mass index 20.4 ± 2.3 kg/m^2. The neuropathic subtype was observed in the oldest patients (52.45 ± 13.61 years) and had a later onset of symptoms compared to other variants. It was characterized by a significantly shorter interval between defecations (8.1 ± 2.5 days). The inflammatory myopathic subtype was accompanied by the most pronounced pain syndrome (4.8 ± 1.4 points on the scale) compared to other subtypes, thereby confirming the role of inflammation in the development of abdominal pain. The dystrophic myopathic subtype was associated with the highest body mass index 25.7 ± 4.3 kg/m^2 and the longest interval between defecations (12.4 ± 5.5 days), indicating slow transit and muscle layer degeneration. Patients with late onset of symptoms and no need for manual assistance during defecation were more likely to have a histologically intact subtype.

Conclusions. The clinical course in surgically treated patients with CSTC, resistant to conservative therapy, is heterogeneous and significantly varies depending on the histological subtype of the bowel wall, indicating different pathophysiological mechanisms of constipation in different patients. The cajal, neuropathic, myopathic dystrophic, and inflammatory subtypes have clinical differences in the age of disease onset, symptom duration, interval between defecations, pain intensity, and body mass index. Morphological stratification of CSTC based on histological subtypes may provide valuable prognostic and therapeutic information, helping to individualize treatment strategies for patients with severe forms of constipation.

Keywords
chronic slow transit constipation, histological subtype of the colonic wall.

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Chronic slow transit constipation (CSTC) is one of the main forms of chronic idiopathic constipation accompanied by a significant reduction in patients' quality of life and often requires a complex differential approach for diagnosis and treatment [2, 4, 14, 16]. In recent years, CSTC has remained a relevant clinical concern due to its high prevalence, multifactorial pathogenesis, and the limited efficacy of current

therapeutic strategies [2, 8]. In case conservative long-term treatment fails, surgery is often considered, as highlighted in modern literature [15, 18].

Despite advances in the morphological study of the colon, the clinical significance of various histological subtypes of the colonic wall in patients with CSTC remains insufficiently defined [7]. The literature still lacks clear evidence regarding the correlation between the clinical manifestations of CSTC and specific histological alterations within the intestinal wall [7, 8]. The abovementioned requires further research focused on morphofunctional characteristics of the colonic wall in slow-transit forms of constipation and their potential impact on the clinical course of the disease.

Objective – to identify the clinical course peculiarities in patients with CSTC depending on the histological subtype of colonic wall.

Materials and methods

The study included 107 patients diagnosed with chronic slow-transit constipation (STC group), who underwent evaluation and surgical treatment at the clinical departments of Bogomolets National Medical University between 2011 and 2023. The diagnosis of STC was established according to the Rome IV criteria [1].

Inclusion criteria:

- Age over 18 years
- CSTC that does not respond or poorly responds to modern conservative treatment methods for at least 6 months
- Low quality of life
- Consent for surgical treatment
- Consent to complete the QoL questionnaire

Exclusion criteria:

- Age under 18 years
- Severe comorbidities
- Patients with mental disorders
- Pregnancy
- Oncological diseases
- Harmful habits
- Refusal to complete the QoL questionnaire
- Proctogenic constipation
- Irritable bowel syndrome and/or constipation of secondary specific etiology (associated with an underlying condition)
- Drug-induced constipation

The majority of patients were female – 102 (95.3 %). The mean age was 43.1 ± 13.6 years, and the mean body mass index (BMI) was 22.9 ± 4.5 kg/m^2.

The histological and immunological examination of samples was conducted and included the appendix, ileum, cecum, colon, and sigmoid colon. Samples were taken from all sections of the colon and appendix for our study: at least three sections of the entire thickness of the colon in the transverse and longitudinal projection, at least 2 cm long. The tissue was fixed in 10 % buffered formalin, wired in alcohol, and embedded in paraffin after collection. Serial sections were stained with the hematoxylin-eosin method. Also, an immunohistochemical study with the Polyclonal Ra a-Hu CD 117, c-kit (DAKO, Denmark) antibody was performed on the paraffin blocks using the imaging EnVision™ FLEX System to detect Cajal cells.

Pathohistological study

A microscopic examination was carried out using an Olympus CX23 microscope with a nozzle. Morphometric measurements were performed with the Olympus Stream software. The histological examination helped evaluate the intestinal wall structure. The architectonics of the glands and the the cellular stroma composition in the mucous membrane were described.

The total muscle layer thickness was evaluated, the ratio of thickness and layer's number, the presence of lymphoid cell infiltration, the presence or absence of cytoplasmic inclusions in smooth myocytes, and their relative size were all estimated.

Meissner's plexuses were identified between the outer and inner muscle layers according to typical histological features. The glial cells were determined by their size, the presence of large vesicular nuclei, and Nissl substance. Their approximate number was calculated, and additional characteristics, including the presence or absence of dystrophic changes and lymphoid infiltrates, were assessed [7].

Patients were divided into four groups depending on the histological subtype of the colonic wall.

The myopathic type was observed in 59 (55.1 %), patients with the myopathic-dystrophic subtype prevailing in 47 (43.9 %) cases. The neuropathic type of constipation was diagnosed in 20 (18.7 %) patients, while constipation associated with interstitial cells of Cajal pathology was found in 21 (19.6 %) patients. In 7 (6.5 %) patients, no histological or immunohistochemical abnormalities were registered; therefore, this subgroup was classified as «histologically intact type».

Patients with the Cajal-associated type were significantly younger than those with the myopathic ($p = 0.006$) and neuropathic ($p < 0.001$) types. Conversely, patients with the neuropathic subtype were significantly older compared to those with the myopathic form ($p = 0.003$) [7].

The distribution of the different histological subtypes is presented in Table 1.

Table 1. **Frequency of various histological changes subtypes in patients with CSTC**

Main variant of histological changes	Number of patients	Age, years Mean ± SD (mediana)
Myopathic variant	59 (55.1 %)	43.1 ± 12.7 (43.0)
Inflammatory	12 (20.3 %)	36.9 ± 8.5 (34.5)
Dystrophic	47 (79.7 %)	43.7 ± 12.8 (44.0)
Pathology of Cajal cells	21 (19.6 %)	33.9 ± 10.3 (35.0)
Neuropathic	20 (18.7 %)	52.5 ± 13.5 (54.0)
Histologically intact	7 (6.5 %)	49.2 ± 14.8 (43.5)

Before visiting the clinic, all patients were continuously undergoing courses of conservative therapy, which gradually became less effective over time. They used a high-fiber diet in 103 (96.3 %) cases, pharmacological agents in 107 (100.0 %), and cleansing enemas in 92 (85.9 %).

29 (27.1 %) patients underwent subtotal colectomy, 57 (53.3 %) underwent total colectomy, and 21 (19.6 %) underwent colectomy with low rectal resection. Open surgery was performed in 70 (65.4 %) patients, while laparoscopic access – in 37 (34.6 %) patients.

The duration of symptoms before surgery ranged from 1 to 50 years, with a mean of 21.0 ± 14.0 years. The impact of histological subtype of colonic wall on the clinical course in patients with CSTC was assessed retrospectively by comparing the histological findings of resected colonic specimens following colectomy with preoperative questionnaire data and medical history.

Statistical Analysis

Statistical analysis was performed using IBM SPSS Statistics 22. Descriptive statistics were calculated. Data normality was assessed using the Shapiro-Wilk test. Mean values were presented as M ± SD. Categorical data were expressed as counts (%). The comparison of mean values for quantitative variables was performed using the Wilcoxon-Mann-Whitney. Comparisons of relative frequencies were performed using Pearson's chi-square test. The null hypothesis of equality of variables was rejected at $p < 0.05$.

Results

The mean age of patients with the histologically intact subtype was 49.3 ± 13.92 years; for those with the myopathic dystrophic subtype – 48.68 ± 11.69 years; and for those with the myopathic inflammatory subtype – 36.92 ± 8.32 years. The highest mean age was observed in patients with the neuropathic subtype –52.45 ± 13.61 years. The youngest age was found in patients with the Cajal subtype –33.9 ± 8.7 years, which was significantly lower compared to the histologically intact subtype ($p = 0.026$), myopathic dystrophic subtype ($p < 0.001$), and neuropathic subtype ($p < 0.001$). Furthermore, the age in the myopathic inflammatory subtype was significantly lower than in the neuropathic subtype ($p = 0.003$) and the myopathic dystrophic subtype ($p = 0.019$).

Among the 107 patients, there were 6 men and 101 women. The groups did not differ statistically in terms of the male-to-female ratio ($p = 0.826$). No significant difference was found in the male-to-female ratio between subtypes, as shown in Table 2.

The mean BMI for the Cajal subtype was 20.395 ± 2.29 kg/m^2 (14.8–24.1 kg/m^2), for the histologically intact subtype it was 23.26 ± 3.98 kg/m^2 (17.3–27.7 kg/m^2), for the myopathic inflammatory subtype it was 22.14 ± 3.49 kg/m^2 (18.7–31.2 kg/m^2), and for the neuropathic subtype it was 23.08 ± 3.28 kg/m^2 (18.0–30.1 kg/m^2). The highest BMI was observed in patients with the myopathic dystrophic subtype–25.66 ± 4.34 kg/m^2 (19.8–41.1 kg/m^2), which was significantly higher than the Cajal subtype ($p < 0.001$) and the myopathic inflammatory subtype ($p = 0.042$). The BMI in patients with the Cajal subtype was significantly lower than in those with myopathic dystrophic ($p < 0.001$) and neuropathic ($p = 0.023$) subtypes.

The mean age of disease onset in patients with the myopathic dystrophic subtype was 29.96 ± 8.67 years (16–58 years); in those with the histologically intact subtype, it was 37 ± 16.79 years (14–61 years); in the myopathic inflammatory subtype, it was 31.17 ± 9.05 years (16–45 years); in the Cajal subtype, it was 8.67 ± 5.08 years (2–19 years); and in the neuropathic subtype, it was 31.9 ± 13.8 years (10–65 years). The Cajal subtype differed significantly from the myopathic inflammatory subtype ($p < 0.001$), the histologically intact subtype

Table 2. **Distribution of patients by sex according to the main histological subtypes of constipation**

Subtype of constipation	Female	Male	Total
Histologically intact	7 (100.0 %)	0	7
Myopathic dystrophic	45 (95.7 %)	2 (4.3 %)	47
Myopathic inflammatory	11 (91.7 %)	1 (8.3 %)	12
Cajal	20 (95.2 %)	1 (4.8 %)	21
Neuropathic	18 (90.0 %)	2 (10.0 %)	20
Total	101 (94.4 %)	6 (5.6 %)	107

p = 0.826.

Table 3. **Stool type according to the Wexner scale based on the histological subtype of constipation**

Subtype of constipation	Type 1	Type 2	Type 3	Type 4	Type 5	Total
Histologically intact	2 (28.6 %)	3 (42.9 %)	2 (28.6 %)	0	0	7
Myopathic dystrophic	34 (72.3 %)	11 (23.4 %)	0	2 (4.3 %)	0	47
Myopathic inflammatory	6 (50.0 %)	1 (8.3 %)	4 (33.3 %)	0	1 (8.3 %)	12
Cajal	15 (71.4 %)	6 (28.6 %)	0	0	0	21
Neuropathic	12 (60.0 %)	6 (30.0 %)	2 (10.0 %)	0	0	20
Total	69 (64.5 %)	27 (25.2 %)	8 (7.5 %)	2 (1.9 %)	1 (0.9 %)	107

p = 0.003.

($p < 0.001$), and the neuropathic subtype ($p < 0.001$) in terms of the mean age of disease onset.

The mean duration of the disease in patients with the histologically intact subtype was 12.29 ± 6.67 years (5–25 years); in patients with the myopathic dystrophic subtype, it was 18.72 ± 7.97 years (5–36 years); in the myopathic inflammatory subtype, it was 5.75 ± 2.01 years (3–10 years); and in the neuropathic subtype, it was 20.55 ± 2.4 years (6–46 years). The longest disease duration was observed in patients with the Cajal subtype–25.24 ± 11.18 years (3–51 years), which was significantly longer than in the histologically intact subtype ($p = 0.001$), the myopathic inflammatory subtype ($p < 0.001$), and the myopathic dystrophic subtype ($p = 0.059$). Additionally, the neuropathic histological subtype had a significantly longer disease duration compared to the myopathic inflammatory subtype ($p < 0.001$).

The stool type was assessed using the Wexner scale in all patients with STC [9].

In patients with the Cajal subtype, two stool subtypes were observed: 1 – in 71.4 % and 2 – in 28.6 %. In patients with the histologically intact subtype, three stool subtypes were registered: 1 – in 28.6 %, 2 – in 42.9 %, and 3 – in 28.6 %. In patients with the myopathic dystrophic subtype, three stool subtypes were found: 1 – in 72.3 %, 2 –in 23.4 %, and 4 – in 4.3 %. In patients with the myopathic inflammatory subtype, stool type 1 was present in 50 % of patients, types 2 and 4 in 8.3 %, and type 3 in 33.3 %. The neuropathic subtype included 60 % of patients with stool type 1, 30 % with type 2, and 10 % with type 3. The distribution of different stool subtypes differed significantly between the groups ($p = 0.003$), as shown in Table 3.

The mean interval between bowel movements in the neuropathic subtype significantly differed from the myopathic dystrophic subtype ($p = 0.005$) and the Cajal subtype ($p = 0.038$). Due to the small number of patients with the histologically intact subtype ($n = 7$), we cannot compare the mean interval of 7.7 days between bowel movements with those in other histological subtypes to determine the percentage of differences, as shown in Table 4.

The highest heredity was observed in 50.5 % of patients with CSTC: in 90.5 % of patients with the Cajal subtype, in 55 % with the neuropathic subtype, in 46.8 % with the myopathic dystrophic subtype, in 14.3 % with the histologically intact subtype, and the lowest – in 8.3 % with the myopathic inflammatory subtype, as shown in Table 5.

Regarding heredity, the Cajal subtype significantly differed from the myopathic inflammatory

Table 4. **Interval between bowel movements in patients with STC in different histological subtypes**

Subtype of constipation	Interval between bowel movements, days Mean ± SD (min–max)
Histologically intact	7.7 ± 3.7 (5.0–14.0)
Myopathic dystrophic	12.4 ± 5.5 (4.0–30.0)
Myopathic inflammatory	9.3 ± 3.0 (5.0–14.0)
Cajal	12.2 ± 4.3 (7.0–22.0)
Neuropathic	8.1 ± 2.5 (5.0–14.0)

Table 5. **Heredity in different histological subtypes of CSTC**

Subtype of constipation	Heredity	Total
Histologically intact	1 (14.3 %)	7
Myopathic dystrophic	22 (46.8 %)	47
Myopathic inflammatory	1 (8.3 %)	12
Cajal	19 (90.5 %)	21
Neuropathic	11 (55.0 %)	20
Total	54 (50.5 %)	107

Table 6. **The need for manual assistance (in > 1/4 cases of defecation) before surgery depending on the histological subtype of CSTC**

Subtype of constipation	Need for manual assistance	Total
Histologically intact	0	7
Myopathic dystrophic	7 (14.9 %)	47
Myopathic inflammatory	2 (16.7 %)	12
Cajal	1 (4.8 %)	21
Neuropathic	2 (10.0 %)	20
Total	12 (11.2 %)	107

subtype ($p = 0.0001$), the myopathic dystrophic subtype ($p = 0.001$), the neuropathic subtype ($p = 0.01$), and the histologically intact subtype ($p = 0.0001$). The myopathic inflammatory subtype also had significant differences compared to the neuropathic subtype ($p = 0.008$) and the myopathic dystrophic subtype ($p = 0.015$).

Table 7. **Pain intensity in patients with CSTC depending on the histological subtype**

Subtype of constipation	Intensity of pain, score Mean ± SD (min–max)
Histologically intact	2.9 ± 0.9 (2.0–4.0)
Myopathic dystrophic	3.2 ± 1.4 (1.0–6.0)
Myopathic inflammatory	4.8 ± 1.4 (3.0–7.0)
Cajal	2.8 ± 1.3 (1.0–5.0)
Neuropathic	2.6 ± 1.1 (1.0–5.0)

Table 8. **Presence of pain (intensity > 3 points) in patients with CSTC**

Subtype of constipation	Pain	Total
Histologically intact	2 (28.6 %)	7
Myopathic dystrophic	23 (48.9 %)	47
Myopathic inflammatory	9 (75.0 %)	12
Cajal	7 (33.3 %)	21
Neuropathic	4 (20.0 %)	20
Total	45 (42.1 %)	107

12 (11.2 %) patients of 107 required manual assistance in all subtypes except the histologically intact subtype, as shown in Table 6. No significant differences were found between subtypes in the frequency of «manual assistance» ($p = 0.594$), although it was more frequent in patients with the myopathic subtype.

All patients experienced abdominal pain within 30 days prior to their admission to the clinic. The intensity of pain was assessed using the visual analog scale (VAS), ranging from 0 to 10, as shown in Table 7. Significant differences in the mean pain score were observed when comparing the myopathic inflammatory subtype with the histologically intact subtype ($p = 0.022$), the myopathic dystrophic subtype ($p = 0.002$), the Cajal subtype ($p < 0.001$), and the neuropathic subtype ($p < 0.001$).

Additionally, patients were categorized based on the presence of pain with an intensity greater than 3 points on the visual analog pain scale, as shown in Table 8. Significant statistical differences were observed between the groups regarding the percentage of patients with pain greater than three points ($p = 0.022$), due to the high percentage of

such patients in the myopathic inflammatory subtype (75 %) and the myopathic dystrophic subtype (48.9 %), and the lower percentage in the neuropathic subtype (20 %) and the histologically intact subtype (28.6 %).

Discussion

Despite the current classifications for constipation based on etiology and morphological characteristics [6], there is a lack of data in modern literature regarding the relationship between the clinical manifestations of CSTC and the histological structure of the colonic wall.

The wide range of potential pathophysiological mechanisms in CSTC, including affected neuromuscular transmission, degeneration of intramural nerve plexuses, Cajal cell pathology, and others, leads to the variability of the clinical picture of the disease [3, 6, 17]. As a result, patients with CSTC may have a wide spectrum of symptoms, from ineffective defecation to severe abdominal pain, and as a consequence, reduced quality of life [4, 5, 12]. However, attempts to clearly link specific symptoms with certain morphological or etiological factors are currently limited [6]. One of the primary reasons for this is the difficulty in obtaining histological samples due to the invasive nature of full-thickness colon biopsy, which remained the only method to assess changes in the deeper layers of the colonic wall, including the muscle layer and enteric nervous system. This diagnostic method is particularly important in studying slow-transit constipation, as it allows us to detect structural changes not only in nerve plexuses but also in the muscle layer of the bowel, potentially correlating with clinical manifestations of the disease. According to recent studies, full-thickness biopsy may prove to be a promising tool for the stratification of patients with chronic forms of constipation, including slow-transit types [10, 11, 13]. Despite its high diagnostic value, full-thickness biopsy is still applied sparingly due to the associated risks and the lack of standardized interpretation of morphological changes in different forms of constipation [6]. All the abovementioned factors create significant barriers for studying the morphofunctional basis of clinical heterogeneity in CSTC. Therefore, we performed a retrospective evaluation of clinical manifestations depending on the histological subtype of the bowel wall in patients with CSTC. The results of colon histological examinations in patients after colectomy were compared with anamnesis and preoperative questionnaire data.

The clinical manifestations of CSTC are heterogeneous and depend on the etiology of constipation, i.e., the histological subtype. In particular, the Cajal subtype was observed in the youngest patients, with an average age of 33.9 ± 8.7 years, the highest heredity (90.5 %), and the lowest BMI (20.395 ± 2.29 kg/m^2) among all patients with CSTC. The Cajal subtype was characterized by an earlier onset of the disease – 8.67 ± 5.08 (2–19) years ($p < 0.001$) – as well as the longest disease duration – 25.24 ± 11.18 years ($p < 0.001$) – at the time of surgery. The shortest disease duration was observed in patients with the myopathic inflammatory subtype – 5.75 ± 2.01 (3–10) years, which was significantly shorter than in the myopathic dystrophic, Cajal, and neuropathic histological subtypes, all $p < 0.01$. In contrast to the Cajal subtype, the oldest average age at surgery was found in patients with the neuropathic histological subtype – 52.45 ± 13.61 years. Thus, patients with the neuropathic and histologically intact subtypes of CSTC had a significantly later onset of the disease compared to the Cajal subtype – 31.9 ± 13.82 (10–65) years and 37 ± 16.79 (14–61) years, respectively, $p < 0.001$. Patients with the neuropathic subtype had a relatively shorter average interval between bowel movements – 8.1 ± 2.5 days, which was significantly different from the myopathic dystrophic subtype ($p = 0.005$) and the Cajal subtype ($p = 0.038$). Regarding pain intensity, a significantly higher average score was noted in the myopathic inflammatory subtype – 4.8 ± 1.4 (3–7) points – compared to the histologically intact ($p = 0.022$), myopathic dystrophic ($p = 0.002$), Cajal ($p < 0.001$), and neuropathic ($p < 0.001$) subtypes. According to pain intensity greater than three points, statistical differences were observed between the groups ($p = 0.022$) due to the higher percentage of such patients in the myopathic inflammatory subtype (75 %) and the myopathic dystrophic subtype (48.9 %), compared to the lower percentage in the neuropathic subtype (20 %) and histologically intact (28.6 %). The highest BMI was observed in the myopathic dystrophic subtype – 25.66 ± 4.34 kg/m^2 (19.8–41.1 kg/m^2), which was significantly higher than for the Cajal subtype ($p < 0.001$) and the myopathic inflammatory subtype ($p = 0.042$). The largest average interval between bowel movements was found in patients with the myopathic dystrophic (12.4 ± 5.5 days) and Cajal (12.2 ± 4.3 days) subtypes, and these significantly differed from the neuropathic subtype, $p = 0.005$ and $p = 0.038$, respectively. Among the 107 patients with CSTC, 12 individuals (11.2 %) required manual assistance in all subtypes except the histologically intact one.

This study has certain limitations, as it only includes patients with CSTC resistant to conservative

therapy who had undergone surgery. Consequently, the results should be interpreted carefully when applying them to the wider population of STC patients.

Conclusions

The clinical course in surgically treated patients with CSTC, resistant to conservative therapy, is heterogeneous and significantly varies depending on the histological subtype of the bowel wall, indicating different pathophysiological mechanisms of constipation in different patients.

The Cajal, neuropathic, myopathic dystrophic, and inflammatory subtypes have clinical differences in the age of disease onset, symptom duration, interval between defecations, pain intensity, and BMI.

Morphological stratification of CSTC based on histological subtypes may provide valuable prognostic and therapeutic information, helping to individualize treatment strategies for patients with severe forms of constipation.

Declaration of interests

The authors declare that they have no conflicts of interest.

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Authors contributions

Concept and design – I. M. Leschyshyn, R. V. Gonza; data collection and analysis – I. M. Leschyshyn, O. I. Okhotska, P. L. Byk, R. V. Gonza; statistical analysis – I. M. Leschyshyn, L. Y. Markulan, P. L. Byk; drafting the article – I. M. Leschyshyn, L. Y. Markulan; critical revision of the article – I. M. Leschyshyn, O. I. Okhotska.

References

1. Aziz I, Whitehead WE, Palsson OS, Törnblom H, Simrén M. An approach to the diagnosis and management of Rome IV functional disorders of chronic constipation. Expert Rev Gastroenterol Hepatol. 2020 Jan;14(1):39-46. doi: 10.1080/17474124.2020.1708718. Epub 2020 Jan 2. PMID: 31893959.
2. Basilisco G, Coletta M. Chronic constipation: a critical review. Dig Liver Dis. 2013 Nov;45(11):886-93. doi: 10.1016/j.dld.2013.03.016. Epub 2013 Apr 30. PMID: 23639342.
3. Bassotti G, Villanacci V. Slow transit constipation: a functional disorder becomes an enteric neuropathy. World J Gastroenterol. 2006 Aug 7;12(29):4609-13. doi: 10.3748/wjg.v12.i29.4609. PMID: 16937428; PMCID: PMC4087822.
4. Bharucha AE, Lacy BE. Mechanisms, Evaluation, and Management of Chronic Constipation. Gastroenterology. 2020 Apr;158(5):1232-1249.e3. doi: 10.1053/j.gastro.2019.12.034. Epub 2020 Jan 13. PMID: 31945360; PMCID: PMC7573977.
5. Cho YS, Lee YJ, Shin JE, Jung HK, Park SY, Kang SJ, Song KH, Kim JW, Lim HC, Park HS, Kim SJ, Cha RR, Bang KB, Bang CS, Yim SK, Ryoo SB, Kye BH, Ji WB, Choi M, Sung IK, Choi SC; Korean Society of Neurogastroenterology and Motility. 2022 Seoul Consensus on Clinical Practice Guidelines for Functional Constipation. J Neurogastroenterol Motil. 2023 Jul 30;29(3):271-305. doi: 10.5056/jnm23066. PMID: 37417257; PMCID: PMC10334201.
6. Knowles CH, De Giorgio R, Kapur RP, Bruder E, Farrugia G, Geboes K, Lindberg G, Martin JE, Meier-Ruge WA, Milla PJ, Smith VV, Vandervinden JM, Veress B, Wedel T. The London Classification of gastrointestinal neuromuscular pathology: report on behalf of the Gastro 2009 International Working Group. Gut. 2010 Jul;59(7):882-7. doi: 10.1136/gut.2009.200444. PMID: 20581236.
7. Leshchyshyn IM, Byk PL, Plodienko M, et al. Histological changes in the colon wall in adult patients with chronic slow-transit constipation. General Surgery. 2023;(2):16-24. https://doi.org/10.30978/GS-2023-2-16.
8. Leshchyshyn IM, Susak YM, Okhots'ka OI, Byk PL, Markulan LY, Panchuk OV. Chronic constipation: modern view on the problem. A review. General Surgery. 2021;(1):68-79. https://doi.org/10.30978/GS-2021-1-67.
9. Majidirad F, Hadian MR, Asl Soleimani H, Jalaie S, Ahadi T, Bazaz Bebahani R, Bagheri H. Cross-cultural adaptation, validity, and reliability of the Wexner questionnaire in patients with functional constipation in an Iranian population. Gastroenterol Hepatol Bed Bench. 2021 Summer;14(3):243-249. PMID: 34221264; PMCID: PMC8245831. https://doi.org/10.22037/ghfbb.v14i3.2023.
10. Maselli D, Camilleri M. Full-thickness evaluation from endoscopic rectal sampling: an important first step in tissue diagnosis of colonic dysmotility. Gastrointest Endosc. 2019 Jun;89(6):1248-1250. doi: 10.1016/j.gie.2019.01.028. PMID: 31104753.
11. Ohlsson B. Erratum. Case Rep Gastroenterol. 2018 Aug 28;12(2):519. doi: 10.1159/000488609. Erratum for: Case Rep Gastroenterol. 2018 Jan 19;12(1):32-40. doi: 10.1159/000486390. PMID: 30283286; PMCID: PMC6167718.
12. Rao SS, Rattanakovit K, Patcharatrakul T. Diagnosis and management of chronic constipation in adults. Nat Rev Gastroenterol Hepatol. 2016 May;13(5):295-305. doi: 10.1038/nrgastro.2016.53. Epub 2016 Apr 1. PMID: 27033126.
13. Schmidt A, Meier B, Caca K. Endoscopic full-thickness resection: Current status. World J Gastroenterol. 2015 Aug 21;21(31):9273-85. doi: 10.3748/wjg.v21.i31.9273. PMID: 26309354; PMCID: PMC4541380.
14. Tian Y, Wang L, Ye JW, Zhang Y, Zheng HC, Shen HD, Li F, Liu BH, Tong WD. Defecation function and quality of life in patients with slow-transit constipation after colectomy. World J Clin Cases. 2020 May 26;8(10):1897-1907. doi: 10.12998/wjcc.v8.i10.1897. PMID: 32518779; PMCID: PMC7262699.
15. Xue X, Zeng H, Chen D, Zheng B, Liang B, Xu D, Lin S. Comparing the short-term clinical outcomes and therapeutic effects of different colectomies in patients with refractory slow-transit constipation in eastern countries: a network meta-analysis. Updates Surg. 2024 Apr;76(2):411-422. doi: 10.1007/s13304-024-01762-1. Epub 2024 Feb 8. PMID: 38329678.
16. Yamamoto S, Kawamura Y, Yamamoto K, Yamaguchi Y, Tamura Y, Izawa S, Nakagawa H, Wakita Y, Hijikata Y, Ebi M, Funaki Y, Ohashi W, Ogasawara N, Sasaki M, Maekawa M, Kasugai K. Internet Survey of Japanese Patients With Chronic Constipation: Focus on Correlations Between Sleep Quality, Symptom Severity, and Quality of Life. J Neurogastroenterol Motil. 2021 Oct 30;27(4):602-611. doi: 10.5056/jnm20135. PMID: 34642281; PMCID: PMC8521473.
17. Yu L, Yang X, Guan W, Zhang D, Ren S, Xing Y, An D, Zhang J, Zhu Y, Zhu A. Analysis of Key Genes for Slow Transit Constipation Based on RNA Sequencing. Int J Gen Med. 2022 Sep 28;15:7569-7579. doi: 10.2147/IJGM.S380208. PMID: 36199586; PMCID: PMC9528044.
18. Zhong ZH, Yang S, Zhao Y, Wang Y, Yong WD, Zhang LL, Wang QS, Huang X. Comparison of laparoscopic selective colectomy based on barium-strip examination and subtotal colectomy for adult slow-transit constipation. Gastroenterol Rep (Oxf). 2019 Jul 16;7(5):361-366. doi: 10.1093/gastro/goz020. PMID: 31687156; PMCID: PMC6821252.

Клініко-анамнестичні характеристики хворих за різних підтипів хронічних повільно-транзитних запорів

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Останніми роками хронічний повільнотранзитний запор (ХПТЗ) залишається актуальною клінічною проблемою через високу поширеність, багатофакторний патогенез та обмежену ефективність терапевтичних стратегій. У літературі досі бракує чітких доказів взаємозв'язку між клінічними виявами ХПТЗ і специфічними гістологічними змінами в стінці кишки.

Мета — виявити особливості клініко-анамнестичних характеристик пацієнтів із ХПТЗ залежно від гістологічного підтипу стінки товстої кишки.

Матеріали та методи. У дослідження було залучено 107 пацієнтів із діагнозом ХПТЗ, які проходили обстеження та хірургічне лікування на клінічній базі Національного медичного університету імені О. О. Богомольця в період із 2011 до 2023 р. Діагноз ХПТЗ установлювали згідно з Римськими критеріями IV.

Результати. Кахальний підтип асоціювався з наймолодшим віком початку захворювання ((8,67 ± 5,08) року), найбільшою тривалістю симптомів ((25,24 ± 11,18) року) і частотою сімейного анамнезу (90,5 %), найменшим середнім індексом маси тіла ((20,4 ± 2,3) кг/м^2). Нейропатичний підтип спостерігався в старших пацієнтів ((52,45 ± 13,61) року) і мав пізніший початок симптомів порівняно з іншими варіантами. Його характерною ознакою був найкоротший інтервал між дефекаціями ((8,1 ± 2,5) дня). Запальний міопатичний підтип супроводжувався найвиразнішим больовим синдромом ((4,8 ± 1,4) бала за візуальною аналоговою шкалою) порівняно з іншими підтипами, що підтверджує роль запалення у формуванні абдомінального болю. Міопатичний дистрофічний підтип асоціювався з найбільшим індексом маси тіла ((25,7 ± 4,3) кг/м^2) та інтервалом між дефекаціями ((12,4 ± 5,5) дня), що вказує на повільний транзит у поєднанні з морфологічною дегенерацією м'язового шару. Інтактний підтип найчастіше виявляли в пацієнтів із пізнім початком симптомів і відсутністю потреби в ручній допомозі під час дефекації.

Висновки. Клініко-анамнестичні характеристики прооперованих пацієнтів із ХПТЗ, резистентних до консервативної терапії, є гетерогенним і суттєво варіює залежно від гістологічного підтипу стінки кишки, що свідчить про різні патофізіологічні механізми запору. Кахальний, нейропатичний, міопатичний дистрофічний і запальний гістологічні підтипи відрізняються за віком початку захворювання, тривалістю симптомів, інтервалом між дефекаціями, інтенсивністю болю та індексом маси тіла. Морфологічна стратифікація ХПТЗ за гістологічними підтипами може надати цінну прогностичну та терапевтичну інформацію, що сприятиме індивідуалізації лікувальних стратегій для пацієнтів із тяжкими формами запору.

Ключові слова: хронічний повільнотранзитний запор, гістологічний підтип стінки товстої кишки, запор.

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