

The proper maintenance of an early post-operative period is essential in the surgical treatment of patients who have undergone abdominal surgical intervention. In the therapeutic and prevention complex, the timely treatment of postoperative intestinal distention occupies a special place. Restoring the motor function of the intestine allows to start an early enteral feeding of a patient. This creates the conditions for a significant reduction in the daily infusion volume, which positively impacts the functional state of cardiovascular and breathing systems. Timely untreated post-operative intestinal distention aggravates the severe early post-operative period due to the occurrence of dyscrasia associated with hidden loss of water, electrolytes and proteins, which leads to the development of hypovolemic shock [2, 3]. Moreover, with a long "gas period" (distention of the large and small intestine loops), abdominal pressure is greatly increased, thus limiting the breathing excursion of the diaphragm. This affects the function of respiration, promotes the bronchial congestion and development of postoperative pneumonia.

The choice of medications that stimulate the motor function of the intestines that could be prescribed from days 1–2 after the surgery is quite limited. Cholinomimetics or other drugs with the similar mechanism of action (aceclidine, proserine, cerucal, ubretid, etc.) are used; however, they are not only inefficient when prescribed in early terms, but also may cause adverse reactions, therefore, they are usually prescribed from day 4–5, when the signs of postoperative intestinal distention are already developed in patients. Today, the Lviv Scientific Research Institute of Blood Pathology and Transfusion Medicine has developed a new drug product – Sorbilact solution, the main active pharmaceutical ingredients of which are sorbitol and sodium lactate. Hypertensive solution of sorbitol contained in Sorbilact has an expressed stimulating action on the smooth muscles of the intestine [1, 2, 5, 6]. This effect is due to the central mechanism as well as to the impact on the local nerve, hormonal and muscle structures of the intestine wall [2, 3]. In addition, Sorbilact, when introduced in the bloodstream, effectively increases the blood flow in mesentery of the large and small intestines [2, 4], quickly increases the plasma

## Role of Sorbilact in early post-operative period in coloproctological patients

colloid osmotic pressure, normalizes the blood rheology, restores the microcirculation, and has an antishock, detoxification, diuretic and energy action. Sorbilact can be administered from the first hours after the surgical intervention and even at the time of surgery. The purpose of this study was to examine the impact of **Sorbilact** on the restoration of the intestinal motility in coloproctological patients who have undergone abdominal surgical intervention.

### Materials and methods

24 patients who had undergone abdominal surgical interventions were examined in the Ukrainian Center of Proctology. Patients were equally divided into two groups - treatment and control group. Patients were selected to the groups by direct blind randomization. The types of surgical interventions that the patients have undergone are presented in Table 1. Patients from the treatment group were administered 200 ml of Sorbilact intravenously, dropwise, at 8-hour intervals, for 4 days, starting from the end of day 1 after the surgical intervention. Patients from the control group received the conservative postoperative therapy without Sorbilact. The motor function of the intestine was evaluated using clinical methods of examination (auscultation, percussion, the term of beginning of passage of flatus and defecation), as well as computerized kinesography which measures the intestinal pressure, the tone of the intestine wall and kinetic activity of the intestine.

### Results and discussion

The results of the study showed that the auscultatory signs of peristalsis of the intestine in the treatment group were observed on average in 2.9 days, in the control group – in 4.1 days. A moderate flatulence was observed in the treatment group, whereas in the control group, the expressed flatulence was identified in 7 pa-

tients (58%). Passage of flatus was observed on average in 3.3 days after the surgery in patients of the treatment group, in 5.1 days – in patients of the control group. Spontaneous defecation was observed in patients of the treatment group in 4.8 days after the surgery, in control group – in 5.9 days. The motor function of the distal colon was examined by computerized kinesography using the automated computer complex "Jaguar-2". In the first 24 hours of the post-operative period, there was almost total suppression of the motor activity of the distal colon in both groups of patients. However, by day 3, patients of the treatment group showed the tone recovery of the intestinal wall in the form of an increase in the tonic component of the motor index and fairly strong rhythmic contractions at the rate of 4–6 times/min. The colon motor activity was significantly increased both by amplitude and by length of periods of work. This was expressed in the increased values of the phase component of the motor index.

The duration of the extra-periods of work was 10–15 min, followed by a period of rest of 20–25 min. In the control group, only single, rare low-amplitude tonic contractions with a reduction of the intestinal wall tone were recorded during this period. The phase component of the motor index in the treatment group exceeded the same in the control group by 1.8 times. The periods of work were also noted to be lengthened and the rest periods to be reduced by 1.5 times.

Full recovery of the motor activity of the colon, which corresponds to the rhythmic propulsion contractions of 5–6 times/min, with periods of motor activity of 8–12 min followed by periods of rest of 30–35 min, was observed in the treatment group in 3.8 days, which is 1.5 times earlier than that in the control group where the colon motor activity was recovered in 5.6 days. The post-operative bed-day in the treatment group was 10.4 days, which is 1.4 times less than

*The article presents a study of the impact of Sorbilact, solution for infusion, on peristalsis in the early postoperative period in coloproctological patients (24 persons) after abdominal surgical interventions. The results of the study indicate the positive impact of the drug product on the recovery of peristalsis, stabilization of the haemodynamics, and the absence of adverse effects. Sorbilact can be recommended in a comprehensive therapy scheme for coloproctological patients after abdominal surgical interventions.*

**Key words:** coloproctology, propulsive bowel activity.

**Table. 1**

Types of surgical interventions in participating patients

Surgery	Treatment Control	
	group	group
Right-sided hemicolectomy	2	1
Left-sided hemicolectomy	1	2
Sigmoid colectomy	3	4
Rectectomy	4	3
Abdominoperineal resection	2	2

that in the control group - 14.3 days. Thus, the use of Sorbilact in the early postoperative period helped to prevent the development of intestinal distention. Despite the fact that, due to a surgical injury, the intestine loses its peristaltic activity, the muscle's tone remains with no sign of flatulence. Patients in the control group showed abdominal distension associated with the bowel wall paralysis. Secondary to the maintenance of the bowel wall tone in patients of the treatment group, the recovery of peristalsis was much faster and more effective than in the control group, which was evident in the reduction of the term of beginning of passage of flatus and defecation.

### Conclusions

1. The use of Sorbilact in the early postoperative period ensures the maintenance

of the bowel wall tone, thus avoiding the occurrence of the expressed flatulence in patients.

2. With Sorbilact administration, the recovery of intestine peristalsis is 1.5 times faster and more effective.

3. Normalization of the motor function of the intestine secondary to Sorbilact administration allows to start an early enteral feeding of a patient, reduction of the daily infusion volume, which positively impacts the course of the post-operative period and contributes to the reduction of inpatient stay by 1.4 times.

### Literature

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