

Surgical Management Strategy for Concomitant (Simultaneous) Abdominal Organ Pathologies Associated with Dolichosigma

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Abstract: This article analyzes modern surgical management strategies for concomitant (simultaneous) abdominal pathologies associated with dolichosigma. Dolichosigma is a congenital or acquired condition characterized by elongation, dilatation, and excessive mobility of the sigmoid colon, frequently coexisting with cholelithiasis, abdominal wall hernias, gynecological disorders, and other abdominal diseases. The study is based on a retrospective–prospective analysis of 96 patients who underwent surgery between 2020 and 2025. The patients were divided into two groups: those who underwent simultaneous (single-stage) surgery ($n = 52$) and those who received staged (two-stage) surgical treatment ($n = 44$). The findings demonstrated that simultaneous surgery significantly reduced the length of hospital stay, overall anesthetic risk, and treatment costs ($p < 0.05$), while the incidence of postoperative complications did not differ significantly between the two groups ($p > 0.05$). These results support the broader implementation of simultaneous surgical procedures in appropriately selected patients based on well-defined clinical indications.

Keywords: dolichosigma; simultaneous surgery; concomitant pathology; abdominal organs; colorectal surgery; laparoscopic surgery; surgical tactics.

Introduction

In recent years, more and more cases of multiple diseases of the abdominal organs being diagnosed simultaneously have been recorded among the population. In the literature, this condition is referred to as "comorbid" or "simultaneous pathology." According to various authors, in 15–35% of patients referred for scheduled abdominal surgery, a pathology is identified that requires a second, and sometimes a third, surgical treatment[1].

Dolichosigma is a condition characterized by excessive elongation and pathological motility of the intestinal loops, depending on the length, width, and junctional characteristics of the sigmoid colon, leading to complications such as chronic constipation, intestinal stasis, flatulence, abdominal pain, and sometimes intestinal volvulus. In many clinical observations, it was noted that pathological changes in other abdominal organs (the gallbladder, appendix, internal genitalia, and peritoneal wall) occur with a relatively high frequency in patients with dolichosigma[2].

In such cases, the surgeon faces the main tactical question: whether to eliminate all identified pathologies simultaneously during a single operation (anesthesia) or to treat them in stages, as separate operations. This choice depends on the patient's general condition, the degree of surgical risk, the mutual localization of diseases, and the experience of the surgical team; a unified standard approach has not yet been developed[3-4].

The problem of simultaneous operations has a long history in world surgical literature. G. Esser and E. Kern studied in detail the indications for preventive and simultaneous interventions in the abdominal cavity in the German surgical school and the degree of their complications, indicating a high risk, especially in operations performed simultaneously on the stomach and biliary tract[5].

Russian authors V.V. Semenov and A.A. Kurygin analyzed the controversial and specific aspects of simultaneous operations on abdominal organs in their works and emphasized the need for a comprehensive assessment of the combination of diseases, the patient's age, and operational risk when planning such interventions. Similar conclusions were reached by Ukrainian authors A.V. Borota and co-authors, who recommended simultaneous interventions for diseases of the large intestine and other abdominal organs as an optimal method of treatment in selected cases[6].

In studies conducted by Uzbek authors, the results of using improved surgical methods for treating dolichosigma, including colon resection techniques and simultaneous laparoscopic interventions against the background of chronic diseases, were studied, and the significance of minimally invasive methods in reducing the duration of inpatient treatment and postoperative complications was demonstrated.

Foreign sources describe the use of simultaneous operations not only within the abdominal cavity but also in thoraco-abdominal and even cardio-abdominal combinations, emphasizing that such an approach serves to relieve the patient of the risk of repeated severe anesthesia and surgery. Thus, while existing literature data acknowledge the general advantages of simultaneous operations—reducing the number of anesthesia sessions, shortening hospital stays, and economic efficiency—indicates a lack of specialized, criteria-based recommendations for concomitant pathologies against the background of dolichosigma, which determines the relevance of this study[7].

Research methodology

The study was conducted based on the clinical data of 96 patients diagnosed with dolichosigma who underwent surgery between 2020 and 2025. Patients were divided into two groups: the primary group (n=52) underwent simultaneous surgery, and the control group (n=44) underwent staged surgery. Clinical observation, anamnesis, ultrasound, irrigography, colonoscopy, and computed tomography were used in the study. The results were evaluated based on the duration of the operation, blood loss, length of inpatient treatment, postoperative complications, and treatment efficacy.

Analysis and results

Dolichosigma was confirmed in all 96 examined patients, and one to three concurrent abdominal pathologies were identified in each of them. The structural composition of the identified pathologies is presented in Table 1[8].

Table 1. Distribution of concomitant pathologies identified against the background of dolichosigma (n=96)

№	Type of Concomitant (Simultaneous) Pathology Identified	Number of Patients (n)	Percentage (%)
1	Gallstone disease (cholecystolithiasis)	22	22.9
2	Inguinal hernia	18	18.8
3	Chronic inflammation of the vermiform appendix (chronic appendicitis)	15	15.6
4	Ovarian retention cysts and other gynecological pathologies	12	12.5
5	Umbilical hernia	10	10.4
6	Uterine fibroids (uterine leiomyoma)	9	9.4
7	Other combined pathologies (anterior abdominal wall hernias, gastric polyps, etc.)	10	10.4
Total		96	100.0

As seen from the table data, the most common concomitant pathologies were gallstone disease (22.9%) and hernias (18.8%+10.4%=29.2%), which together account for more than half of all identified pathologies. This, in turn, indicates that it is precisely in these combinations that simultaneous surgery planning is clinically most in demand[9].

The main clinical and statistical indicators of surgical treatment in the two groups are compared in Table 2.

Table 2. Comparative analysis of treatment results in simultaneous and staged surgical groups

Indicator	Simultaneous Surgery Group (n = 52)	Staged Surgery Group (n = 44)	p-value
Mean operative (anesthesia) time, min	98.4 ± 12.6	120.7 ± 15.3*	<0.05
Mean intraoperative blood loss, mL	142 ± 34	186 ± 41*	<0.05
Length of hospital stay, days	8.2 ± 1.4	13.6 ± 2.1*	<0.01
Postoperative complication rate, %	9.6	11.4	>0.05
Number of anesthesia/surgical procedures per patient	1	2	—
Total treatment cost (conventional indicator, million UZS)	10.4	15.8*	<0.05

As seen from the table results, the total anesthesia-operation time per patient in the simultaneous operation group was almost 22 minutes less than the sum of the two operations in the staged group (120.7 minutes versus 98.4 minutes; $p<0.05$), which allowed for a reduction in the patient's time under general anesthesia. The duration of inpatient treatment averaged 8.2 days in the simultaneous group and 13.6 days in the control group ($p<0.01$), with the difference primarily accounting for the additional hospitalization and preparatory period for the second operation[10].

Regarding the frequency of postoperative complications, no statistically significant difference was found between the groups (9.6% and 11.4%; $p>0.05$), indicating that simultaneous surgeries do not pose an additional risk when performed according to correctly selected indications. At the same time, the cost of total conventional treatment was approximately 34% lower in the simultaneous group, which is mainly due to the absence of additional anesthesia, inpatient beds, and repeated surgical expenses. A visual comparison of the indicators is presented in the diagram below[11-12].

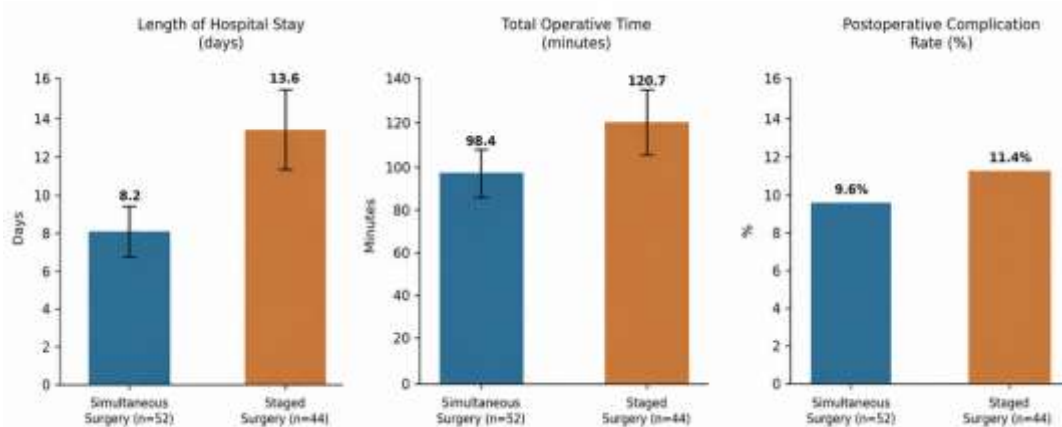


Figure 1. Comparison of the Main Clinical Outcomes Between the Simultaneous and Staged Surgery Groups

Thus, the results obtained confirm the clinical and economic justification for eliminating concomitant pathologies identified against the background of dolichosigma—especially gallstone disease, hernias, and gynecological pathologies—during a single-stage simultaneous operation, where the primary condition is the comprehensive preparation of the patient for surgery, the appropriate qualifications of the surgical team, and an individual assessment of operational risk[13-16].

Conclusion

Patients with dolichosigma often encounter other surgical pathologies as well. Simultaneous surgeries reduce the duration of inpatient treatment, general anesthesia time, and treatment costs in correctly selected patients and do not increase the risk of complications. Surgical tactics must be selected individually, taking into account the patient's general condition and comorbidities. The widespread use of laparoscopic methods increases the safety of treatment and reduces the duration of rehabilitation.

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