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LAPAROSCOPIC METHOD OF TREATMENT OF SIMULTANEOUS DISEASES OF THE ABDOMINAL AND PELVIC CAVITIES WITH EXTRACTION OF THE ORGAN USING THE NOSE METHOD

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Abstract.

Objectives. To evaluate the immediate and long-term results of surgical treatment of patients with simultaneous diseases of the abdominal and pelvic organs after laparoscopic right hemicolectomy with the specimen extraction transvaginelly according to the natural orifice organs specimen extraction (NOSE) method.

Material and Methods. The article details the first clinical case: the patient with the tumour of the colon and uterus myoma nodes, and therefore, she was subjected to a simultaneous laparoscopic operation hysterectomy, right hemicolectomy with extraction of resected specimen transvaginally with intracorporal anastomosis fistulization. At the first stage hysterectomy was performed, right hemicolectomy was carried out using the original combined latero-medial technique. Within 2 months 6 similar surgical procedures had been done and the results are presented in this article.

Results. Mean operative time was 288+11,7 min. Intraoperative blood loss did not exceed 90-100 ml. The length of the vascular pedicle (indersected iliac colic artery) was 9±1 cm. The fascia of colon was saved in all 5 cases. No intraoperative complication was observed. Postoperative complications were registered in 1 case: the development of functional complication dyspareunia was noted in 1 case. The development of this complication was associated with the violation of treatment guidelines abstinence from sexual intercourse after an operation is advisable for 2 months. This complication was cured with vaginal suppositories within 2 weeks after the first symptoms appearance. The level of postoperative pain ranged from 0 to 1.

Conclusion. Transvaginal access is considered to be an ideal way to extract the resected specimen due to anatomical and physiological features of the given area during the colon operations.

Introduction. In the 1980s, the first laparoscopic colon resection was successfully performed, which is especially relevant given the increasing number of newly diagnosed colon cancers.

Numerous studies have demonstrated that patients undergoing laparoscopic surgery experienced early recovery of bowel function, reduced postoperative pain, decreased hospital stay, and a reduced overall incidence of complications [3, 4, 8, 9].

Traditionally, minilaparotomy is used to extract the specimen during laparoscopic colon resection, which in turn can lead to increased postoperative pain and the risk of wound infection. Currently, the technique of extracting the resected specimen (natural orifice specimen extraction (NOSE)) through the body's natural orifices (rectum, vagina) is attracting increasing attention from the coloproctology community worldwide [10].

We currently have a large body of compelling data demonstrating the advantages of extracting the resected colon specimen through the anus and vagina: reduced postoperative pain, reduced postoperative recovery, and improved quality of life, without increasing the incidence of intra- and postoperative complications [12, 13].

The next logical step was to perform laparoscopic colon surgery with specimen extraction using the NOSE technique. We first performed this procedure in 2025, and we present the results in this article. We have now performed five similar procedures.

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Objective: To evaluate the immediate and long-term outcomes of surgical treatment in patients with simultaneous abdominal and pelvic diseases after laparoscopic right hemicolectomy with transvaginal retrieval of the resected specimen using the NOSE technique.

Material and Methods. A 49-year-old woman was admitted to the inpatient department of the multidisciplinary clinic of Samarkand State Medical University with complaints of lower abdominal pain, painful, heavy menstrual periods, and general weakness. Laboratory tests revealed mild anemia. The first instrumental examination was an abdominal and pelvic ultrasound, which revealed multiple myomatous nodes in the uterine body, some with foci of necrosis. A gynecologist examined the patient, and a hysteroscopy was performed, which revealed multiple submucosal nodes with signs of bleeding. The patient had no previous history of gastrointestinal upset, loss of appetite or weight, or constipation. However, to definitively verify the cause of her anemia, a fibrocolonoscopy was performed. During the examination, a pathological mass, presumably a carcinoid, was detected on the posteromedial surface of the cecum. A biopsy was taken, and the histological conclusion was a carcinoid of the cecum. A computed tomography (CT) scan revealed no distant metastases.

Due to the presence of combined pathology in the patient, she was offered a simultaneous laparoscopic surgery - extirpation of the uterus, right-sided hemicolectomy with extraction of the drug using the NOSE method, and intracorporeal formation of anastomosis.

Surgical technique. The first stage was a hysterectomy. The patient lay on the operating table with her legs apart, in the Trendelenburg position. The operating surgeon stood to the patient's right, and the assistant stood at the patient's head. The Clermond-Ferrand uterine manipulator was inserted into the uterine cavity. The uterine ligament apparatus was then transected using the LigaSure Atlas instrument. Using a monopolar "hook" electrode, the vagina was incised along the edge of the uterine manipulator. The next stage of the surgery was a right hemicolectomy.

We used a unique, combined lateromedial technique for mobilizing the right colon. The lateral approach requires only the first step—dissection of the gastrocolic ligament to the hepatic flexure. Next, using ultrasonic scissors and blunt dissection, we entered the mesocolon and advanced between Toldt's and Gerota's fascia to visualize the duodenal wall without dissecting the colon along the lateral canal. We then passed between the duodenal wall and Gerota's fascia, exposing the lower pole of the right kidney directly at the origin of the ureter. Once visualized, further dissection in this area was stopped. The next step was to dissect the parietal peritoneum and expose the major vessels (ileocolica and v. ileocolica, dextra ciliary arteries and v. ileocolica). In the patient's case, the dextra ciliary artery arose directly from the superior mesenteric artery. Using a 10 mm LigaSure device, a tunnel was created near the vascular bundle, the ureter was visualized, and only then was intracorporeal ligation performed, first of the dextra ciliary artery, with ligation performed in two places to achieve complete hemostasis, and then of the ileocolica artery according to the described principles. The hepatocolic ligament was then dissected and the right lateral canal was mobilized from top to bottom, down to the ileocecal angle. The next stage of the surgery was "reconstruction." The ileum was transected, and the colon was transected transversely with a linear stapler. An intracorporeal anastomosis was created using a 32-diameter circular stapler, which was subsequently secured with single interrupted sero-serous sutures and Vicryl 3.0 sutures. To reduce the risk of suture failure, a collagen sponge was then secured over the anastomosis. The final stage involved extraction of the specimen through the vaginal stump. The vaginal stump was closed with single interrupted extracorporeal sutures, and the surgical site in the pelvic area was peritonized.

Trocar installation was performed according to the standard scheme shown in Figure 1.

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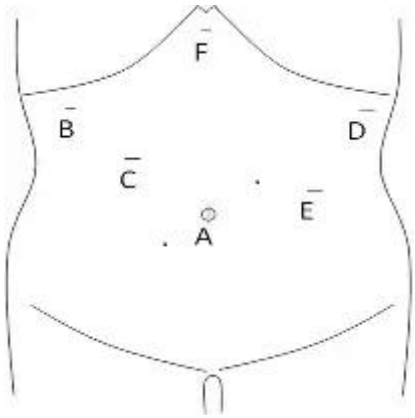

Fig. 1. Trocar installation points A, C, D, E

Resuls. From February 2026 to April 2026, we performed six similar surgical procedures. The indications for the procedures were dolichosigma and megacolon of the left colon. The patients' ages ranged from 33 to 55 years.

There were no fatalities. The average surgical duration was 188±11.7 minutes. Intraoperative blood loss did not exceed 90-100 ml, which did not affect the results of the complete blood count taken after surgery. The length of the vascular pedicle (the transected iliocolic artery) was 9±1 cm. The colonic fascia was preserved in all six cases. No intraoperative complications were noted. Postoperative complications were noted in one case: one patient developed a functional complication, dyspareunia. We attribute this complication to failure to follow postoperative recommendations, specifically, abstaining from sexual intercourse for up to two months after surgery. This complication was managed conservatively with vaginal suppositories for two weeks after the onset of symptoms. Postoperative pain scores were measured at 2, 4, 8, 12, 24, and 48 hours after surgery and ranged from 0 to 1. A visual analog scale (VAS) was used to measure pain. Elastic hosiery (stockings) and low-molecular-weight heparin in the early postoperative period are mandatory for the prevention of thromboembolic complications. Patients began drinking water and liquids 24 hours after surgery and were discharged on the third postoperative day, but underwent weekly follow-up for 30 days after surgery. Patients were satisfied with the cosmetic results and the overall outcome of the surgery.

Discussion. In laparoscopic proctology, the paradigm is extraction of the resected specimen through a minilaparotomy incision, which often leaves surgeons unsatisfied. A true revolution in sigmoid colon surgery has been the advent of surgery through natural orifices, which is gaining increasing popularity [14]. This undoubtedly provides a solution to many problems associated with the minilaparotomy incision: decreased cosmetic results, increased postoperative pain, and the risk of wound infection. Currently, the NOSE technique allows for transvaginal, transgastric, and transanal extraction, although the latter two techniques have strict limitations. A review of the literature demonstrates that patients who have undergone this procedure have good long-term outcomes, with full preservation of sexual activity and normal pregnancy.

Conclusion. The transvaginal approach is an ideal method for retrieving the resected specimen during colon surgery due to the anatomical and physiological characteristics of this region. Our limited experience with similar procedures demonstrates that the NOSE technique can be used in patients with concomitant abdominal and pelvic diseases. Furthermore, this procedure is exceptionally safe, as demonstrated by the surgical outcomes. The level of pain allows us to speak of its virtual absence, and the patient’s postoperative quality of life was rated as excellent.

The evolution of laparoscopic instruments and surgical techniques allows us to already speak of entering the era of “scarless” surgery.

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