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Risk factors for colon adenomas recurrence after endoscopic mucosal resection

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AIM: to identify risk factors for neoplasms recurrence removed by endoscopic mucosal resection (EMR).
PATIENTS AND METHODS: the single-center retrospective observational study included 207 patients with 260 benign colon neoplasms. There were 95 (45.9%) males and 112 (54.1%) females. The median age of the patients was 67 (27-80) years. The results obtained were assessed using following criteria: morbidity rate, complication type, hospital stay, tumor site, number of neoplasms in colon, lateral growth, fragmentation rate, technical difficulties (mucosal fold convergence)during surgery, grade of
dysplasia, recurrence rate.
RESULTS: intraoperative fragmentation of the neoplasms during mucosectomy occurred in 48/260 (18.5%) cases. Postoperative complications within the period of up to 30 days occurred in 13/207 (6.3%) patients. The most frequent 9 (4.2%) postoperative complication arising after mucosectomy was post-polypectomy syndrome. Another 4 (2.0%) patients produced bleeding after the surgery, which required repeated endoscopic procedure. No mortality occurred. The tumor size exceeding 25 mm (Exp (B) = 0.179; 95% CI = 0.05-0.7; p = 0.014), severe dysplasia (Exp (B) = 0.113; 95% CI = 0.03-0.4; p = 0.001) and fold convergence (Exp (B) = 0.2; 95% CI = 0.07-0.7; p = 0.015) are independent risk factors for disease recurrence.
CONCLUSION: mucosectomy is indicated for colon adenomas if its size does not exceed 25 mm and can be removed en bloc.
KEYWORDS: colon polyps, mucosectomy, polypectomy, relapse, adenoma

Algorithm for clarifying diagnostics and intraluminal endoscopic removal of colorectal epithelial neoplasms

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AIM: to work out of a set of measures aimed for early detection of colorectal tumors and the choice of a method of endoscopic surgery.
PATIENTS AND METHODS: a multimodal approach was used, which included two successive stages: the stage of assessing the depth of invasion of malignant colorectal epithelial tumors (1) and the stage of endoscopic surgery. The study included 974 patients, aged 67 (43-81) years. The algorithm of the systemic automatic approach to differentiate the depth of invasion of superficial malignant colorectal tumors has been worked out based on analysis of color pictures of colonoscopy (Colonoscopy Video Analysis). The results of use of automatic system were compared with experts’ assessment.
RESULTS: the application of the developed algorithm of the systemic automatic approach to differentiate the depth of invasion of malignant ENC has high detection accuracy – the total average detection accuracy when implementing this algorithm is 72.02. No significant differences with experts’ assessment were obtained. With endoscopic removal of malignant tumors with superficial invasion, the correct selection of patients based on the tumor size (up to 2.0 and over 2.0 cm) and the corresponding removal technique (mucosal resection or endoscopic submucosal dissection) are decisive.
CONCLUSION: the automatic system of evaluation of tumor invasion depth has a high accuracy and gives a possibility to exclude false positive results.
KEYWORDS: diagnostic algorithm, colonoscopy, epithelial tumors, colorectal cancer

Manual intracorporeal end-to-end invagination ileotransverse anastomosis, own experience

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AIM: to evaluate the results of original manual intracorporeal end-to-end invagination ileotransverse anastomosis after laparoscopic right hemicolectomy.
PATIENTS AND METHODS: twenty-two patients with right colon cancer were included in the study: 17 females and 5 males aged 53.1Ґ}3.4 years. They underwent laparoscopic right hemicolectomy with the standard D2 lymphadenectomy and intracorporeal ileotransverse anastomosis by the original technique. Follow-up period after surgery was 3 months.
RESULTS: no conversions to open surgery occurred. The operation time was 120.0Ґ}12.5 minutes, the median blood loss was 87.0Ґ}5.0 ml. Twenty (90.9%) patients are still under follow-up. The hospital stay was 11.4Ґ}2.6 days. There were no intraoperative complications. There were no cases of anastomotic leakage. No mortality occurred. At the time of the follow-up, all the patients are alive. Two (9.1%) patients have dropped out of control.
CONCLUSION: the experience of the first 22 laparoscopic right hemicolectomies with intracorporeal laparoscopic end-to-end invagination ileotransverse anastomosis makes it possible to recommend this reliably safe method.
KEYWORDS: colon cancer, laparoscopy, hemicolectomy, intracorporeal anastomosis

Results of the use of intranodal laser coagulation in patients with chronic internal hemorrhoids stage III

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AIM: to assess the efficacy of intranodal laser coagulation for hemorrhoids stage III.
PATIENTS AND METHODS: the study included 62 patients with chronic internal hemorrhoids stage III without external hemorrhoids, who were informed of the INLC technology, its advantages and disadvantages. The selection for this procedure was done due to the high-resolution anoscopy, in the presence of type 1 and type 2 severity of inflammatory changes in the nodes.
RESULTS: on the 3rd day, no pain occurred in 52 (83.9%) patients. After 12 months, a complete disappearance of hemorrhoid symptoms was observed in 51 (82.3%) patients, while 7 (11.3%) patients had a recurrence. In 8 (12.9%) patients, symptoms of discomfort and itching were noted.
CONCLUSIONS: intranodal laser coagulation allowed in 61 (98.4%) cases to perform this procedure on an outpatient basis, and did not affect the anal sphincter function. Good long-term results were obtained in 82.3% of cases. Intranodal laser coagulation is an effective method for chronic hemorrhoids.
KEYWORDS: chronic hemorrhoids, intranodal laser coagulation, LHP

Endoscopic submucosal tunnel dissection for a giant adenoma of the cecum (case report)

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Endoscopic removal of giant adenomas of the cecum is associated with high risk of perforation and conversion to laparoscopic procedure. Endoscopic submucosal dissection for cecal adenomas had technical limitations due to the adjacent ileocecal valve and appendix opening, perpendicular operating angle. Case presentation of the possibility of successful removal of a large laterally spreading cecal adenoma by the method of endoscopic submucosal tunnel dissection (ESTD) never been described before for this tumor site and size. Patient 54 years old, an LST-G adenoma (5 cm in diameter, according to Kudo – IIIL, according to Sano – II) was detected in the dome of the cecum during colonoscopy. ESTD. The postoperative period without any unfavorable events; the patient was discharged on the 5th day after surgery. The morphological conclusion: tubulo-villous adenoma with moderate epithelial dysplasia, R0. ESTD is suitable for cecal giant adenomas.
KEYWORDS: adenoma, tunnel method, the submucosal dissection, the cecum

Extragenital endometriosis with lesions of the small and large intestine, the formation of a pathological cavity draining to the anterior abdominal wall (case report)

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Extragenital endometriosis is one of the most severe benign diseases of the female reproductive system, characterized by different site of target organs. This pathology is associated with the development of severe complications, the treatment of which requires a multidisciplinary approach. This case report is dedicated to the experience of treating a patient with a history of multiple surgical
procedures and long-term undiagnosed deep infiltrative endometriosis, complicated by abdominocutaneus endometriotic fistula.

KEYWORDS: endometriosis, deep infiltrative endometriosis, abdominocutaneus endometriotic fistula

Organization of medical care for patients with colorectal cancer during coronavirus-19 pandemic (review)

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The COVID-19 pandemic, with it is rapid increase in new cases and deaths, has caused hospital overload around the world, creating an unprecedented challenge for health systems and requiring the rapid development of reliable and evidence-based guidelines. Moreover, this has led to urgent identification of non-COVID health priorities. The cancer service must be restructured. Diagnosis and treatment for colorectal cancer in the background of the COVID-19 pandemic requires a restrained approach based on the priority of patient care.

KEYWORDS: colorectal cancer, rectal cancer, CRC, COVID-19 pandemic, Coronavirus

Quality of life after rectal cancer surgery (systematic review)

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AIM: search for modifiable and unmodifiable risk factors affecting the quality of life of patients after rectal cancer surgery.
MATERIALS AND METHODS: the literature search was done according to the keywords: quality of life, rectal cancer, low anterior resection syndrome. Twelve prospective randomized studies, 2 cohort studies, and 2 meta-analyses are included in the study. The quality of life was assessed in the analyzed studies by using questionnaires for cancer patients and updated questionnaires for colorectal cancer: EORTC QLQ-CR29, QLQ-C30, QLQ-CR38, BIQ.
RESULTS: the literary data on influence of gender, age, surgery, stoma, and chemoradiotherapy on life quality of patients after rectal cancer surgery was analyzed.
CONCLUSION: the most significant factor affecting the life quality of patients with rectal cancer is a violation of the body image if it is necessary to form the stoma on the anterior abdominal wall. The manifestations of the low anterior resection syndrome and the urination problems are significant risk factors in the case of restoration of bowel continuity.

KEYWORDS: quality of life, rectal cancer, low anterior resection syndrome, risk factors

Role of intestinal microbiota in colorectal carcinogenesis (review)

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The aim of the review is to show possible links between intestinal microbiota and colorectal carcinogenesis, to describe the procarcinogenic properties of microorganisms associated with the development or proliferation of colorectal cancer. The gut microbiota plays a leading role in metabolism, providing important metabolites to the macroorganism. In humans, there is a spatial variability in the qualitative and quantitative microbiota composition. The intestinal microbiota provides the colony resistance, protecting it from colonization by opportunistic and pathogenic microorganisms. There is more and more data on the role of the gut microbiota in the development of colorectal cancer. The profound study of the gut microbiome in various populations is required, which will allow to identify other microorganisms associated with the development or proliferation of colorectal cancer. It can be used as biomarkers for colorectal cancer screening and predicting the response to immunotherapy.

KEYWORDS: microbiota, colorectal cancer, biomarkers, pathogenicity factors, carcinogenesis

Ogilvie syndrome (acute colon pseudo-obstruction) in surgical practice (review)

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The aim of the review was to describe the evolution of scientific ideas about the syndrome of pseudo-obstruction of the large intestine (Ogilvie syndrome), taking into account the etiopathogenesis, clinical manifestations, the incidence of the disease, the state-of-art in diagnosis and treatment. The paper presents an analysis of the literature on the pseudoobstruction of the colon (Ogilvie syndrome) – the acute dilatation of the colon in the absence of any mechanical obstruction. The essence of the concept, the correctness of the notation, definitive criteria, terminology, pathophysiological and pathogenetic aspects of the disease according to the literature are described. The diagnostic and treatment algorithms are correctly described with an assessment of their effectiveness in accordance with the principles of evidence-based medicine. Despite the large number of publications devoted to Ogilvie syndrome and the increased awareness of doctors of various specialties on this pathology, its diagnostics is still difficult and often untimely.

KEYWORDS: acute colonic pseudoobstruction, Ogilvy syndrome, pathophysiological and pathogenetic mechanisms, diagnosis, treatment

Doppler-guided hemorrhoidal dearterialization. Technical evolution and results of treatment (review)

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Hemorrhoidectomy is considered as the “gold standard” for hemorrhoidal disease, but is associated with a long rehabilitation period. For this reason, 20 years ago, an innovative method for hemorrhoids was developed – Doppler-guided hemorrhoidal dearterialization. The aim of the work is to analyze the literary data of the use of Doppler-guided dearterialization for hemorrhoidal disease, the technical evolution of the method and the analysis of the results. An analysis of the literature shows that Dopplerguided dearterialization is a safe and effective method for hemorrhoidal disease. The combination of dearterialization with transanal mucopexy improves outcomes in patients with hemorrhoids III and IV stages. However, good results can be obtained not in all forms of hemorrhoidal disease. The efficacy depends on the peculiar features of the anorectal zone vascularization, the degree of destruction of the suspensory ligaments of the internal hemorrhoidal plexus and the degree of enlargement of the external hemorrhoid plexus. The adequacy of the dearterialization and mucopexy requires an objective control for assessment of the procedure.

KEYWORDS: hemorrhoids, doppler-guided desarterialization, transanal mucopexy

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Occult adenocarcinoma in adenomas. Possibilities of diagnostic methods

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AIM: to analyze the diagnostic value of the digital rectal examination, colonoscopy, MRI and ERUS for detecting occult adenocarcinoma in rectal adenomas.
PATIENTS AND METHODS: the study included 100 patients with newly identified epithelial rectal neoplasms, which undergone transanal endoscopic microsurgery from December 2019 to December 2020. All the patients underwent digital rectal examination, colonoscopy, ERUS with sonoelastography, and pelvic MRI. The diagnostics value of this methods was estimated with determination of sensitivity and specificity. RESULTS: the study included 67 (67%) females and 33 (33%) males. The mean age of the patients was 64.4 ± 10.7 years. The median distance from the tumor to the anal verge was 6.0 ± 2.9 cm. The sensitivity of the digital rectal examination in the occult malignancy verification was 0.44 (95% CI 0.24–0.65), specificity — 0.93 (95% CI 0.85–0.97). The sensitivity of the colonoscopy — 0.56 (95% CI 0.34–0.75), the specificity — 0.84 (95% CI 0.73–0.91). The sensitivity of MRI — 0.40 (95% CI 0.21–0.61), specificity — 0.89 (95% CI 0.80–0.95). The sensitivity of ERUS was 0.48 (95% CI 0.27–0.68), the

specificity — 0.73 (95% CI 0.61–0.82). Pair wise comparison of diagnostic methods revealed the absence of significant differences in their diagnostic value ($p > 0.05$).
CONCLUSION: at least one of diagnostic methods allows to verify the presence of malignant transformation in 100% of cases. So, only combination of diagnostic methods can help to choose the optimal treatment option.
KEYWORDS: occult malignancy, adenocarcinoma, rectal adenomas, diagnostics

Quality of life after extended lymph node dissection for colon cancer

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AIM: to evaluate the effect of the lymphadenectomy (LD) level on the quality of life (QoL) in patients who underwent laparoscopic colon resection for colon cancer. PATIENTS AND METHODS: the study included 86 patients who underwent surgery for colon cancer from January 2018 to August 2020. The patients were randomized in 2 groups: the main group — with D3 lymphadenectomy — 41 patients and the control group — with D2 — 45 patients. Two validated QoL questionnaires (QLQ-C30 v. 3.0, QLQ-CR29 v. 2.1) of the European Organization for Research and Treatment of Cancer (EORTC) were applied by the patients on the day before the surgery and on the 30th day after the surgery and were used for the further analysis.
RESULTS: there were no significant differences between the groups in gender, age, weight, height, BMI, assessment of functional and physical status according to the ASA and ECOG scales, incidence of comorbidities, tumor site, type and volume surgical of procedures. Regardless of the level of lymphadenectomy, the significant improvement in QoL after surgery was obtained ($pQoLD3 = 0.005$, $pQoLD2 = 0.023$) in both groups. The significant increase in the incidence of diarrhea by 2.65 times was detected after laparoscopic right hemicolectomies with extended lymphadenectomy ($p = 0.042$). Also, there was a significant 2.45 fold increase in the risk of developing erectile dysfunction (ED) after D3 lymphadenectomy in the patients who underwent laparoscopic resections of the left colon in the early postoperative period ($p = 0.031$).
CONCLUSION: the analysis of physical, social functioning and symptomatic scales has established that in patients who underwent colon resection for cancer of the left colon erectile dysfunction occurred to a greater extent after D3 LD, whereas diarrhea was more likely to develop after resection of the right colon with D3 LD than with D2 LD.
KEYWORDS: colon cancer, quality of life, lymphadenectomy, diarrhea, erectile dysfunction

Endoscopic mucosal resection and conventional polypectomy in colon adenomas

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AIM: to compare the early and long-term results of endoscopic mucosal resection (EMR) and conventional polypectomy for benign epithelial colon neoplasms
PATIENTS AND METHODS: the retrospective study included 344 patients with histologically verified adenomas of the size of up to 40 mm in the colon, who underwent EMR or conventional polypectomy. Mucosectomy (EMR) was performed in 207 patients, while conventional polypectomy was performed in 137.
RESULTS: there were no significant differences in the postoperative morbidity rates between the methods (OR = 1.8; 95% CI = 0.7–4.8, $p = 0.3$). Fragmentation significantly more often occurred in the group of conventional polypectomy (OR = 3.5; 95% CI = 2.3–5.5, $p = 0.001$, especially when the size of the neoplasm was over 1 cm (OR = 3.1; 95% CI = 1.1–8.9 = 0.037). Recurrence occurred in 19/173 (10.9%) in 12 (8.3%) patients of the EMR group. In the polypectomy group, recurrence developed in 22 (23.1%) patients, in 24/108 (22.2%) cases at the site of the postoperative scar. It was found that the adenoma recurrence in the area of endoscopic excision occurs significantlymore often after conventional polypectomy (OR = 2.3; 95% CI = 1.2–4.4; $p = 0.016$).
CONCLUSION: EMR and conventional polypectomy both are the safe methods with low morbidity rates. However, the EMR is the preferred method of endoscopic excision for adenomas larger than 1 cm due to the fact that it allows for deeper and more complete resection of the tissue than conventional polypectomy.
KEYWORDS: endoscopic mucosal resection, polypectomy, colorectal adenomas

Laser coagulation in combination with LIFT for transsphincteric anal fistulas

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AIM: to improve the results of fistula treatment, to evaluate the effectiveness of the combined use of LIFT and FiLaC techniques.
PATIENTS AND METHODS: the study included 35 patients with transsphincter fistulas of cryptopglandular etiology involved more than 1/3 of the sphincter. All patients underwent surgery with laser energy (the laser conductor speed is 1 mm per second, the wavelength is 1470 nm, the radiation output is 13 W) after the LIFT procedure.
RESULTS: the primary healing rate was 28/35 (80,0%). The patients who failed the combined procedure (cases of prolonged healing more than 3 months) underwent a second procedure ReFiLaC, which led to the closure of fistula in 2 of 3 patients. A median follow-up period was 10,2 months. No incontinence to solid and liquid stools was detected.
CONCLUSION: preliminary results of the study permits to assess the potential of the combined low-invasive approach for anal fistulas as positive.
KEYWORDS: anal fistula, faecal incontinence, laser, LIFT, sphincter-preserving

Prognostic factors in colorectal cancer

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AIM: to evaluate prognostic factors in colorectal cancer.
MATERIAL AND METHODS: published data (publications in PubMed, Scopus, eLIBRARY databases) and own results of treatment of 47 patients with T2-4N0-2M0 colon cancer in 2017–2018. The following prognostic factors were studied: metastasis in regional lymph nodes, tumor site, CEA level, KRAS and BRAF mutation status, microsatellite instability, MUSASHI2, p53, VEGF.
RESULTS: a correlation between tumor progression and the status of regional lymph nodes demonstrated significant differences (p = 0.038): in N0, the risk of progression was 3.8%, in N1 — 14.9%, in N2 — 43.6%. Statistical processing of the results did not reveal significant differences between groups of patients without and with cancer generalization by their age, gender, tumor site, type of lymph node dissection, T stage, differentiation of adenocarcinoma, levels of CEA, mutations of KRAS, MSI, p53, MUSASHI2, VEGF. We used these prognostic factors to determine biological features of the tumor, its aggressiveness and treatment approaches.
CONCLUSIONS: the status of regional lymph nodes remains the main factor in determining the prognosis of a colon tumor and in the medical therapy appointment. Molecular genetic factors are currently of great importance for determining tactics in personalized medical treatment.
KEYWORDS: colorectal cancer, prognostic factors, lymph node metastasis, gene mutations, microsatellite instability

Factors limiting the endoscopic submucosal dissection in colorectal tumors

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AIM: to identify the risk factors for conversion of endoscopic submucosal dissection to abdominal surgery.
PATIENTS AND METHODS: the prospective cohort study included 405 patients: 166 (40.9%) males and 239 (59.1%) females. The median age was 66 (59; 72) years old; the patients underwent endoscopic submucosal dissection of colorectal epithelial neoplasms.
RESULTS: the median size of the removed neoplasms was 3.0 (2.4; 4) cm, tumor was removed en bloc in 324/363 (89.2%) cases; and R0 resection margins were detected in 218/324 (67.3%) cases. Significant risk factors for conversion were: the tumor size ≥ 3.2 cm (OR 2.9, 95% CI 1.2–7.1, p = 0.017), lifting ≤ 3 mm (OR 41, 95% CI 15–105, p = 0.000002) and the tumor vascular pattern IIIa according Sano's capillary pattern classification (OR 4.0, 95% CI 1.3–11.9, p = 0.013).
CONCLUSION: endoscopic submucosal dissection is a safe way to remove colorectal neoplasms. However, the presence of conversion risk factors can influence the outcome of endoscopic treatment.
KEYWORDS: ESD, conversion, colorectal polyps, colorectal cancer, submucosal dissection, adenoma, adenocarcinoma

Rehabilitation of patients with low anterior resection syndrome

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AIM: to develop a conservative rehabilitation program for patients with severe symptoms of LARS.
PATIENTS AND METHODS: since January 2019, 50 patients after low anterior resection were included in the study. The main group included 25 patients who underwent biofeedback therapy and tibial neuromodulation in 3–6 months after surgery. Functional results before and after treatment were evaluated by anorectal manometry. The control group included 25 patients, according to the Propensity score matching.
RESULTS: the median score on the LARS scale, in the main group was 41.0 ±2.8 points, in the control — 38 ± 4. With sphincterometry, the median pressure at rest before treatment was 30.0 ± 7.8, with a voluntary contraction of 140.6 ± 56.0 mm Hg. After the conservative treatment, patients in the main group had significantly better results: the median score on the LARS scale decreased from 41 ± 2.8 to 17 ± 8 points ($p < 0.0001$), the median pressure after treatment increased from 30.0 ± 7.8 to 36.0 ± 8.0 ($p = 0.004$), with a voluntary contraction from 140.6 ± 56.0 to 157.5 ± 53.2 mmHg ($p = 0.008$). Comparing the results of the questionnaire of the main group with the control group after the stoma closure and after 12 months, it turned out that in the main group there was a significant decrease in the severity of LARS: 17.0 ± 8.0 scores vs. 35.0 ± 4.5 ($p = 0.0003$), which shows an improvement in the tone and contractility of the sphincter after conservative treatment.
CONCLUSION: comprehensive biofeedback therapy and tibial neuromodulation improves the functional results of patients with severe LARS.

KEYWORDS: rectal cancer, low anterior resection syndrome, LARS, incontinence, BOS therapy, tibial neuromodulation

“Cold” polypectomy for colorectal polyps: prospective randomized trial

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BACKGROUND: endoscopic electroexcision is the standard technique for the removal of colorectal polyps. However, it is associated with the postoperative morbidity. In order to reduce the incidence of complications, “cold” excision seems to be an alternative option.
AIM: to improve the results of endoscopic treatment for patients with colorectal polyps.
PATIENTS AND METHODS: from September 2019 to September 2020, 160 patients ≥ 18 years old (80 in each group), who underwent endoscopic removal of colorectal polyps ≤ 10 mm in size by cold excision (132 lesions) and traditional polypectomy (129 lesions), were included in a prospective randomized trial. All removed specimens were studied histologically with an assessment of the resection margins (R0/R1). The analysis of the postoperative complications after endoscopic polypectomy and the incidence of Rx resection after removal of polyps by both techniques was done.
RESULTS: the compared groups were homogenous in the number of patients, gender, age, and comobridities. There were no significant differences in the number of removed polyps, their site and the type according to endoscopic classifications. The operation time was significantly higher in the conventional polypectomy group compared with the “cold” one ($p = 0.0001$). There were no significant differences in the intraoperative complications rate between the two groups ($p = 0.06$). There were no postoperative complications in the “cold” group. In the control group postoperative complications occurred after 12 out of 129 polyps removal ($p = 0.001$). The univariate analysis showed that a risk factor for the development of postoperative complications after conventional polypectomy is the lack of submucosal lifting (OR: 15.3, 95% CI: 1.9-125.6, $p = 0.01$). Histopathology of the removed specimens showed that in both groups most of the procedures were considered as R0 resections (54% in the main group, 56.4% in the control group, $p = 0.8$). The polyp size ≤ 4 mm identified as a risk factor for R1, Rx resection (OR: 2.4, 95% CI: 1.3–4.7, $p = 0.007$).
CONCLUSION: “cold” polypectomy is an effective and safe method and may be recommended as an alternative technique for the removal of non-pedunculated colorectal polyps ≤ 10 mm.

KEYWORDS: small colorectal polyps, colonoscopy, cold and hot snare polypectomy, resection rate, postpolypectomy symptoms

Leakage of colorectal anastomosis: the role and possibilities of visualisation (review)

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In the literature review, the problem of colorectal anastomosis leakage is considered with an emphasis on the role and capabilities of radiology, including methodological features, diagnostic effectiveness and characteristic manifestations at various times after surgery, also controversial and unresolved issues of the use of various methods of radiation research are noted.

KEYWORDS: colorectal cancer, radiology, colorectal anastomosis, anastomotic leakage, complications of surgical treatment, computed tomography

Peutz-Jeghers syndrome: what has been known for 125 years of research? (review)

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Peutz-Jeghers syndrome (PJS) is an extremely rare autosomal dominant hereditary disease characterized by the growth of hamartomatous polyps in the gastrointestinal tract, mucocutaneous pigmented macules and an increased risk of malignant neoplasms of various localizations. In most cases the development of PJS is associated with the presence of a mutation in the STK11 gene, but not all patients have this mutation. This review presents the historical aspects of the first data on PJS, considers the clinical manifestations of the disease, current diagnostic methods, as well as recent knowledge about the genetic causes, about the risk of malignant neoplasms in patients with PJS, existing guidelines for screening and treatment of patients with PJS. However, the presence of a number of unresolved issues in genetics, monitoring and treatment indicates the need for further research.

KEYWORDS: Peutz-Jeghers syndrome, hamartomatous polyps, lentiginosis, STK11

Population characteristics of colorectal cancer in the Ulyanovsk region according to the regional cancer register

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AIM: to analyze the structure and changes of colorectal cancer (CRC) epidemiology in the Ulyanovsk region in 2005–2019 according to the regional cancer register.
MATERIALS and METHODS: the study is based on statistical data on the primary detection of CRC in the districts of the Ulyanovsk region (form No. 7) in 2005–2019. Standardized rates of morbidity and mortality were evaluated. Data on the number, gender and age of the regional population were obtained in Ulyanovsk State Statistics Service.
RESULTS: the incidence of CRC in the region increased by 1.51 times over the analyzed period (from 31.12 to 49.58per 100 thousand people). From the total number of newly diagnosed CRC in 2019, the urban population was 25%, and the rural population — 75%. The incidence rates in the districts of the region were assessed. The highest morbidity in males was detected at the age of 60–64 years old, and it was 1.58 times higher than in females. In the adult population under 30 years old, only few cases of colorectal cancer were detected. The main histological type of tumors was adenocarcinoma. Poorly differentiated tumors accounted for about 3%. The highest age-standardized rates for rectal tumors were 10.1 and 12.8 per 100 thousand people in 2005 and 2019, respectively; for the recto sigmoid tumors — 0.9 and 2.3 per 100 thousand people; and for the anal cancer — 0.4 cases per 100 thousand people in 2019. The male/female ratio of deaths from CRC in 2019 was 1.005:1.000.
CONCLUSION: there has been a trend to an increase in the incidence of colorectal cancer among the Ulyanovsk region population in the period from 2005 to 2019. We identified some areas of the region that significantly differ in the incidence of colorectal cancer.

KEYWORDS: colorectal cancer, cancer register, morbidity, mortality

Yuri A. Shelygin. 70th Anniversary

Vladimir L. Dzhimbeev. OBITUARY

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CLINICAL GUIDELINES

Diverticular disease

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Effect of cytomegalovirus infection on moderate and severe ulcerative colitis

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AIM: to evaluate the effect of cytomegalovirus (CMV) infection on the course of moderate and severe flare ups of ulcerative colitis (UC).

PATIENTS AND METHODS: a prospective cohort single-center study was done in September 2018 — December 2020. The study included patients with moderate and severe flare ups of UC. All patients underwent colonoscopy with biopsy to quantify CMV DNA by polymerase chain reaction (PCR). Subsequently, the patients were divided into subgroups: with the presence of CMV (CMV+) and its absence (CMV–). In the CMV+ subgroup, antiviral therapy was carried out with an assessment of virological, clinical and endoscopic results on the 19th day of therapy, one month after its completion and after 6 months. In the CMV– subgroup these results were evaluated after 6 months only.

RESULTS: the study included 126 patients. CMV was detected in 51 (40.5%). At the same time, its presence was not influenced by gender, age, or previous therapy. Laboratory indicators in both subgroups were comparable, as well as the severity of UC. A significant increase in the risk of developing steroid resistance was revealed in CMV+ patients with severe UC attack (OR 1.33, 95% CI: 1.059–19.4). The effectiveness of antiviral therapy was 60.8%. All patients who did not respond to antiviral therapy underwent surgery. At the same time, among patients in whom antiviral therapy was effective (virus eradication was achieved), there was no need for surgery.

CONCLUSION: CMV infection significantly increases the likelihood of developing steroid resistance in patients with severe flare up of UC, while all patients who responded to antiviral therapy did not require surgery. Further multicenter randomized trials are needed.

KEYWORDS: antiviral therapy, cytomegalovirus infection, ulcerative colitis

Genetic and phenotypic characteristics of 60 Russian families with Lynch syndrome

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AIM: to evaluate the genetic and clinical characteristics of Russian patients with Lynch syndrome.

PATIENTS AND METHODS: in the period from 2012 to 2019, patients with suspected Lynch syndrome were studied, according to the selection recommendations (Amsterdam II and original criteria). All patients underwent a microsatellite
instability test in the tumor, and if it was detected, for germline mutations in the genes of MMR system.
All patients underwent standard clinical procedures (colonoscopy, gastroscopy, CT, MRI, etc.).

RESULTS: Lynch syndrome was genetically confirmed in 60 unrelated patients (included 30 women and 30 men, ranging in age from 24 to 68 years). Germline mutations were found in the following genes: MLH1 — 30, MSH2 — 26, MSH6 — 2, PMS1 — 1, PMS2 — 1. For the first time in the world, 12 novel mutations have been described. Clinical features of Russian patients with Lynch syndrome include: the early average age of development of the first cancer — 39.0 years; frequent 45% localization in the left colon; high (55%) incidence of poorly differentiated adenocarcinomas. A total of 234 tumors were diagnosed in Russian patients with Lynch syndrome and their relatives. It is also important to note that the stomach cancer is the third most common cancer after colon cancer.

CONCLUSION: Russian patients with Lynch syndrome showed clinical and genetic and features, that distinguish them from European and North American population and should be taken into account when treating.

KEYWORDS: Colorectal cancer, Lynch syndrome, MMR genes, germline mutations, microsatellite instability

Efficacy of tofacitinib as a «rescue therapy» in patients with severe ulcerative colitis

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AIM: to evaluate the effectiveness of tofacitinib as a second line treatment.
PATIENTS AND METHODS: the study included 12 patients, 4 (33.34%) males and 8 (66.66%) females. The median age was 41 ± 5 years. All patients admitted to the hospital with a severe flare-up of ulcerative colitis, which was the inclusion criterion in this study. Clinical manifestations, laboratory parameters, and colonoscopy were done at the time of administration of tofacitinib, on days 3 and 7, and after 12 weeks.
RESULTS: a fast clinical response on 3 day of treatment, reduction in stool frequency, decrease blood in stool was noted in 10 (83.3%) patients. After 7 days from the start of TFCS therapy, all patients showed a decrease from severe activity to mild activity, as well as a decrease in inflammatory blood markers and hemoglobin levels. During the follow-up for 12 weeks, 100% of patients showed positive clinical and laboratory changes. In 10 (83.4%) patients, remission or maintenance of negligible minimal activity was noted.
CONCLUSION: the results obtained show that the use of TFTB in hormone-resistant patients can be effective as a second line of “rescue therapy”.
KEYWORDS: inflammatory bowel diseases, tofacitinib, ulcerative colitis

Low-temperature argon plasma in the wounds treatment after hemorrhoidectomy

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AIM: to improve the results of treatment in hemorrhoid Grade IV.
PATIENTS AND METHODS: the prospective randomized study included 101 patients with combined hemorrhoids Grade IV were divided in two groups. Both groups were homogenous in age and gender. All patients underwent open hemorrhoidectomy with monopolar coagulation. Low-temperature argon plasma application was implemented in postop-erative period as an additional option in the main group at 2, 4, 6, 8, 14, 21, 30 days after surgery. Visual Analogue Scale (VAS, 0 to 10 points) was used to assess pain intensity. Bacteriological and cytological tests performed at 2, 8, 14, 21, 30 days and then every 7 days until the wounds were completely healed. The area of the postoperative wound and the rate of healing were calculated using a planimetric method. Quality of life was assessed before surgery, and on days 8 and 30 using the SF-36 questionnaire.
RESULTS: on the 30th day after surgery, cytology confirmed wound healing occurred in 38 (76.0%) patients of the main group and in 18(36.0%) patients in the control group, $p = 0.0001$. VAS score at day 8 after surgery was 3 (3; 4) and 4 (3; 5) points in main and control group, respectively, $p = 0.00003$. Quality of life measuring showed significant difference in the physical component between groups: 48 (44; 53) vs 42 (38; 48) points in the main and control group, respectively ($p < 0.05$). On the 30th day after the procedure, the physical component of the quality of life was 48 (44; 53) points in the patients of the main group, 42 (38; 48) — in the control group, $p = 0.005$. There was found significant difference in wound microbial content between groups: 104 vs 107 CFU on the 30th day after the surgery.
CONCLUSION: the low-temperature argon plasma accelerates wound healing, as well as reduces the pain intensity. A significant antimicrobial effect was detected.
KEYWORDS: low-temperature argon plasma, plasma, wound treatment, hemorrhoids

Overall survival in elderly patients with acute complications of colorectal cancer

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AIM: to assess risk factors affecting the five-year overall survival in patients ≥ 70 years old who underwent emergency surgery for complicated colorectal cancer.
PATIENTS AND METHODS: a cohort retrospective study included 268 patients with complicated colorectal cancer for the period from January 10, 2010 to March 03, 2020, operated on in hospitals in Smolensk. Inclusion criteria:

1) patients underwent emergency surgery for decompensated bowel obstruction or tumor perforation with peritonitis; 2) histological type of tumor: adenocarcinoma, signet ring cell carcinoma, undifferentiated cancer; 3) age ≥ 70 years. Non-inclusion criteria: 1) subcompensated bowel obstruction, paratumoral inflammation, intestinal bleeding; 2) non-epithelial malignant tumors; 3) age < 70 years.
RESULTS: the significant differences were revealed in overall survival rates depending on the type of surgery. In complicated colon cancer, overall survival after one-stage surgeries was 15.35%, after tumor removal at the first stage — 21.51%, and after surgeries with tumor removal at the second stage — 46.59% ($p < 0.00001$). For complicated rectal cancer: 1.03%, 1.6%, and 16.49%, respectively ($p = 0.00402$). The main factors that had an unsatisfactory effect on overall survival: surgery type — one-stage and multi-stage with tumor removal at the first stage (risk ratio (RR) 1.34; 95% coincidence interval (CI) 1.17–1.56; $p < 0.0001$); tumor perforation (OR 1.46, 95% CI: 1.36–1.55; $p < 0.0001$); disease stage (OR 1.61, 95% CI: 1.45–1.69; $p < 0.0001$), tumor site (OR 1.24, 95% CI: 1.29–1.72; $p = 0.004$); tumor histological type — poorly differentiated adenocarcinoma (OR 1.5, 95% CI: 1.24–1.62; $p < 0.0001$), the number of lymph nodes examined < 12 (OR 0.69, 95% CI: 0.59–0.63; $p < 0.0001$), presence of positive resection margins (R1 and/or CRM+) (OR 1.29, 95% CI: 1.14–1.47; $p < 0.0001$); severe comorbidity (OR 1.95, 95% CI: 1.62–1.98; $p = 0.003$), no adjuvant treatment (OR 0.57, 95% CI: 0.49–0.63; $p < 0.0001$).
CONCLUSION: staged procedures with a minimal volume in an emergency and the second — main stage, performed in a specialized hospital, are the most appropriate in patients ≥ 70 years old.
KEYWORDS: complicated colorectal cancer, emergency surgery, overall survival

Squamous cell metaplasia of the rectum associated with a longstanding ulcerative colitis (clinical cases report)

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INTRODUCTION: squamous cell metaplasia in the rectum is found in patients with longstanding inflammation or infectious lesions [1]. Colonoscopy plays a major role in the diagnostic of squamous cell metaplasia, especially with the use of Narrow Band Imaging (NBI) or Blue Light Imagining (BLI), which allows for targeted visualization of intraepithelial capillary loops peculiar for the squamous epithelium [1,2]. The final conclusion cannot be reached without morphological diagnostics. We would like to show on two clinical cases of patients with a longstanding ulcerative colitis the occurrence of squamous cell metaplasia in the rectum. These areas of metaplasia may be the source of squamous cell cancer.
CLINICAL CASES: a clinical cases of squamous cell metaplasia in the rectum in two patients with a longstanding ulcerative colitis (9 and 14 years) are presented. The total ulcerative colitis was verified in both patients by colonoscopy. Against the background of endoscopic remission, flat whitish areas of irregular shape, up to 3 cm in size, in the form of “tongues” of metaplastic epithelium with clear boundaries were found in the low rectum. When examined in a Narrow Band Imaging (NBI) and Blue Light Imagining (BLI), the microvascular pattern in the detected areas was identical in structure to the microvascular pattern of the squamous epithelium. The biopsies confirmed the presence of squamous cell epithelium.
CONCLUSION: patients with a longstanding ulcerative colitis may have squamous cell metaplasia of the rectal mucosa, which can be detected by colonoscopy in white light. Using a Narrow Band Imaging (NBI) followed by a targeted biopsy allows the most accurate diagnosis to be established. Patients of this group require repeated colonoscopies using the above methods, since areas of metaplasia can be a source of squamous cell cancer of the rectum.
KEYWORDS: colonoscopy, ulcerative colitis, squamous cell metaplasia, squamous cell carcinoma

Laparoscopic extralevator abdominoperineal resection with perineal reconstruction with gluteal flap (clinical case)

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AIM: to demonstrate the first experience of extralevator abdominoperineal resection (ELAPR) with gluteoplasty.
PATIENTS AND METHODS: patient K., aged 71 years old, with a low rectal cancer cT3aN0M1a CRM– EMVI+ (IV st) after neoadjuvant chemoradiation therapy, underwent surgery. Laparoscopic extralevator abdominoperineal resection with gluteoplasty was performed.
RESULTS: the patient was mobilized on the next day after surgery, the drain tubes were removed on the 5th day. On the 7th day, the seroma of the perineal wound without signs of suppuration was drained. No discomfort or movement disorders were noted. The patient was discharged in satisfactory condition on the 17th day.
CONCLUSION: the presented clinical case allows us to consider gluteoplasty as a promising method for reconstruction of the pelvic floor defect after ELAPR.

KEYWORDS: rectal cancer, extralevator abdominoperineal resection of the rectum, gluteoplasty

Crohn's disease manifested with massive colonic bleeding (review and a clinical case)

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Massive gastrointestinal bleeding (GIB) is a rare complication of Crohn's disease (CD). For the recent decades a number of medical and surgical methods to control the GIB have been introduced. However, the unified algorithm and approach to this subset of patients is still lacking, mostly due to the absence of adequately powered and well conducted RCTs. Determining the optimal treatment approach to inflammatory bowel disease (IBD) in patients who develop a GIB is still a valid research target.
KEYWORDS: lower gastrointestinal bleeding in Crohn's disease, approach to lower gastrointestinal bleeding in Crohn's disease

OBITUARY. Viacheslav R. Isaev

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CLINICAL GUIDELINES
Anal fissure

New morphological risk factors for metastasis to regional lymph nodes in rectal cancer with invasion into the submucosa

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AIM to assess prognostic significance of pathologic features of T1 rectal carcinoma in relation to regional lymph nodes involvement (N+).
MATERIAL AND METHODS: surgical specimens (n = 66) from rectal resection for carcinoma pT1 were investigated. Following prognosticators were evaluated: depth of submucosal invasion, grade of differentiation, lymphovascular invasion (LVI), tumor budding (Bd), poorly differentiated clusters (PDC) of tumor and rupture of cancer glands (CGR).
RESULTS: lymph nodes metastases were found in 13 (19.7%) specimens. LVI was associated lymphatic spread in great possibility OR 38.0 95% CI 2.1-670 ($p < 0.0001$). Tumor budding of high grade (Bd3) OR 6.2 95% CI 1.2-31 ($p < 0.0001$) and poorly differentiated clusters ($p = 0,03$) also increased risk of lymph node metastases. Depth of submucosal invasion, grade of differentiation, and rupture of cancer glands failed to demonstrate signifi-of lymph node tumor involvement.
CONCLUSION: lymphovascular invasion, tumor budding and poorly differentiated clusters of tumor are risk factors of T1 rectal carcinoma lymph node metastases.
KEYWORDS: rectal adenocarcinoma T1, lymph node metastases, morphological predictors of metastasis (lymphovascular invasion, tumor budding, poorly differentiated clusters, rupture of tumor glands)

Computer tomography in diagnostics and treatment of inflammatory complications of diverticular disease of the colon

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AIM: to evaluate the role of computed tomography (CT) in the treatment and diagnostic algorithm in patients with complicated diverticular disease (CDD).
PATIENTS AND METHODS: during the period from 2014 to 2020, 165 hospitalized patients with complications of CDD included in the study. Fifteen (9.1%) patients were hospitalized for elective indications and 150 (90.9%) as emergencies. The indications for hospitalization were inflammatory complications of CDD. Computed tomography with intravenous contrast was performed in 89 (53.9%) patients. The study was performed on a 64-slice CT "Philips Brilliance 64" with intravenous bolus injection of a low-osmolar iodine-containing contrast agent. The absence of the CT in the remaining patients is due to the presence of classical symptoms of acute diverticulitis

with a previously verified diagnosis of CDD, the presence of an informative transabdominal ultrasound, as well as the refusal of patients from CT.
RESULTS: the CT allowed to verify the presence of diverticula in the patients, to reveal the distinctive CT signs and pathognomonic symptoms of inflammatory complications of CDD, as well as to establish the severity of the complications that occurred. The specific signs of the destruction of the diverticulum and the complications developed were abdominal mass, abscess, peritonitis, and fistula. Besides the diagnostic value, CT scan permitted to choose the treatment approach and to clarify indications for surgery. Besides that, some CDD complications revealed by CT were considered as a predictor of ineffectiveness of conservative treatment, which requires surgery.
CONCLUSION: CT is a valuable diagnostic method for CDD which allows to determine timely the clinical form of inflammatory complication, to find out indications for surgery and to predict high risk of recurrence.
KEYWORDS: complicated forms of colonic diverticular disease, CT-diagnostics, predictors of recurrence

Colonic invagination anastomosis in surgery of complicated forms of diverticular disease

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AIM: to evaluate the prospects of using a colorectal invaginated anastomosis in patients with complicated diverticular disease (CDD).
PATIENTS AND METHODS: during the period from 2014 to 2020, colorectal invaginated anastomosis, was used in 42 patients: 18 patients with CDD and 20 patients with colorectal cancer for stoma closure after Hartmann's procedure. The comparison group consisted of 24 patients with CDD and 20 patients with colorectal cancer for stoma closure after Hartmann's procedure: colorectal anastomosis was created here using traditional double-row hand sewn technique. All patients underwent surgery with open access, while the primary anastomosis was performed in 20 (47.6%) patients, and in 22 (52.4%) patients of the group underwent stoma takedown.
RESULTS: no anastomosis leakage developed in the main group. Moreover, the presence of single small diverticula with a diameter of 2–3 mm near the area of the anastomosis was not an indication to extend the resection borders. In the control group, in 13 (54.2%) patients, small diverticula were detected in the anastomosis are as well and required to expand the proximal border of resection. In this group, anastomosis leakage occurred in 2 (6.8%) patients with diverticular disease and required Hartmann's procedure.
CONCLUSION: the colorectal invaginated anastomosis is justified for patients with CDD during stoma takedown because it minimizes the risk of anastomosis leakage.
KEYWORDS: complicated diverticular disease, anastomosis leakage, colorectal invaginated anastomosis

Laparoscopic right colectomy with intracorporeal ileotransverse anastomosis (results of the pilot study)

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AIM: to evaluate the safety of intra- and extracorporeal ileotransverse anastomosis in laparoscopic right hemicolectomy.
PATIENTS AND METHODS: a pilot case-control study included two groups of patients, who underwent laparoscopic right colectomy according to a standardized technique. An intracorporeal anastomosis (IA) was formed in the main group (n = 20), in the control group — extracorporeal anastomosis (EA) (n = 18).
RESULTS: in main group the postoperative complications rate was 20%, in the control group — 28% ($p = 0.71$). The postoperative hospital stay in the main group was significantly less than in control (5.0 vs 7.3 days) ($p < 0.001$).
CONCLUSION: the postoperative complications rate in both groups was not significant, but postoperative hospital stay was shorter in IA group. A randomized controlled trial is required.
KEYWORDS: laparoscopic right hemicolectomy, intracorporeal anastomosis, colon cancer

Are there any advantages of 3D laparoscopic technologies in surgery for rectocele and rectal prolapse?

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AIM: to assess results of 3D laparoscopic ventral mesh rectopexy versus traditional 2D laparoscopy for rectocele and rectal prolapse.
PATIENTS AND METHODS: a prospective randomized study (NCT 04817150) included patients aged 18 to 70 years who underwent laparoscopic ventral mesh rectopexy for rectocele and/or rectal prolapse. The assessment included operation time, intraoperative blood loss, complications rate and their severity by Clavien-Dindo scale, the pain intensity by VAS, the volume of the fluid collection in the implant site 2–3 days and 2–3 weeks after the procedure. The surgeon's comfort and ergonomics when using 3D systems was evaluated using POMS questionnaire. The late results were assessed by recurrence rate, functional results — by Cleveland Clinic Constipation scale score, Incontinence scale score, P-Qol, and PGII.
RESULTS: the study included 29 patients of the main and 32 patients of the control group. The follow-up was 21 ± 20.3 months. One complication developed in the control group (p = 1.0). The operation time in the main group was 74.1 ± 14 minutes (87.1 ± 24.3 minutes in controls, p = 0.01). The intraoperative blood loss was 19.8 ± 9.6 ml in the main group (55 ± 39.2 ml in controls, p = 0.001). The pain intensity was significantly lower in the main group (18.0 vs 22.5 points, p = 0.03). The volume of fluid collection 2–3 after surgery mesh site was 21.2 ± 9.7 cm3 in the main group (30.7 ± 25.6 cm3 in the control group, p = 0.02). The POMS scale assessment for a surgeon in the main group was 56.4 ± 33.5 points (87.3 ± 30.8 points in the control group). A follow-up examination 12 months postop revealed no recurrence in both groups (p = 1.0). The main and the control group showed no significant differences in functional outcomes.
CONCLUSIONS: the use of 3D laparoscopic ventral mesh rectopexy for rectocele and rectal prolapse is comparable in late results with traditional laparoscopic procedure. However, it takes less operation time, lower pain intensity, less intraoperative blood loss, smaller fluid collection at mesh site, better comfort and ergonomics for surgeon.
KEYWORDS: rectocele, rectal prolapse, 3D laparoscopy, ventral mesh rectopexy.

The effectiveness of combined topical product with fluocortolone pivalate and lidocaine for hemorrhoids: results of a multicenter observational study

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AIM: to assess the changes in hemorrhoids symptoms and satisfaction with treatment against the background of treatment with a combined topical product Relief® Pro.
PATIENTS AND METHODS: multicenter prospective non-interventional cohort study was done in 13 clinical centers in Russia. The study included patients aged 18 to 65 years with acute hemorrhoids of stages 1–2 treated with the combined product Relief® Pro (rectal suppositories, cream or a combination thereof). The follow-up period was up to 14 days (in the case of 2 visits to the clinical center after receiving the initial data). The analysis was performed on the basis of data obtained at Visit 2 (5–7 days of therapy) and Visit 3 (10–14 days of therapy) vs the initial data (Visit 1). Following criteria were used: the severity of hemorrhoid symptoms on the Sodergren scale, the severity of hemorrhoid symptoms (pain, bleeding, itching, edema, the presence of discharge, a feeling of discomfort), the size of the largest hemorrhoid node, the satisfaction of the doctor and the patient with treatment, assessment of the patient's adherence to recommendations for lifestyle changes and treatment, evaluation of the use of the drug Relief® were evaluated as endpoints About the treatment process and patient preferences regarding the dosage form of the prescribed drug. In addition, adverse events were evaluated.
RESULTS: the study included 1000 patients aged 18 to 65 years (men — 54.5%, women — 45.5%) Patients had grade 1 acute hemorrhoids (330 patients), grade 2 acute hemorrhoids (345 patients) and exacerbation of chronic hemorrhoids (325 patients). The drug Relief® Pro rectal cream was used by 333 patients; suppositories — 383 patients; joint therapy with both dosage forms — 284 patients. During follow-up (visits 2 and 3), positive dynamics was observed in patients — a decrease in the severity of hemorrhoid symptoms both during objective examination and according to patient questionnaires. So, according to the patients' estimates, the use of Relief® Pro, regardless of the form, led to a decrease in the severity or disappearance of the main symptoms of hemorrhoids — bleeding, itching, edema, the presence of discharge, discomfort already by Visit 2 and in almost all patients by the end of observation. A similar change of the symptoms due the digital examination: by day 5–7, the severity of edema and bleeding in the perianal region, bleeding decreased. About 96% of patients and about

97% of doctors were satisfied with the treatment. Application of both forms of Relief® The ABM was characterized by good tolerability: there were no adverse events associated, according to the researcher, with the studied drug.
CONCLUSIONS: combined topical product Relief® Pro is effective for hemorrhoids.
KEYWORDS: hemorrhoids, observational study, lidocaine, fluocortolone pivalate, Relief Pro

Rectal gastric heteroptopia in a child. Case-report of casuistic pathology
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Heterotopy of gastric mucosa in the rectum in children is a rare malformation to keep in mind when examining a child with a rectal bleeding. About 5 such clinical cases in children were described in the literature over the past 10 years. This condition is congenital, due to impaired tissue differentiation during embriogenesis. This case-report demonstrates the diagnostics and treatment of a child with rectal gastric heteroptopia.
KEYWORDS: heterotopic gastric mucosa, rectum, children

The use of a laser in treatment of hemorrhoids (review)
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The literature review compares laser and traditional surgery for hemorrhoids. The efficiency and possibility of minimally invasive treatment using laser of different wavelengths were analyzed. The review described the innovative technologies of laser treatment of hemorrhoids which make this method promising.
KEYWORDS: hemorrhoids, procedure HeLP, hemorrhoidal LASER procedure

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