

**MEDICAMENTAL THERAPY IN THE TREATMENT OF POSTOPERATIVE WOUNDS PERINEUM AND ANAL CANAL**

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AIM. Postoperative wounds of the anal canal and perineum, even small in volume, heal long enough. Along with the local treatment of such wounds in some cases, it is effective to prescribe medications for oral administration, in particular venotonic drugs. In the State Scientific Center of Coloproctology from November 2016 to March 2017, a study was conducted to evaluate the efficacy of Venarus for the treatment of postoperative wounds perineum and anal canal

METHODS. The study included 113 patients diagnosed with hemorrhoids. In some patients, along with hemorrhoids, there were concomitant diseases – a chronic anal fissure or fistulas of the rectum. The main group consisted of 59 people who were treated with Venarus, and 54 people in the control group. The evaluation methods included clinical examination, profilometry, cytological examination of print smears, quality of life of patients on the QoL SF-36 scale before surgery, on discharge and on the 28th day after surgery. In each group, patients were included, homogeneous in terms of key indicators.

RESULTS. Patients in the main group needed significantly fewer non-narcotic analgesics after surgery. The pain level in the first 4 days of the patients of the main group against the background of the ongoing therapy with the Venarus drug was significantly lower in comparison with patients receiving only traditional local treatment. The level of reliability was directly dependent on the stage of hemorrhoids – the more the stage of hemorrhoids was, the higher the level of reliability. In patients in the control group, hyperthermia was significantly longer than in the main group –  $1.61 \pm 0.11$  and  $1.22 \pm 0.10$ , respectively ( $p < 0.008$ ). In clinical evaluation of postoperative period, minimal edema in the postoperative wound area or infiltrate after sclerotherapy of internal hemorrhoids was preserved in 81.5 % of patients even on day 28, whereas by this time in all 100 % of patients of the main group of edema in wound area was not observed. At the cytologic examination, no significant inflammatory infiltration was registered in the patients of the main group already 15 days after the operation, whereas in 50 % of patients in the group only cytological signs of active inflammation ( $p < 0.0001$ ) remained in the group with only local treatment. On day 28, in 100 % of patients in the main group, no signs of inflammation were present, and in 74.1 % of the control group there were still signs of minimal inflammation ( $p < 0.00001$ ). Application of Venarus ultimately affected the quality of life patients – physical and mental, because a significant reduction in pain, as well as inflammatory wound reaction led to a faster recovery. Especially the differences in the quality of life were manifested on day 28 after the operation ( $p < 0.001$ ).

**[Key words: medical treatment of postoperative wounds perineum and anal canal, venotonizing drug, methods for assessing the course of the wound process]**

**SHORT-TERM RESULTS OF SURGICAL TREATMENT FOR SYNCHRONOUS LIVER METASTASES OF RECTAL CANCER**

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BACKGROUND. Staged surgery in cases of rectal cancer liver metastases is preferred method in routine clinical practice. Another choice is simultaneous operations. Our prospective study compares short-term outcomes of patients with synchronous rectal liver metastases treated by simultaneous or staged surgery.

METHODS. 108 suitable patients were treated in State Scientific Centre of coloproctology named after A.N.Ryzhikh, Moscow, Russia between January 2013 and February 2017. Simultaneous rectal and hepatic resections were performed in 78 patients; 30 patients underwent delayed hepatectomy. Short-term outcomes were analyzed.

RESULTS. Major liver resections were rarely performed in group of simultaneous operations: 22 % vs 56 % ( $p = 0.0001$ ). Anterior resection performed more often in simultaneous group 48/78 (62 %) vs 12 (40 %) ( $p = 0.053$ ), respectively. There was no difference in mortality and complications rates between major liver resections in both groups: 0 vs 3 % and 57 % vs 28 %, respectively. Age  $\leq 61$  y.o. (OR=13; 95 % CI=1,3-120), size of the largest metastasis in the liver  $> 2.1$  cm (OR=6,6; 95 % CI=1,8-23), staged surgery (OR=6,9; 95 % CI=1,5-31) were identified as independent risk factors of complications.

CONCLUSION. Simultaneous operations, requiring economical resections are indicated in cases of synchronous metastases of rectal cancer in the liver. Simultaneous major R0 resections of the liver (till 70 % of livers parenchyma) done in specialized centers do not lead to increased complications, mortality rates and inpatient days.

**[Key words: synchronous colorectal cancer liver metastases, liver resections, rectal cancer, simultaneous resections]**

**ACTUAL QUESTIONS OF PREPARATION TO VIDEOCAPSULE ENDOSCOPY**

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AIM to show on the results of our study the influence of the quality of preparation for videocapsule endoscopy (VCE) on the accuracy of diagnosis of diseases of the small and large intestine.

MATERIALS AND METHOD. During the period from September 2014 to December 2016, a videocapsule study was performed on 100 patients of treatment at the State Scientific Center of Coloproctology. Final data processing was carried out based on the results of a survey of 96 patients (52 men and 44 women aged 18 to 78 years). To adequately prepare patients for the study, we used a specific scheme with the use of a «split-dose» of intestinal cleansers based on polyethylene glycol and stimulation solutions. The quality of preparation of the small and / or large intestine for the study was assessed according to the scale of Leighton J.A., Rex D.K.

RESULTS. The completeness of the study and the full examination (the ability to visualize all the sections of the small and / or large intestine) are important criteria for conducting the VCE. In our study, a complete study of the small and large intestine was performed in 87 (91 %) patients, and a full study was performed in 86 (90 %) of 96 patients. In the study of the small and large intestine using small intestine or large intestinal videocapsules, in 87 (91 %) patients the intestinal preparation was rated «good» or «excellent».

CONCLUSION. The experience of our study showed that in order to obtain reliable and informative results, careful follow-up of the methodology of preparation for the study should be done.

**[Key words: videocapsule endoscopy, preparation, small intestinal capsule, colonic capsule]**

**CONSERVATIVE TREATMENT OF HEMORRHOIDS. AN ALTERNATIVE TO SURGICAL METHODS OR COMPONENTS? CHORUS PROGRAM RESULTS**

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**OBJECTIVE.** Determine the frequency of clinical manifestations of hemorrhoids and constipation in people seeking advice about hemorrhoids. In the course of the treatment of patients with hemorrhoids phlebotropic evaluate the effectiveness of therapy micronized purified flavonoid fraction (MPFF).

**MATERIALS AND METHODS.** This multicenter study, including screening and observation part, which is part of the International Research «CHORUS» (Chronic venous and hemorrhoid diseases evaluation and scientific research), conducted in nine centers in different regions of Russia, 80 doctors of Coloproctology. In the screening group included 2668 patients who had investigated the incidence of constipation, as a risk factor for hemorrhoids. Conservative treatment, the foundation of which was, Moffitt therapy, received 1952 patients with stage I-IV hemorrhoids. Evaluating the effectiveness of the treatment was evaluated on the basis of a questionnaire.

**RESULTS.** The questionnaire shows that constipation suffered – 766 (28,8 %) patients. Violation of defecation patterns and changes in stool consistency was observed in 1155 (43,9 %) and 633 (25.5 %), respectively. At the same time, 288 (11,1 %) indicated a tendency to loose stools and diarrhea. Conservative treatment, the foundation of which is phlebotropic MPFF therapy conducted in patients of observational group has shown its efficiency in all grades of hemorrhoids. During the entire observation period of conservative treatment was effective in 1489 (76,3 %) patients. Surgical treatment was performed in 463 (23 %) patients grade I-IV hemorrhoids, the main part of patients with grade III – 199 (43,1 %) and grade IV hemorrhoids – 68 (64,2 %).

**CONCLUSION.** Conservative treatment of hemorrhoid disease, which is the basis on phlebotropic MPFF therapy, is effective at all stages of hemorrhoids, but in patients with grade III and grade IV disease requires surgical treatment.

**[Key words: hemorrhoidal disease, anal pain, bleeding, constipation, MPFF]**

#### **THE POSSIBILITIES OF CONTRAST-ENHANCED ULTRASOUND (CEUS) IN THE DIAGNOSIS OF COLORECTAL LIVER METASTASES (CRLM)**

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**AIM.** To evaluate the capability of CEUS in the detection of CRLM in comparison with conventional grayscale B-mode.

**MATERIALS AND METHODS.** 18 patients with CRLM underwent CEUS using the contrast agent SonoVue (Bracco, Italy). The patients were divided into two groups: the first group – 10 (55 %) patients before to chemotherapy; the second group – 8 (45 %) patients after chemotherapy and stable disease. The enhancement patterns of liver metastases were evaluated during the vascular phases: arterial, venous, and delayed.

**RESULTS.** The enhancement patterns of liver metastases on CEUS were categorized as diffuse homogeneous enhancement (30 % – in the first group; such enhancement wasn't observed in the second group), rim-like hyper enhancement (70 % of the patients from the first group, 75 % of patients from the second group) and is enhancement, such as intact liver parenchyma (25 % of the patients from the second group). There were detected additional metastases in 4 (22,2 %) of patients 18 (100 %) in the delayed phase. There were significant differences in time of the beginning the vascular phases between patients from the first and second groups. The latest beginning of the wash-in stage was observed in liver metastases in patients from the second group (25,8 sec. from the injection of the contrast). The earliest beginning of the washout stage was observed in liver metastases in patients from the first group (42,4 sec. from the injection of contrast). **CONCLUSION.** CEUS improves visualization of CRLM, in comparison with the grayscale B-mode. It is also possible to apply this technique in the assessment of chemotherapy in patients with CRLM, as there was a difference between the moments of the beginning wash-in and wash-out stages.

**[Key words: colorectal cancer; liver metastases; contrast-enhanced ultrasound; response prediction to chemotherapy]**

#### **EARLY RECTAL CANCER: LOCAL EXCISION OR TOTAL MESORECTAL EXCISION?**

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**AIM** of this study was to improve treatment outcomes for early rectal cancer; to assess the accuracy of endorectal ultrasound (ERUS) in preoperative staging of early rectal cancer.

**MATERIAL AND METHODS.** A total of 42 patients of the main prospective group with early rectal cancer underwent transanal local excision (LE). In control retrospective group 39 patients underwent radical resection with total mesorectal excision (TME). Operation time, perioperative, hospital stay duration, long-term oncological results (overall and local recurrence-free survival, cancer-free survival, distant metastasis rate) were analyzed. Comparison of ERUS preoperative staging for prospective group and pathological staging was performed to identify the accuracy of ERUS.

**RESULTS.** Median follow-up for prospective group was 41 (from 10 to 60) months. In comparison with TME, LE was associated with fewer morbid (4,8 % vs 17,9 %,  $p=0,04$ ). There was no hospital mortality in both groups. The accuracy of ERUS was 88,1 % for Tis and 78,6 % for T1. There was no significant statistical difference in 1-year and 3-year in oncological outcomes between groups ( $p=1,0$ ). There was one local recurrence (2,6 %) in 6 months after LE in a patient with pT1sm3 who had previously refused surgery. This patient underwent TME. There was no detected distant metastasis in both groups. The 3-year overall survival was 100 % for LE and 97,4 % for TME. The 3-year cancer-specific survival was 100 % in both groups.

**CONCLUSIONS.** LE has advantages over TME in short-term results; long-term oncological results after LE are comparable with TME. ERUS has a good diagnostic effectiveness in preoperative staging of early rectal cancer.

**[Key words: early rectal cancer, total mesorectal excision, local excision, transanal endoscopic microsurgery, ERUS]**

#### **RISK OF DEVELOPING ACTIVE TB IN IBD PATIENTS TREATED WITH ATNI/TNF**

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**AIM.** To develop an investigation complex for IBD-patients with the anti-TNF therapy to decrease the risk of active TB. **METHODS.** In Moscow Research and Clinical Center for TB Control 454 patients with IBD were screened prior to initiation of anti-TNF treatment and 167 (36,8 %) of them – during the anti-TNF therapy. Tuberculin skin test (TST) and chest radiography were used for screening and evaluation of pulmonary adverse effects (every 6 months and additionally in cases of any respiratory signs).

**RESULTS.** Of 454 patients investigated during screening X-ray, chest radiography findings were detected in 29 (6,4 %), which required additional investigation, among them in 14 patients, findings considered as residual TB lesions. In the other 15 patients, the radiographic findings caused by previous non-specific pulmonary infections. Positive TST implicates preventive antituberculosis therapy, which was provided 37 patients (before and under anti-TNF therapy). During provided to 167 patients the anti-TNF therapy, were developed pulmonary adverse effects: 10 incidences of active TB lung infection, 3 case of sarcoidosis, 1 case of fibrosing alveolitis, and two case of non-**CONCLUSION.** The patients with IBD, treated by anti-TNF therapy, have a risk of development of a wide variety of infectious and non-infectious pulmonary complications, including TB. It is therefore highly important to carefully monitor the patients prior and during the anti-TNF therapy (every 6 months) for a timely detection of pulmonary conditions potentially associated with the treatment.

**[Key words: IBD-patients, anti-TNF therapy, pulmonary complications, tuberculosis, TB]**

#### **LOCALLY ADVANCED SIGMOID CANCER WITH CARCINOMATOSIS AND MULTIPAY RECURRENCES. 15 YEARS OF OBSERVATION**

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Peritoneal carcinomatosis is a major reason for treatment failure. However, combination of «aggressive» surgical approach with chemotherapy allows achieving good results. In this clinical case, a locally advanced tumor was presented with large carcinomatous node in anomentum. Cytoreductive surgery with a complete cytoreduction in combination with intra-abdominal chemotherapy prevented generalization of carcinomatosis. Subsequently, the patient underwent three surgeries for repeated local recurrence of colon cancer. A 15-year period of observation of the patient suggests that this approach is promising, which significantly increases the length of patients lifeexpectancy.

**[Key words: local recurrence, loco-regional recurrence, colon cancer, local relapse, re-recurrence, repeated local recurrence, second local recurrence]**

#### **HYPERPLASIA OF INTERNAL ANAL SPHINCTER. CASE REPORT.**

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It is possible to find some reports on isolated thickening of the internal anal sphincter and the causes of its development in the literature. However, no clear diagnostic program and surgical correction description has been detected for this condition. This clinical observation demonstrates a rare case of the hyperplasia of the internal sphincter syndrome with the obliteration of the anal canal, and also successful rehabilitation of the patient during the multi-stage surgical treatment.

**[Key words: internal anal sphincter, hyperplasia]**

#### **MALIGNANT TUMORS OF THE ENDOMETRIUM, BRAIN, THYROID IN THE FAMILY WITH ADENOMATOUS POLYPOSI**

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**[Key words: familial adenomatous polyposis, Türko syndrome, thyroid cancer, uterine cancer, APC gene]**

#### **ANAL LESION CAUSED BY B CELL DIFFUSE LYMPHOMA**

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**[Key words: B-cell, anal canal, lesion]**

#### **ULTRASONIC EXAMINATION IN THE COMPLEX DIAGNOSIS OF RECTAL TUMORS (review)**

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**[Key words: neoplasm, cancer of the rectum, transrectal ultrasound, Transabdominal ultrasound, endorectal ultrasound, endoscopic ultrasonography]**

#### **LOCAL RECURRENCE OF COLON CANCER (review)**

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**[Key words: local recurrence, loco-regional recurrence, colon cancer, local relapse, re-recurrence, repeated local recurrence, second local recurrence]**

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#### **SURGERY OF SLOW-TRANSIT CONSTIPATION AT THE FORK**

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The article is focused on surgical treatment of slow-transit constipation from point of accordance of treatment goal and surgery goal and consequences of surgery.

**[Key words: Slow-transit constipation, surgical treatment, colectomy ]**

#### **LAPAROSCOPIC SURGERY FOR INFLAMMATORY BOWEL DISEASE**

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**[Key words: inflammatory bowel diseases, Crohn's disease, ulcerative colitis, laparoscopic surgery]**

#### **DIAGNOSTIC VALUE OF EXOSOMAL MIRNAS FOR COLORECTAL CANCER**

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OBJECTIVE. Assessment of diagnostic significance of exosomal microRNAs analysis in colorectal cancer (CRC).

MATERIALS AND METHODS. Plasma samples from 100 patients with colon tumors and 20 healthy donors. Exosomes were isolated by differential ultracentrifugation, the analysis was performed by dynamic light scattering (DLS), cryo-EM, flow cytometry. Quantitative analysis of exosomal microRNAs was performed by RT-PCR. To evaluate the results obtained, the Kruskal-Wallis statistical test and ROC analysis were used.

RESULTS. It is shown that CRC causes characteristic changes in the concentration of a number of exosomal microRNAs. Analysis of «reciprocal miRNAs pairs» was proposed as algorithm for personalized diagnostic of CRC. The optimal parameters of diagnostic values were obtained for miRNA pair «miR-223 / miR-181a» (sensitivity =0.93, specificity =0.88).

CONCLUSION. The analysis of exosomal microRNAs presents a promising method for early diagnostics / screening of colorectal cancer.

**[Key words: colorectal cancer, exosomes, microRNA, diagnostics, screening]**

#### RESULTS OF THE IMPLEMENTATION OF THE ENHANCED RECOVERY PROGRAM IN COLOPROCTOLOGY

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AIM. Evaluation of the results of the implementation of ERP in practice.

MATERIALS AND METHODS. Two consecutive series of patients were analyzed. The first cohort was recruited in 2013-2015 (n=124), the second – in 2015-2017 (n=152). Patients were randomized into groups with traditional management and ERP. The postoperative complications, length of stay (LOS) and program adherence were estimated.

RESULTS. There was no difference in complication rate in first and second series, and between groups. The postoperative length of stay in the first cohort of patients with ERP was  $4.7 \pm 0.1$ , in the second –  $5.8 \pm 0.2$  days ( $p=0.0003$ ). Age and comorbidity rate did not affect the outcomes of treatment. The factor associated with doctor was significant in terms of discharge. The postoperative LOS in patients with traditional management decreased from  $9 \pm 0.6$  to  $7.8 \pm 0.3$  ( $p=0.046$ ) with implementation of ERP.

CONCLUSION. ERP reduces the postoperative length of stay and does not affect the postoperative complications. This Protocol is doctordependent. The implementation of ERP improves the results of treatment for all patients in the clinic.

**[Keywords: enhanced Recovery After Surgery, ERAS, colorectal surgery, survey]**

#### OUTCOMES OF LOOP ILEOSTOMY CLOSURE METHODS

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BACKGROUND: Preventive ileostomy closure has potential risk of severe complications with 30% rate of postoperative morbidity and 4% rate of mortality. There is no relevant data (evidence) which method of ileostomy closure is a method of choice.

AIM. To identify effective and safe method of ileostomy closure.

PATIENTS AND METHODS. A prospective randomized controlled single centre trial was carried out in State Scientific Centre of Coloproctology (Moscow, Russia) during the period 2015-2017. Patients with defunctioning ileostomy were randomized to closure by hand-sewn end-to-end anastomosis group, by hand-sewn side-to-side anastomosis group and by stapled side-to-side anastomosis group.

RESULTS. The trial recruited 327 patients. Mortality rate was 0.3%, one post-op death occurred in hand-sewn side-to-side anastomosis group ( $p=1.0$ ). Morbidity rate was 14.4% in hand-sewn end-to-end anastomosis group, 18.4% in hand-sewn side-to-side anastomosis group and 11.7% stapled side-to-side anastomosis group ( $p=0.5$ ). Hand-sewn side-to-side anastomosis was associated with longest time of anastomosis creation (49.3 min;  $p<0.05$ ), longest total operative time (105.7 min;  $p<0.05$ ) and longest post-op stay (9.3 days;  $p<0.05$ ). Stapled anastomosis was faster than hand-sewn (20 min vs 33.1 min and 49.3 min;  $p<0.001$ ).

CONCLUSION. Superiority in ileostomy closure methods was not obtained. Stapled side-to-side method makes procedure significantly faster and significantly reduces postoperative ileus rate.

**[Key words: loop ileostomy closure, reversal ileostomy closure, ileostomy closure, hand sewn anastomosis, stapler anastomosis]**

#### ADMINISTRATION OF PHELEBOTROPIC DRUGS DURING COMPLEX TREATMENT OF ACUTE HEMORRHOIDS

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OBJECTIVES OF RESEARCH. To assess the clinical effectiveness of phlebotropic drug Detralex (Micronized purified flavonoid fraction (MPFF)) during complex treatment of patients with acute hemorrhoids.

MATERIALS AND METHODS. A comparative analysis of treatment outcomes of 293 patients with acute hemorrhoids was conducted. All patients were divided into two groups for further clinical observations. Standard drug therapy was performed for 145 patients (group I). For 148 patients (group II), in addition to the standard treatment, phlebotropic drug Detralex was additionally initiated. Research program included detection of content of acute inflammatory phase reactants and pro-inflammatory cytokines in blood plasma, evaluation of pain syndrome severity (VRS) and quality of life parameters (SF-36 questionnaire).

RESULTS. Initiation of MPFF with complex treatment of patients with acute hemorrhoids was found to be contributed to faster elimination of edema and inflammation, a decrease in severity of hemorrhoids thrombosis, relief of pain syndrome and improvement in patients' quality of life, along with well-marked regression of laboratory markers of inflammatory reaction. This allows to increase the number of good outcomes of acute hemorrhoids treatment from 66,2% to 89,9%, that is by 23,7% and to reduce the number of unsatisfactory outcomes from 4,2% to 1,3%, that is by 2,9%.

CONCLUSION. Inclusion of Detralex into program of acute hemorrhoids treatment contributes to a faster elimination of clinical and laboratory manifestations of the disease and allows improving the results of treatment for this category of patients.

**[Key words: acute hemorrhoids, phlebotropic therapy, Detralex]**

#### ACTUAL CLINICAL APPROACH FOR COMPLICATED DIVERTICULAR DISEASE IN GENERAL SURGERY DEPARTMENT

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AIM. To revise clinical approaches for patients with complicated diverticular disease used in daily clinical practice in tertiary referral regional center and its compliance with Federal Guidelines.

PATIENTS AND METHODS. Twenty-three patients with inflammatory complications of diverticular disease were treated in a General Surgery Department of Regional Hospital of Tyumen City in 2015-2016. Preoperative ultrasound was performed for 19 (82.6%) patients, CT – only for 4 (17.4%), laparoscopy – for 13 (56.5%). Seven of them had uncomplicated acute diverticulitis and were treated conservatively. Sixteen (69.6%) patients underwent Hartmann procedure. Five of them had phlegmonous diverticulitis, 10 – sealed perforation and only 1 – free perforation with fecal peritonitis.

RESULTS. According to recent studies in diverticular disease, conservative approach had positive prognosis in 15 of 16 operated patients. All procedures included extended resections with an aim to remove not only inflamed segment of bowel but segments with multiple diverticula as well. Distal part of sigmoid colon was included in specimen in all cases.

CONCLUSION. None of recommendations of Federal Guidelines was used in daily clinical practice for patients with diverticular disease and indications for surgery were unreasonably extended in majority of cases. A juridical status of Federal Clinical Recommendations should be increased.

**[Key words: diverticular disease, inflammatory complications, treatment tactics]**

#### COMPARATIVE RESULTS OF PREOPERATIVE OIL CHEMOEMBOLIZATION OF RECTAL ARTERIES IN COMBINED TREATMENT OF RESECTABLE RECTAL CANCER

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5-year results of combined treatment of 160 patients with respectable rectal cancer (TNM: IIA-B – IIIA-B) are analyzed. In 40 patients (study group) neoadjuvant (72 h before surgery), endovascular oil Chemoembolization of the Rectal Arteries (RACHEL procedure) with a Lipiodol and 5-Fluorouraci was used. The results were compared with surgical treatment (control group 1, n=40) and preoperative radiotherapy methods (control group 2: 5 × 5 Gr, up to a Total Focal Dose of 25 Grandcontrolgroup3: High Dose radiotherapy with a Single Focal Dose of 13 Gr with program Endovascular Radio modification Metronidazole, for 40 patients). The preoperative RACHEL procedure in treatment of patients with resectable rectal cancer was effective with low local recurrence (2,6%) rate, at 5-year overall (89,7%) and disease – free survival (84,6%) and can compete with known preoperative radiotherapy in combined treatment of rectal cancer.

**[Keywords: rectal cancer, combined treatment, oily chemoembolization of rectal arteries, RACHEL procedure]**

#### COMPLICATED DIVERTICULITIS: MANAGEMENT, DIAGNOSIS, TREATMENT

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AIM. To analyze the results of treatment of patients with diverticular disease in Coloproctology Department.

MATERIALS AND METHODS. During the period from 2001 to 2017, 223 patients with diverticular colon disease were treated in the hospital.

RESULTS. 191 (85,7%) were treated conservatively, 32(14,3%) patients were operated on. One-stage procedure was performed in 21(67,7%) patients, in 10 (32,3%) bowel resection has been completed by stoma. Postoperative complications developed in 25% of cases. Postoperative mortality was 3,1%.

Operations reconstructive the length of the intestinal tube were performed in 24 previously operated patients. Colostomy reversal was combined with secondary resection in 9 (37,5%) patients CONCLUSION. Diverticular disease of the colon is a widespread condition with a wide spectrum of severe complications requiring surgical correction. In work with this pathology it is necessary to strictly observe uniform standards of diagnostics and treatment.

**[Key words: diverticular disease of colon, diagnosis, surgical treatment]**

#### THE EFFICIENCY OF POSTOPERATIVE PREVENTIVE TREATMENT BY ADALIMUMAB AND AZATHIOPRINE IN CROHN'S DISEASE

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INTRODUCTION. About 75% of patients with Crohn's disease (CD) required surgery due to the complications of CD. Surgical treatment does not cure this disease. The question of appropriate therapy for the prevention of postoperative recurrence of CD remains open until now. The purpose of this study was to compare immunosuppressive and biological therapy as a postoperative preventive therapy.

MATERIALS AND METHODS. 91 patients with CD who underwent surgery in the A.N. Ryzhykh State Scientific Center for Coloproctology of the Ministry of Health of Russian Federation from 2010 to 2017 were included in the study. Patients who had inflammation in the remaining areas of the intestine in the outcome of surgical treatment were excluded from the study. After surgery, patients were randomized into 3 groups. In the first group preventive therapy was carried out with azathioprine, in the second group with adalimumab, in the third group, patients received combination therapy with azathioprine and adalimumab. Clinical, endoscopic and laboratory assessment of disease activity was conducted at 3, 6 and 12 month after the surgery.

RESULTS. During one year of preventive therapy with azathioprine, adalimumab, or a combination of these medications, relapse occurred in 17 patients (17/83, 20%). There were no statistically significant differences between the groups in any of the stages of evaluation.

CONCLUSION: The data obtained in the study allow to conclude that the frequency of relapses of CD on postoperative preventive therapy does not depend on the specific drug, as well as on demographic and anamnestic parameters.

**[Key words: Crohn's disease, relapse, treatment, adalimumab, azathioprine]**

#### EFFECT OF ANTIMICROBIAL AGENTS ON THE BIOFILM GROWTH OF CLINICAL ISOLATES

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OBJECTIVE. To study the effect of active extracellular substances of lactobacilli and antimicrobial agents on the inhibition and destruction of the biofilms formed clinically relevant microorganism strains.

MATERIALS AND METHODS. The study of the impact of different agents on the biofilm formation and growth was carried out on resistant clinical strains of microorganisms obtained from patients with post-surgical infectious inflammatory complications. We used wound dressing solution, cutaneous antiseptic, filtrates of 19 clinical strains of lactobacilli and a strain of Lactobacillus plantarum from the probiotic «Lactobacterin dry» (Microgen, Nizhny Novgorod, series 46 / 06-1209) as a reference strain-producer of bacteriocins for biofilm inhibition. Biofilms were incubated for 48 hours on glass carriers at 37 °C and visualized with a light microscope at 960× magnifying.

RESULTS. All substances possess a good inhibitory potential and have approximately same level of effect. The skin antiseptic and wound washing fluid have only an inhibiting effect on the biofilm formation process, while the having a bactericidal effect on planktonic form of the cells. The lactobacilli filtrate inhibited the biofilm formation and was also able to destroy preformed 24-hour bacterial films.

CONCLUSION. The use of lactobacilli bacteriocins can reveal additional opportunities for combating the infection associated with biofilm-forming microorganisms.

**[Keywords: biofilms, antimicrobial preparations, bacteriocins, Lactobacillus]**

#### **DIAGNOSTIC TACTICS IN THE MANAGEMENT OF PATIENTS WITH DIVERTICULAR DISEASE COMPLICATED BY A PERFORATED DIVERTICULITIS IN 15 YEARS**

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Early diagnostics, treatment and types of surgery of perforated diverticulitis were studied. Archive data of patients with this complication treated in proctology department of City Clinical Hospital №21 (Ufa city, Russia) between 2000 and 2016 were analyzed.

**[Key words: diverticular disease of the colon, inflammatory complications of diverticular disease of the colon, perforated diverticulitis]**

#### **ACUTE DIVERTICULITIS IN A PATIENT WITH SITUS VISCERUS INVERSUS TOTALIS (clinical observation)**

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**[Key words: complete reverse arrangement of internal organs, diverticular disease of the colon, acute diverticulitis, acute appendicitis]**

#### **ACUTE PERFORATING ULCER OF THE STOMACH IN THE PATIENT WITH ANAEROBIC PARAPROCTITIS**

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**[Key words: anaerobic paraproctitis, gastric ulcer, gastric perforating, drug gastropathy, stress ulcers, nonsteroidal anti-inflammatory drugs]**

#### **DIAGNOSTIC POSSIBILITIES OF FECAL CALPROTECTIN APPLICATION IN PATIENTS WITH INFLAMMATORY BOWEL DISEASES DURING PREGNANCY (literature review and clinical observations)**

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**[Key words: fecal calprotectin, inflammatory bowel disease, pregnancy]**

#### **LOOP ILEOSTOMY CLOSURE (review)**

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**[Key words: loop ileostomy, preventive ileostomy, ileostomy closure, reversal ileostomy]**

#### **THE ROLE OF THE EPITHELIAL-MESENCHYMAL TRANSITION IN THE DEVELOPMENT OF COLORECTAL CANCER (review)**

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**[Key words: epithelial-mesenchymal transition, colorectal cancer, metastasis]**

## **№3(65)2018**

#### **CLINICAL RECOMMENDATIONS OF THE NATIONAL ASSOCIATION OF SPECIALISTS FOR THE HEALTHCARE-RELATED INFECTIONS CONTROL AND THE RUSSIAN ASSOCIATION OF COLOPROCTOLOGY ON DIAGNOSIS, TREATMENT AND PROPHYLAXIS OF CLOSTRIDIUM DIFFICILE-ASSOCIATED DIARRHEA (CDI)**

Shelygin Yu.A.1, Aleshkin V.A.2, Sukhina M.A.1, Mironov A.Yu.2, Briko N.I.3, Kozlov R.S.5,6, Zverev V.V.7, Achkasov S.I.1, Kovalishena O.V.4, Selkova E.P.2, Safin A.L.1, Grenkova T.A.2, Khalif I.L.1, Frolov S.A.1, Kashnikov V.N.1, Sushkov O.I.1

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**[Key words: Clostridium difficile, C.difficile associated infection, glutamatedehydrogenase; toxin A; toxin B; binary toxin; antibiotic-associated diarrhea; sensitivity; specificity, three-step diagnostic algorithm]**

#### **CLOSTRIDIUM DIFFICILE COLITIS: THE ROLE OF SURGERY AND FECAL MICROBIOTA TRANSPLANT**

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**BACKGROUND.** The most challenging task in treating the *Clostridium difficile* colitis (CDC) is to deal with its fulminant form. It is often non-responding to antibiotics and, upon recurrence, necessitates surgical treatment. The primary aim of our prospective research was to evaluate surgical treatment results in patients with severe CDC in the period of 2008-2014, determining risk factors leading to serious postoperative morbidity and mortality. Our secondary objective was to assess the success of faecal microbiota transplant (FMT) treatment of the recurrent colitis caused by *Clostridium difficile* in the period of 2010-2014.

**METHODS.** During 2008-2014, Clostridial toxins were detected in 1956 patients at the University Hospital Brno. From them, 37 patients underwent surgery for a severe form of colitis. The Fisher exact test and Mann-Whitney test were used to evaluate factors affecting increased mortality and incidence of serious postoperative complications. Factors affecting overall survival were assessed using the Log-rank test. From 2010 to 2014, there were 80 patients with CDC recurrence enrolled and treated with FMT at the Department of Infectious

TRANSPLANT Diseases, University Hospital Brno.

**RESULTS.** Factors that were proven statistically significant to increase the mortality and incidence of serious postoperative complications included: Mental status changes before the surgery ( $p=0,008$ ), the albumin level on the day of surgery  $\leq 20$  g/l ( $p=0,005$ ) and the total serum proteins level on the day of surgery  $\leq 45$  g/l ( $p=0,037$ ). Statistically significant factors negatively affecting overall survival were found to be these: circulatory instability before surgery ( $p$ -value= $0,035$ ), mental status changes or artificial lung ventilation with pharmacological attenuation of consciousness before surgery ( $p=0,025$ ), CRP value on the day of surgery  $>75$  mg/l ( $p=0,034$ ), the albumin level on the day of surgery  $\leq 18,5$  g/l ( $p=0,007$ ), blood urea on the day of surgery  $>10$  mmol/l ( $p=0,019$ ) and the serum creatinine on the day of surgery  $>120$   $\mu$ mol/l ( $p$ -value= $0,004$ ). Thirty-day mortality reached nearly 35%, morbidity climbed up to 89%, and the 90-day mortality was 54%. A total of 80 patients were treated for recurrent CDC with FMT and the success rate of the method was 83,1%. **CONCLUSION.** Early and accurate surgical intervention in the fulminant form of CDC improves significantly prognosis of patients. FMT is an effective and safe method for treatment of the recurrent form of *Clostridium* colitis.

**[Key words: *Clostridium difficile* colitis, toxic colitis, surgery, colectomy, fecal microbiota transplant]**

#### **SURGICAL TREATMENT OF PATIENTS WITH PELVIC PROLAPSE**

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**AIM.** To assess efficacy of surgical procedures with use of meshes for pelvic prolapse.

**PATIENTS AND METHODS.** Retrospective study included 235 females aged  $59.3 \pm 7.5$  years which underwent surgery for pelvic prolapse in 2013-2017. Surgical reconstruction of pelvic floor was performed using several types of meshes: Pelvix («Lintex»), Urosling («Lintex»), Prolift («Gynecare»). Results were assessed clinically (POP-Q stage), by questionnaire, uroflowmetry, evaluation of QoL (PFDI-20 scale). Patients underwent control examinations 2 weeks after surgery, 3,6,12,24,36 months.

**RESULTS.** Post-op complications were obtained in 4 (1.7%) patients and included bladder injury in 2 (0.85%) females and paravesical hematoma in 2 (0.85%). Control examinations after 2 weeks and 1 month were done in 235 (100.0%) patients, after 12 months – in 140 (59.6%), after 24 months – in 98 (41.7%), after 36 – in 58 (24.6%). Recurrence was detected in 11 (4.7%) patients. Eight (3.4%) produced stress urinary incontinence 1 year after surgery. QoL improved significantly from 159.2 to 28.7 points ( $p<0.05$ ). **CONCLUSION.** Mesh surgery for pelvic prolapse is safe, provides low recurrence and improves QoL significantly.

**[Key words: pelvic prolapse, mesh implant, rectocele, cystocele]**

#### **EVOLUTION OF PATHOMORPHOLOGICAL CHANGES IN THE FISTULOUS TRACT IN PATIENTS WITH RECTAL FISTULAS**

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**AIM.** To assess pathomorphological changes in perianal fistulas to estimate rationale for FiLaC procedure.

**PATIENTS AND METHODS.** Cohort study included 76 patients, 42(55.3%) females, aged 23-72 (median 42.7) years. Traditional fistulectomy was performed in 37 (48.7%) of them, 39 (51.3%) underwent FiLaC procedure (laser coagulation of fistula track with excision of extrasphincteric part of fistula and preservation of intersphincteric part). Histological study was performed in all cases with hematoxylin-eosin staining. **RESULTS.** Fistula morphological structure varied depending of duration of the disease. No fibrous capsule was detected in fistulas track up to 6 weeks, young connective tissue was found within 8-12 weeks and prominent fibrous capsule – after 12 weeks. A depth of laser coagulation thermal impact was  $1.5 \pm 0.5$  mm in cases with duration of disease  $>12$  weeks, in cases  $<6$  weeks –  $5.0 \pm 1.0$  mm ( $p<0.0001$ ).

**CONCLUSION.** Depth of thermal impact of laser coagulation depends of duration of the disease and it is not safe in patients with fistula natural history less than 6 weeks.

**[Key words: FiLaC, rectal fistula, laser treatment]**

#### **ADDISON-BIERMER DISEASE IN THE STRUCTURE OF DIFFERENTIAL DIAGNOSIS CROHN DISEASE (clinical observation)**

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The paper describes a clinical case in which the diagnosis of colon Crohn's disease has been changed to Addison – Biermer's Disease. Detailed differential diagnosis of these diseases is presented.

**[Key words: Crohn disease, Addison-Biermer disease, Pernicious Anemia]**

#### **SAINT'S TRIAD IN AN EMERGENCY ABDOMINAL SURGERY (case report)**

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**[Key words: Saint's Triad, diverticular disease of the colon, cholelithiasis, hiatus hernia]**

#### CHRONIC RADIATION PROCTITIS. MODERN OPPORTUNITIES OF DIAGNOSIS AND TREATMENT (review)

Grechin A.N., Pikunov D.Yu., Mainovskaya O.A., Chernikh M.V., Rybakov E.G.  
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[Key words: *chronic radiation proctitis, radiation proctitis, radiation therapy*]

#### MINIMAL-INVASIVE APPROACH FOR HEMORRHOIDS TREATING IN PATIENTS WITH INFLAMMATORY BOWEL DISEASE (review)

Kovalenko D.E.1, Atroschenko A.O.1, Vardanyan A.V.2, Khatkov I.E.1, Chudnykh S.M.1, Pozdnyakov S.V.1, Danilov M.A.1, Saakyan G.G.1, Dolgopyatov I.A.1, Abdulatipova Z.M.1  
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[Key words: *hemorrhoids, inflammatory bowel disease, HAL-RAR, Chron's disease*]

#### METHODS OF CONSERVATIVE TREATMENT OF LOWANTERIOR RESECTION SYNDROME (review)

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[Keywords: *low anterior resection syndrome, Incontinence, LARS, rectal cancer surgery*]

#### D2 VS D3 LYMPH NODE DISSECTION FOR RIGHT COLON CANCER (review)

Tuktagulov N.V, Sushkov O.I, Muratov I.I., Shahmatov D.G., Nazarov I.V.  
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[Key words: *colon cancer, right colon cancer, lymph node dissection, D2 vs D3 lymph node dissection*]

#### EFFICACY AND SAFETY OF TOFACITINIB IN ULCERATIVE COLITIS (review)

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[Key words: *ulcerative colitis, conservative treatment, tofacitinib*]

#### ORAL ANTIBIOTIC PROPHYLAXIS IN COLORECTAL SURGERY (systematic review and network meta-analysis)

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[Key words: *oral antibiotic prophylaxis, surgical site infections, colorectal surgery*]

## №4(66)2018

#### IMPLEMENTATION OF MULTISTAGE APPROACH FOR COLORECTAL CANCER WITH BOWEL OBSTRUCTION IN SURGEON UNITS OF MOSCOW

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AIM: to work out and to implement multistage colorectal cancer treatment as a standard of surgical care in Moscow

PATIENTS AND METHODS: Five-hundred seventy-two patients were included in the study reviewed: 247 of them were hospitalized in 2011-2013 (I group); 325 – in 2014-2017 (II group). Forty-six patients underwent conservative treatment; 302 – urgent bowel resection; 141 – proximal stoma formation; 83 – endoscopic stent insertion. One-hundred ten patients of the II group underwent elective bowel resection after 0,5-6 months and further chemoradiotherapy. The 3-year cumulative survival was assessed with Kaplan-Meier method. MultiStage treatment was implemented as a standard of surgical care in Moscow for colorectal cancer complicated by obstruction. Postoperative mortality and morbidity rate were estimated in 2014-2018 in Moscow.

RESULTS. Complications occurred in 46,69 % (I group) and 21 % (II group) ( $p < 0.05$ ). Postoperative mortality was significantly higher in I group compared with II group: 26,11 % vs 10,33 % ( $p < 0.05$ ). The survival rate was higher in II group than in I group (0,82 vs 0,69,  $p < 0.05$ ). The result was a decrease in postoperative mortality in Moscow from 22.4 % to 10.0 %.CONCLUSION: the efficacy of the new standard of medical care of colorectal cancer complicated by bowel obstruction is confirmed. A «bridge» strategy may be a valid alternative in these patients, because of significantly lower postoperative mortality and morbidity rate.

[Key words: *colorectal stent; malignant colonic obstruction*]

#### REINFORCEMENT OF STAPLE LINE OF COLORECTAL ANASTOMOSIS AS A METHOD OF PREVENTION OF LEAKAGE

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AIM: to decrease anastomotic leakage rate using transanal and transabdominal reinforcing sutures of staple line of colorectal anastomosis.

PATIENTS AND METHODS: a prospective randomized trial is started. The main group included patients which underwent anterior or low anterior resection of the rectum with reinforcing of the staple line of colorectal anastomosis using reinforcing sutures on 2, 4, 6, 8, 10 and 12 by conventional dial. The control group consisted of patients without reinforcing of the anastomosis line.

RESULTS: from November 2017 to October 2018, 127 patients underwent anterior or low anterior resection of the rectum, 80 of them were included in the study, six were excluded from the study after surgery. Among these 74 patients 40 (54.0 %) were females, mean age was  $63.0 \pm 11.0$  years. Forty patients consisted the main group, 34 – control. The anastomotic leakage rate in the main group was 7 % (3/40), in the control – was 26 % (9/34) ( $p = 0.06$ ). The clinical anastomotic leakage rate in the main group was 3 % (1/40), in the control group – 21 % (7/34) ( $p = 0.03$ ). The anastomotic leakage rate in the main group, after



anterior resection of the rectum was 13 % (2/15), in the control – 0 % (0/8) (p=0.8). After low anterior resection the anastomotic leakage rate in the main group was 4 % (1/25), in the control – 35 % (9/26) (p=0.016). Multivariate analysis of risk factors of anastomotic leakage significance associated with male gender (OR 6.88, CI 1.32-of 35.9, p=0,022), positive bubble test (OR 6.26, CI of 1.22-32,2, p=0.028), absence of reinforcing of the anastomosis (OR 4.39, CI 0,96-20,12, p=0,056).

CONCLUSION: the reinforcing of colorectal anastomoses decreases anastomotic leakage rate after low anterior resection.

**[Key words: reinforcement anastomosis, colorectal anastomosis, leakage]**

#### THE USE OF ENTERAL NUTRITION IN BOWEL CLEANSING BEFORE COLONOSCOPY

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AIM: to evaluate the effectiveness of bowel cleansing before colonoscopy using enteral nutrition agent «Nutridrink» as the single nutrient.

MATERIALS AND METHODS: a prospective comparative study included 150 patients (83 females, aged 20-65 years), who underwent diagnostic colonoscopy. To assess the quality of bowel cleansing the Likert scale was used. Subjective assessment of patients' comfort was performed by patients on a 10-point visual scale (from 0 – «excellent» to 10 – «extremely negative»). RESULTS: the quality of colon cleansing before colonoscopy was significantly better in patients who got enteral nutrition, especially in comparison with patients with standard protein diet. Subjective assessment of comfort during cleansing was better in the group of patients who used Nutridrink as the only source of nutrition as well.

CONCLUSION: use of enteral nutrition as a part of bowel cleansing before colonoscopy can replace the protein diet.

**[Keywords: colonoscopy, preparation, enteral nutrition, Nutridrink]**

#### CLINICAL AND MANOMETRIC ASSESMENT OF FUNCTIONAL STATE OF ANAL SPHINCTER IN PATIENTS AFTER FISTULECTOMY WITH PRIMARY SPHINCTEROPLASTY

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AIM: to evaluate changes of anorectal manometry parameters and clinical symptoms of fecal incontinence 3 months after fistulectomy with primary sphincteroplasty.

MATERIALS AND METHODS: fifty-two patients (37 males) with complex anal fistulae of cryptoglandular origin underwent fistulectomy and primary sphincteroplasty. The fistulas were recurrent in 13 (25 %) cases, 8 (15,4 %) patients had preoperative fecal incontinence. Fecal incontinence Wexner score was 0,46 (0-8) before surgery. Anorectal manometry was performed before and 3 months after surgery.

RESULTS: three months days after surgery mean and maximum resting anal pressure were not significantly low compared with the baseline. In patients with initially normal data before the surgery (n=22), resting anal pressure was significantly lower (before surgery M=56,1 ± 7,6 [46,1-69,0], after surgery 45,5 ± 8,8 [38,0-63,0], p=0,006, Wilcoxon test). There were no significant changes in squeezing anal pressure. Resting anal pressure has become below the normal after surgery in 13 (59.1 %) patients. Clinical symptoms of fecal incontinence was detected in 10 patients postoperatively (gas incontinence and soiling). Fecal incontinence Wexner score was 1,64 (0-11) after surgery (p=0,007).

CONCLUSION: fistulectomy with primary sphincteroplasty leads to change of resting anal pressure basically in patients with initially normal pressure and mainly – in patients with anterior fistulas. Fecal incontinence symptoms after with surgery produced 26,3 % patients. These data confirm the need of individual approach when choosing the method of surgical treatment of anal fistulae.

**[Key words: fistula in ano, primary sphincteroplasty, fecal incontinence, anorectal manometry]**

#### MINIMAL INVASIVE TREATMENT OF HIGH LEVEL RECTOVAGINAL FISTULAS (THE FIRST EXPERIENCE OF «INVAGINATION» METHOD)

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AIM: to evaluate the efficacy of new «invaginative» method for rectovaginal fistulas.

MATERIALS AND METHODS: thirty-seven females aged 37.3 (20-73) years with high rectovaginal fistulas (RVF) were included in the study. All patients underwent fistula surgery using novel «invaginative» method, which includes invagination of the fistula tract into the rectum, RVF origin included inflammatory bowel diseases in 7 (18.9 %) patients, delivery injury – in 21 (56.7 %), pelvic surgery – in 5 (13.5 %), other causes – in 4 (10.8 %). Twenty (54.1 %) patients had two previous unsuccessful repairs on average. Diverting stoma formation as a first stage for RVF repair was performed in 4 (10.8 %) patients. Mean follow-up was 14,7 ± 6,6 months. RESULTS: «invaginative» method has been performed in all patients. Eight (21.6 %) of them produced recurrence after 2-6 weeks after surgery. No postoperative complications occurred.

CONCLUSION: «invaginative» method is a safe and effective in treatment of high rectovaginal fistulas. It can be performed without diverting colostomy in most cases.

**[Keywords: rectovaginal fistula; treatment]**

#### EFFECTIVE BOWEL CLEANSING FOR COLONOSCOPY: PICOPREP USE

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AIM: to evaluate efficacy of PICOPREP (sodium picosulfate, magnesium oxide and citric acid) for bowel cleansing before colonoscopy compared to LAVAKOL (polyethylene glycol, sodium sulfate anhydrous, sodium bicarbonate, sodium chloride, potassium chloride) and FLEET PHOSPHATE (sodium phosphates mixed).

MATERIALS AND METHODS: a randomized single center study included 365 patients. LAVAKOL group included 320 pts, PHOSPHATE-SODA group – 165 and PIKOPREP – 150. Evaluation criteria included laboratory data, organoleptic features of the drug, subjective perception of the drug by patients and the quality of bowel cleansing.

RESULTS: minimal laboratory changes occurred only in FLEET PHOSPHATE group. PICOPREP was the most comfortable by organoleptic features. There was no significant difference in the quality of bowel cleansing between groups.

CONCLUSION: PICOPREP is comparable by efficacy to other agents for the bowel cleansing, however it is better by organoleptic features and is safer than on sodium phosphate.

**[Key words: adequate preparation of intestines, colorectal cancer, colonoscopy, laxatives, Picoprep]**

#### CONSERVATIVE LOCAL AND GENERAL TREATMENT FOR ACUTE HEMORRHOIDS ACCORDING TO ANONYMOUS SURVEY OF SURGEONS IN RUSSIA

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AIM: to clarify surgeon's preferences for the acute hemorrhoids conservative treatment.

MATERIALS AND METHODS: an anonymous survey of 102 experienced colorectal surgeons was performed to reveal preferences in acute hemorrhoids treatment. Questionnaire in Russian included 8 items for assessment.

RESULTS: the surgeons reported more than 30 different drugs for the local treatment of acute hemorrhoids. A majority of them consider necessity of systemic phlebotonics. The «Detralex» was most often prescribed.

CONCLUSION: a majority of surgeons use effective drugs for acute hemorrhoids treatment. In some cases specialists has less knowledge on this problem.

**[Key words: acute hemorrhoids, local treatment, general treatment, survey]**

#### IS THERE A PLACE FOR HIGH-RESOLUTION ANOSCOPY IN THE DIAGNOSTICS OF INFLAMMATORY CHANGES IN PATIENTS WITH CHRONIC HEMORRHOIDS?

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AIM: to evaluate the significance of high-resolution anoscopy (HRA) in diagnostics of inflammatory and thrombotic changes in hemorrhoid piles and to assess the efficacy of micronized purified flavonoid fraction (MPFF) in patients with inflammatory thrombotic changes of hemorrhoids according to HRA results in the preoperative conservative treatment of hemorrhoids.

PATIENTS AND METHODS: a prospective cohort study included 77 patients with grade III chronic hemorrhoids. Patients were divided into 3 groups depending on the degree of development of inflammatory and thrombotic changes according to the HRA. The 3 group included patients with preoperative conservative treatment by MPFF. All patients underwent Milligan-Morgan procedure with further histological study of removed piles.

RESULTS: it was found that the diagnostic sensitivity of the HRA in detection of inflammatory thrombotic changes was 91.3 % (CI=83.6-96.2 %), and diagnostic specificity – 40 % (CI=19-64 %). HRA diagnostic accuracy was 82.1 % (p=0.001). A 30 % decrease in the number of removed piles with moderate inflammatory thrombotic changes after MOFF therapy has also been revealed.

CONCLUSION: HRA permits to determine the severity of thrombotic inflammatory changes, which is extremely important for the management of patients with acute hemorrhoids.

**[Key words: high-resolution anoscopy, MPFF, chronic hemorrhoids]**

#### COMPARATIVE ANALYSIS OF OPEN AND TRANSANAL TOTAL MESORECTAL EXCISION AT RECTAL CANCER

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State Scientific Centre of Coloproctology, Moscow, Russia AIM: to evaluate results of transanal total mesorectal excision (TA TME) for rectal cancer.

PATIENTS AND METHODS: Ninety patients were included the prospective non-randomized study. Forty-five (50.0 %) of them underwent TA TME and 45 (50.0 %) – conventional total mesorectal excision (TME). RESULTS: operation time was significantly higher in TA TME group: 276.4 ± 56.9 (190-400) minutes vs 188.0 ± 56.7 (100-310) minutes in open TME group (p=0.0001). The intraoperative complications rate was significantly higher in TA TME group: 7 (15.5 %) vs 1 (2.2 %) patient (p=0.05). No significant difference in postoperative morbidity was obtained: 18 (40.0 %) in TA TME group vs 17 (37.7 %) (p=1.0). Postoperative stay was lower in TATME group: 9 (7:14) vs 11 (10:14) days (p=0.04). Grade 2 specimen quality was detected significantly more often after TATME 26 (57.8 %) vs 15 (33.3 %) open TME (p=0.03), while Grade 3 specimens were more common after open procedure – 30 (66.7 %) vs 13 (28.9 %) TA TME group (p=0.0006).

CONCLUSION: TA TME is a feasible procedure for rectal cancer patients. It demonstrated all benefits of minimally invasive technique, though learning curve is steep.

**[Keywords: rectal cancer, total mesorectal excision, transanal total mesorectal excision, TA TME]**

#### THE MAIN PROBLEMS AND PERSPECTIVES OF ULCERATIVE COLITIS SURGICAL TREATMENT (review)

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**[Keywords: ulcerative colitis, pouchitis, laparoscopy]**

#### SURGERY FOR PILONIDAL DISEASE (review)

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The treatment of pilonidal disease (PD) is extremely important now. Its incidence is up to 5% of the adults. PD takes the fourth place among such coloproctological diseases as hemorrhoids, abscess and fistula-in-ano and anal fissure. The first experience of PD was described two centuries ago. During this period, various theories on etiology and pathogenesis of the disease were suggested. The western papers support the idea that the acquired genesis is a cause of PD. This point of view is the opposite to the countries of the former USSR, where pilonidal disease is considered as congenital pathology. Numerous procedures have been proposed because of the different theories of the etiopathogenesis. If you take the point of view that the PD is a congenital disease it should be mentioned that the main goal of these methods is elimination of pilonidal cyst with closure of the wound or without. If to consider PD as an acquired disease, the surgical break of pathogenetic mechanism is a key. This approach includes: Bascom I, Cleft Lift, EPSIT procedures. Every procedure for PD has certain indications and contraindications. The aim of the review is to compare the main methods and determine their strengths and weaknesses. Unfortunately, today there is no "gold standard" in the treatment of pilonidal disease.

**[Key words: pilonidal disease, coloproctology, pilonidal surgery]**