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CLINICAL GUIDE OF RUSSIAN ASSOCIATION OF GASTROENTEROLOGY AND RUSSIAN ASSOCIATION OF COLOPROCTOLOGY ON DIAGNOSTICS AND TREATMENT OF ULCERATIVE COLITIS

ABDIMINAL WALL RECONTRUCTION AFTER SURGERY FOR LOCALLY RECURRENT COLON CANCER IN PACIENT WITH LYNCH SYNDROM
Achkasov S.I., Nazarov I.V., Tsukanov A.S., Mainovskaya O.A., Semenov D.A. Kalashnikova I.A.
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Surgical resections the mainstay of treatment for patients with local recurrence of colon cancer. Only an aggressive surgical approach, encompassing en bloc multivisceral resection is necessary to achieve clear margins, affords the best prospect for long-term survival. The involvement of the anterior abdominal wall requires its extensive resection. The closure of defects is challenging surgical problem. Negative pressure wound therapy (NPWT) is the application of suction (negative pressure) to wounds that are healing. NPWT has been used for many years for the treatment of chronic wounds, such as leg ulcers and bed sores. More recently, the system has been modified for use on clean surgical wounds, including skin grafts. In this paper we represent one case of patient who received salvation surgery in our clinic for local recurrence of colon cancer. Vacuum therapy was successfully used to enhance healing process of large abdominal wound.
[Key words: local recurrence, loco-regional recurrence, colon cancer, local relapse, negative pressure wound therapy, vacuum therapy]

MULTIPLE PRIMARY COLORECTAL CANCER: THE POSSIBILITIES OF MINIMALLY INVASIVE SURGICAL INTERVENTIONS
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BACKGROUND. Study of oncobiological aspects of such a phenomenon as multiplicity of primary colorectal tumors, as well as improvement of methods of their treatment is relevant nowadays. The aim of the study was to reveal the potential of minimally invasive surgery for multiple primary colorectal cancer.
MATERIAL AND METHODS. Data on 51 patients with synchronous multiple primary colorectal cancer were studied. Clinical, biological and morphological characteristics of synchronous colorectal tumors were analyzed. 12 of 51 patients underwent minimally invasive surgeries of the colon and rectum – laparoscopy and transanal endoscopic resection of the rectum.
RESULTS showed that synchronous colorectal cancer prevailed in patients with multiple primary colorectal cancer (63,8 %), with tumors localized mainly in the sigmoid (62,75 %) and the rectum (56,86 %). Minimally invasive approach allowed reduction of the number of postoperative complications by 2,5 times and improvement of rehabilitation of patients.
CONCLUSION. Application of modern technologies in treatment for synchronous multiple primary colorectal cancer contributes to improvement of the treatment outcomes.
[Key words: multiple primary synchronous colorectal cancer, minimally invasive surgical intervtntions]

INDICATIONS FOR INJECTION OF BULKING AGENTS FOR THE TREATMENT OF ANAL INCONTINENCE
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Despite of lots conservative and surgical methods of treatment, the problem of anal incontinence is relevant today and remains unresolved. Since the beginning of the 1990s attempts of implantation of bulking agents in order to increase the basal pressure in the anal canal were begun. Domestic product "ДАМ +" used in the study.
OBJECTIVE. To determine the indications for injection of bulking agents for the treatment of anal incontinence. Research the possibility of using the drug "ДАМ +," with assessment of treatment outcomes.
During a period of 2014 to 2016 there were 30 patients with anal incontinence of various etiologies involved in research. The mean age was 47,5 ± 6,5 years. Injection of bulking agent "ДАМ+" were performed by the punction of submucosa of the anal canal in 3 points, and followed by a comparative analysis of the survey after treatment. Average follow-up was 12,1 ± 0,97 months. The study we have identified indications for the implementation of bulking agents for correction of anal incontinence, and the estimation results.
[Keywords: anal incontinence, lack of anal sphincter, bulking agents]

MEDIASTINAL EMPHYSEMA AS A COMPLICATION OF COLONOSCOPY
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Cases of mediastinal emphysema (pneumomediastinum), as a complication of endoscopic colonoscopy perforation of the colon, according to the publications and given its own experience in the treatment of this rare complication were analyzed.
There are few publications on the perforation of the colon during colonoscopy, with the development of pneumomediastinum, pnevmoretroperitoneuma, pneumothorax in a scientific literature. Air supply into the retroperitoneal space and the mediastinum from perforation of the intestine through the place connected with the lifting him through the natural anatomical connection.
Some authors provide proven X-ray of the chest clinical cases pneumomediastinum and subcutaneous emphysema in a patient suspected of having ulcerative colitis after outpatient colonoscopy with biopsies, as well as pneumomediastinum with emphysema of soft tissues of the neck after endoscopic polypectomy. The diagnosis was established clinically (dyspnea, subcutaneous emphysema of the neck), but also the data of X-ray studies. The most life-threatening complication of colonoscopy a combination of pneumothorax, pneumomediastinum, and pneumoperitoneum retropnevmoperitoneuma that requires immediate diagnosis and surgical intervention. In these cases, it may be a tension pneumothorax, in which is shown an emergency thoracostomy. During the stress pneumomediastinum an adequate drainage of the mediastinum and (if indicated) pleural cavities is performed. Clinical terms of self-resolution of mediastinal emphysema account for an average of 6.2 days in the majority of patients.
During colonoscopy balloon dilation of strictures of the colon may also be complications: subcutaneous emphysema and bilateral pneumothorax.
In our practice, there were two clinical cases of mediastinal emphysema at colonoscopy due to perforation of the sigmoid colon in one case, and perforation of the sigmoid colon diverticulum in another. The patients were operated on with a favorable outcome, laparotomy and bowel resection with anastomosis device SEEA-29 were performed.
The perforation of the gut during endoscopy requires emergency surgery. Mediastinal emphysema may be as a complication of colonoscopy and is associated with the air intake from the intestine through the perforation into the retroperitoneal space, and then in the mediastinum. During unstressed pnemomediastinume resorption occurs independent of emphysema in the next day after a bowel injury.
[Keywords: endoscopic colonoscopy, perforation of the colon, mediastinal emphysema]

THE ROLE OF CYTOREDUCTIVE SURGERY (CRS) AND INTRAPERITONEAL INTRAOPERATIVE CHEMOTHERAPY (IIC) IN THE TREATMENT OF PERITONEAL CARCINOMATOSIS FROM COLORECTAL ORIGIN
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AIM. To assess early results and survival in patients with CRS and IIC strategy.
METHOD. 56 CRC with PC patients underwent CRS+IIC. pT4 stage occurred in 38 (67,5 %) pts. N+ status was detected in 39 (69 %) cases. In 44 (79 %) pts. carcinomatosiswas synchronous. PCI was ranged from 1 to 21 (Me=3).
RESULTS. Mortality and morbidity rate in postoperative 30 days was 0 % and 14 %, respectively. The median disease-free survival (DFS) was 21 months. Multivariate analysis revealed that PCI (p=0,0007) and the presence of extraperitoneal metastases (p=0,0097) were independent negative predictors of DFS. The empirical analysis showed that level of PCI more than 8 was the predictor of negative prognosis (p=0,044).
CONCLUSION. It has been shown that poor prognosis factors were PCI more than 8, and the presence of distant extraperitoneal metastases of CRC.
[Key words: carcinomatosis, colorectal cancer, cytoreductive surgery, intraperitoneal chemotherapy]

RISK FACTORS FOR DIARRHEA ASSOCIATED WITH CLOSTRIDIUM DIFFICILE, IN COLOPROCTOLOGICAL PATIENTS (review)
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[Key words: clostridium difficile infection, pseudomembranous colitis, antibiotic-associated diarrhea]

MAGNETIC STIMULATION IS A METHOD OF PHYSICAL THERAPY IN COLOPROCTOLOGY (review)
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[Key words: noninvasive magnetic stimulation, anal sphincter dysfunction, pelvic floor muscles, external anal sphincter, chronic constipaton]

MAIN DIRECTIONS OF ORGANIZATION OF A SPECIALIZED COLOPROCTOLOGICAL MEDICAL CARE
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CLINICAL GUIDE OF RUSSIAN ASSOCIATION OF GASTROENTEROLOGY AND RUSSIAN ASSOCIATION OF COLOPROCTOLOGY ON DIAGNOSTICS AND TREATMENT OF CROHN'S DISEASE

ONCOLOGICAL ASSESSMENT OF EMERGENCY SURGERY IN PATIENTS WITH COMPLICATED COLORECTAL CANCER
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OBJECTIVE: to evaluate oncological outcomes of surgical procedures performed in emergency conditions for complicated colorectal cancer.
MATERIALS AND METHODS: we studied data of 1098 patients who underwent emergency surgery for complicated colorectal cancer in hospitals of Smolensk during the period from 2001 to 2013.
RESULTS: 888 pathology reports of specimen assessment were analyzed. In 33 (11,5%) of 286 cases of rectal cancer distal resection margin was positive and 102 (35,7%) cases were CRM(+). Tumor growth was also registered at the distal margin in 4 (6%) of 67 patients with rectosigmoid cancer. In the majority of cases (68,1%) the lymph node harvest did not exceed 3. 12 or more lymph nodes were assessed in 50 (5,6%) of 888 removed specimens only.
CONCLUSION: The analysis of treatment results revealed that inadequate number of lymph nodes examined as well as R1 resection affected cancer-specific survival.
[Key words: colorectal cancer, emergency surgery, oncological outcome, cancer survival]

FIRST EXPERIENCE IN FULL-SPECTRUM COLONOSCOPY

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Colonoscopy with a forward-viewing camera leaves regions that are not visualized in detail. Thus development of video-enoscopy systems with wide angle of view is needed. Full-spectrum colonoscopes providing image of Ultra HD 4K quality are now available in Russia.
MATERIALS AND METHODS. Seventy patients were assessed with a full-spectrum colonoscope. In 51 (72,8%) of them the procedure was performed also for physician's training purposes. Fifteen (21,4%) patients underwent simultaneous full-spectrum and forward-viewing colonoscopies, while in 4 (5,7%) full-spectrum endoscope was used to visualize lesions that were non-assessable with traditional equipment.
RESULTS. Applying full-spectrum colonoscopy for diagnosis resulted in detecting 170 polyps in 51 patients (polyp detection rate was 47,1%). Simultaneous use of full-spectrum colonoscope after forward-viewing equipment led to 9 additional polyps detection in one patient and 23 additional polyps in another one. In 7 patients full-spectrum colonoscopy allowed detection of polyps that were not found via forward-viewing equipment.
CONCLUSION. During full-spectrum colonoscopy inner colonic surface can be visualized with an angle of view of 330° which is twice more than video-capturing area of a standard forward-viewing endoscope. The equipment allows to significantly increase adenoma detection rate.
[Key words: FUSE, full-spectrum colonoscopy, adenoma detection rate (ADR), blind spot[

LAPAROSCOPY WITHIN MULTIMODAL OPTIMIZATION PROGRAMM IN PATIENTS WITH COLORECTAL CANCER

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AIM to assess the efficacy of combination of laparoscopy and protocol of enhanced recovery in patients with colorectal cancer.
MATERIALS AND METHODS. Between 2008-2016 466 patients were randomly allocated into 3 groups. Of them 266 of received perioperative treatment according to enhanced recovery protocol, 191 had routibne open procedure (group 2) and, 75 had laparoscopic operation (group 1). Patients underwent the following procedures: right hemicolectomy (n=53), left hemicolectomy (n=32), sigmoidectomy (n=55), abdomeno-perineal excision (n=67) and low anterior resection of rectum(n=201), other operation – 58. The following variables were analized: operating time, intraoperative blood loss, time of first flatus and defecation, morbidity (wound infections, anastomotic leakage, peritonitis, postoperative ileus, urinary disorders, thrombosis, cardiopulmonary complications).
RESULTS. Groups were comparable in gender, comorbidities, body mass index, types of operations. Operating time did not differ significantly between 3 groups. Intraoperative blood loss was higher in conventional group. The time of first flatus and defecation were better in group 1 and 2. Mortality rate was similar. Morbidity was lower in group 1 and 2 compared with conventional group: wound infections 1,3%, 3,1% vs 9%, anastomotic leakage 4%, 5,5% vs 9%, ileus 1,2 vs 5,4%, peritonitis 2,6%, 1,5% and 3,5%, bowel obstruction caused by the adhesions 0%, 6,8% vs 5,5%. Reoperation rate was 4%, 4,7% vs 5,5%, consequemntly.
CONCLUSION. Combination of laparoscopic surgery withenhanced recovery program provides better results of treatment.
[Key words: laparoscopic opearation, colorectal cancer, enhanced recovery]

POST-TRAUMATIC ANAL SPHINCTER INSUFFICIENCY

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3 Tuapse multi-center

AIM. To develop tactics of treatment for post-traumatic anal sphincter insufficiency in emergency surgery.
MATERIALS AND METHODS. 472 patients with anal sphincter insufficiency were treated between 1977-2015. Of them 125 had conservative therapy. Surgical treatment was performed in 347 patients. Twenty-four patients had emergency procedure.
RESULTS AND CONCLUSIONS. The success of the rehabilitation of these patients depends on the timely and adequate surgical care at the time of the sphincter injury. 3 degrees of perineum tears in labor should be sutured by experienced obstetricians and only in layers.
Sphincteroplasty without colostomy is indicated within 24 hours after injury, while later admission ot hospital requires defunctioning stoma. Gunshot sphincter damage require wound debridement without sphincteroplasty and defunctioning stoma.
[Keywords: post-traumatic anal sphincter insufficiency, sphincteroplasty, surgical tactics]

FUNCTIONAL STATE OF THE PELVIC FLOOR MUSCLES IN PATIENTS WITH THE PELVIC PROLAPSE

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The article analyzes the functional state (evacuation functions, continence) and innervation of the pelvic floor muscles in patients with rectocele and combination rectocele with internal rectal intussusception, with complaints of obstructive defecation.
AIM. The study of the functional state of the pelvic floor muscles in patients with obstructive defecation syndrome (ODS).
MATERIALS AND METHODS. The study included 224 women with complaints of obstructive defecation, without pelvic floor surgery. On physical examination, all patients were detected signs of rectocele.
The average age – 49,9±15,0 years. 52 (23,2%) patients had complaints to the fecal incontinence of various components. Diagnostic algorithm: physical examination, defecography, rectal functional study (high resolution manometry (HRAM), evacuation test, comprehensive sphincterometry, pudendal nerve study).
RESULTS. Frequency of functional disorders of defecation (FDD) according to objective methods of study among patients with ODS is high and amounts to 64.7%. In this case, there are no differences in the frequency FDD in patients with a combination of rectocele and internal intussusception compared to patients with only rectocele.
There were no correlation between the frequency of anal sphincter failure and FDD. We identified some patients with subclinical incontinence, without complaints but with reduced manometric values and anal sphincter contractility.
We have proved the absence of correlation between the presence or absence of pelvic floor muscle innervations violations in the form of neuropathy n. pudendus and the presence or absence of FDD.
CONCLUSION. FDD can cause unsatisfactory results of surgical treatment of patients with ODS, even after the restoration of the anatomic relationships due to complaints of evacuation violation. ODS diagnostic algorithm should include not only an assessment of evacuation function (HRAM and evacuation test), but also sphincterometry, to assess the content function.
[Keywords: obstructive defecation syndrome, functional disorders of defecation, dissynergydefecation, inadequate propulsion, high-resolution manometry, sphincterometry, pudendal nerve conductivity]

EXPERIENCE OF SURGICAL TREATMENT OF COLORECTAL CANCER WITH LIVER METASTASES

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AIM. To compare results surgery of colorectal cancer with resection or radiofrequency thermoablation of liver metastasesi.
MATERIALS AND METHODS. Fifty seven patients were included into study. In first group (n=24) liver resection was performed simultaneously with primary tumor surgery; in the second group (n=33) patients underwent local thermal destruction of metastases.
RESULTS. Postoperative complications developed in 2 (8,3%) patients of group I and 4 (12,1%) in group II. In group II, the postoperative in-hospital mortality rate was 5,8% (2 patients) due to failure of colonic anastomosis with fecal peritonitis. The disease-free period in group I was 14,4±3,2 months. The 3-year survival rate was 39%, with the median survival of 32,5 months. In group II, the 3-year survival rate was 27%.
CONCLUSION. Resectable liver metastases should undergo resection, if there are no adverse factors. This study shows that liver resection is a more effective treatment than radiofrequency thermoablation.
[Keywords: colorectal cancer, liver metastases, liver resection, radiofrequency thermoablation]

IMPROVEMENT OF THE METHODOLOGY OF MINIINVASIVE METHOD FOR THE TREATMENT OF CHRONIC HEMORRHOIDS

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AIM. To improve results of latex ligation of internal hemorrhoids.
MATERIAL AND METHODS. Results of 432 latex ligation of hemorrhoids were analyzed. The average age of the patients was 42,1 ± 7,3 years, 293 (67,8%) patients had third or the fourth degree of the disease. A new method of latex ligation of the mucosa and submucosa of the lower rectum with the aim to close hemorrhoidal vessels and lifting hemorrhoidal tissue complex was suggeste and used for III-IV degree hemorroids.
RESULTS. In the early postoperative period complications not requiring reinterventions developed in 5 patients. In the late period good results were obtained in 87,3% of patients.
CONCLUSION. Suggested modified latex ligation in the treatment of chronic hemorrhoids is minimally invasive, simple and low cost. It extends the indication of this method for hemorroids of advanced stages..
[Key words: hemorrhoids, rubber band ligation, hemorrhoidal artery ligation, recto-anal repair]

APPLICATION OF FECAL TRANSPLANTATION IN THE TREATMENT OF NO-CLOSTRIDIA ANTIBIOTIC-ASSOCIATED COLITIS

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This observation from practice shows modern possibilities of diagnostics and treatment of antibiotic associated gut infection in patient with cancer.
[Key words: antibiotic associated diarrhea, fecal transplantation, pseudomembranous colitis]

CLOSTRIDIUM DIFFICILE INFECTION: CLINIC, DIAGNOSTICS AND TREATMENT (review)
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State Scientific Centre of Coloproctology, Moscow, Russia
[Key words: clostridium difficile infection, pseudomembranous colitis, antibiotic-associated diarrhea, clostridial infection]

COMPLICATIONS OF COLONOSCOPY (review)
Semionkin E.I., Trushin S.N., Kulikov E.P., Bizyaev S.V., Lukanin R.V.
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[Key words: colonoscopy, risk factor, complication, treatment]

GASTRO-INTESTINAL MELFNOMA (review)
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[Key words: primary melanoma, gastrointestinal tract, surgery, anti tumor therapy]

MICROSATELLITE INSTABILITY IN COLORECTAL CANCER (review)
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State Scientific Centre of Coloproctology, Moscow, Russia
[Keywords: colorectal cancer, microsatellite instability, Lynch syndrome, BRAF gene]

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LOW-VOLUME PEG PLUS ASCORBIC ACID AS BOWEL PREPARATION FOR COLONOSCOPY USING MORNING-ONLY DOSING REGIMEN COMPARED TO STANDARD SPLIT-DOSING: MULTICENTER SINGLE-BLIND RANDOMIZED PARALLEL-GROUP CONTROLLED STUDY
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BACKGROUND. According to guidelines the optimal delay between the last dose of purgative and colonoscopy is no longer than 2-4 hours. Morning-only dosing of polyethyleneglycol solution (PEG) prior to colonoscopy versus standard split-dosing with nocturnal pause may be more acceptable for patient.
AIM. To compare the efficacy, safety and tolerability of morning-only dosing regimen of 2 liter PEG plus ascorbic acid solution (PEG + Asc) 2 L to split-dose PEG + Asc 2 L for bowel preparation prior to colonoscopy.
METHODS. This was a multicenter prospective endoscopist-blinded randomized non-inferiority study comparing morning-only to split dosing with nocturnal pause regimen of PEG + Asc 2 L (MOVIPREP®) for the bowel preparation prior to colonoscopy. The primary endpoint was successful colon cleansing where «Success» represented grades of bowel cleansing A and B according to Harefield Cleansing Scale© (HCS©). Clinically relevant non-inferiority margin was set at –15 % with one-sided significance level of 5 %. Secondary endpoints were general satisfaction/acceptability of patients with the preparation for colonoscopy, as well as patient compliance and safety of the study drug.
RESULTS. Overall 140 patients from 6 centers were enrolled in the study and randomized into two groups of 70 each. ITT analysis showed successful colon cleansing in 94,3 % in the morning-only group versus 91,4 % in the split-dose group. An estimated treatment difference was 2,9 %, 95 % lower confidence limit for the difference –9,7 % with the prespecified non-inferiority margin –15 % (p for non-inferiority <0.001). Furthermore 71,4 % of patients had the highest grade A colon cleansing according to HCS© in each group. In patients in the morning-only intake group, the time to first bowel motion following the first liter of PEG + Asc 2 L was shorter, with a median time of 1.08 hours, compared with 1.58 hours in the split-dose group (p<0,001). Nearly all of the patients treated in the morning-only dosing group (69/70) and in the split-dose group (67/70) received the study medication as planned. In general, the study drug was well tolerated in patients of both groups. At least one treatment-emergent adverse event was reported by 58,6 % of patients in the morning-only dosing group and by 61,4 % of patients in the split dosing group. The most frequently reported adverse events were typical gastrointestinal disorders (53,5 % of patients) and changes in laboratory tests (12,1 % of patients). No serious adverse events were reported in this study.
CONCLUSION. Morning-only dosing regimen of PEG + Asc 2 L is non-inferior to split-dosing regimen in terms of colon cleansing and is safe and convenient for use as a bowel preparation prior to colonoscopy.
[Key words: colonoscopy preparation, low volume PEG, ascorbic acid solution, split-dosing]

DIFFERENTIAL DIAGNOSTICS OF LIVER HYPERECHOIC LESIONS
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PURPOSE. Development of elastometry and elastography in differential diagnostics of liver hyperechoic lesions (hemangioma and colorectal cancer metastases)
MATERIALS AND METHODS. 180 patients examined due to liver hyperechoic lesions. All patients underwent elastography in manual compression mode, ultrasound examination in the acoustic radiation force impulse (ARFI) mode and in shear wave velocity (SWV) mode.
RESULTS. According to the data from elastography in manual compression mode in patient's group with colorectal liver metastases in 71 % cases lesions were rigid. In patient's group with hemangioma lesions in 88 % cases were soft. According to the data from elastography in the ARFI mode in patient's group with colorectal liver metastases in 71 % cases lesions were rigid. In group of patients with liver hemangioma in 88 % cases lesions were soft. According to the tumor tissue elastometry data in patients with colorectal liver metastases RSTW was high – 3,24 m/sec (range 1,4-4,22 m/sec), median of RTSW was 3,38 m/sec. In patient's group with liver hemangioma RSTW was the lowest – 1,07 m/sec (range 0,75-3,86 m/sec), median – 0,93 m/sec.
CONCLUSION. Informativeness of elastography in manual compression mode for colorectal liver metastases (n=110): 98 % sensitivity, 98 % accuracy, 100 % positive predictive value.
Informativeness of elastography in manual compression mode for liver hemangioma (n=70): 94 % sensitivity, 94 % accuracy, 100 % negative predictive value.
Informativeness of elastography in ARFI mode for colorectal liver metastases (n=110): 100 % sensitivity, 100 % accuracy, 100 % positive predictive value. Informativeness of elastography in ARFI mode for liver hemangioma (n=45): 94 % sensitivity, 100 % accuracy, 100 % negative predictive value.
Elastometry data for liver malignant tumors detection were more informative when RSTW threshold level was 2,0 m/sec (if more than 2,0 m/sec then malignant tumor, if less than 2 m/sec then benign tumor): 94 % accuracy, 91 % sensitivity, 97 % specificity, 92 % negative predictive value.
[Key words: elastography, elastometry, ARFI (Acoustic radiation force impulse), SWV (Shear wave velocity), RSTW (rate of spreading of a transverse wave)]

SHEARWAVE ELASTOGRAPHY IN THE LIVER METASTASE DIAGNOSIS DURING MULTIPARAMETRIC ULTRASOUND
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PURPOSE OF THE STUDY. Analysis of the possibility of a shearwave elastography (2D-SWE) approach in the diagnosis of metastatic liver damage within the framework of multiparametric ultrasound.
MATERIALS AND METHODS. A survey of 95 patients with liver metastases with a primary focus: 28 (29,4 %) – lung cancer, 31 (32,6 %) – malignant neoplasm of the stomach (SNO), 9 (9,5 %) – pancreatic cancer, 16 – colorectal cancer, 9 (17,8 %) – uterine cancer, 11 (20 %) – ovarian malignancy was conducted. Metachronous metastases were detected in all patients (n=95) (6-18 months after surgical treatment.) The use of multiparametric ultrasound (B-mode, shearwave elastography and ultrasound with contrast enhancement) was mandatory in the patient examination algorithm.
RESULTS. The results of B-mode, color Doppler mapping and SWE are important for evaluating non-invasive or invasive nature of metastasis growth: AUC=0,889 (95 % CI 0,879-0,957), indicating very good quality. The predictive value of SWE increased with dynamic observation of patients: AUC=0,991 (95 % CI 0,944-0.997), which indicated a very good quality.
CONCLUSION. The criteria for noninvasive and invasive growth of the metastatic process in the liver parenchyma with SWE are developed, it is important for preoperative planning. Prognostic significance of SWE within the scope of mutiparametric ultrasound increases at dynamic observation of patients for more than 6 months.
[Keywords: metachronous liver metastases, elastography, contrast enhanced ultrasound]

CONTRAST-ENHANCED ULTRASOUND IMAGING OF COLORECTAL LIVER METASTASES
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At present, aggressive surgical approach in combination with perioperative chemotherapy allows to extend indications for surgical intervention in patients with metastatic colorectal cancer, since only a radical liver resection provides better long-term survival. Contrast enhancement imaging techniques are important before considering treatment options to identify patients with resectable and potentially resectableliver metastases. Our study evaluated the qualitative and quantitative parameters of thedynamic enhancement pattern of liver metastases. This review will be analyzed the results of liver contrast-enhanced ultrasound studies in 104 patients with secondary colorectal liver metastases before primary tumor resection, as well as the monitoring of systemic chemotherapy and post-ablation follow-up to access treatment respond.
[Key words: liver contrast-enhanced ultrasound, metastatic colorectal cancer, ultrasound contrast agent, liver metastasis]

ULTRASOUND CRITERIA FOR THE DIFFERENTIAL DIAGNOSIS OF INFLAMMATORY BOWEL DISEASE IN CHILDREN
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THE PURPOSE OF THE STUD. Determination of ultrasound semiotics of Crohn's disease and ulcerative colitis by evaluation of activity of inflammatory process, assessment of the possibilities of echography in the differential diagnosis of these diseases.
MATERIALS AND METHODS. The study included 91 patients between the ages of 4 months up to 17 years. There were examined 24 patients with verified Crohn's disease and 37 patients with verified ulcerative colitis. 30 patients without any clinical and laboratory data of the gastrointestinal diseases were included in to control group. Bowel ultrasound was done without any preparation and contrast enhancement.
RESULT OF RESEARCH. Sensitivity of the test «bowel wall thickness >2.5 mm – inflammatory bowel disease» – 90,2 %, specificity – 100.0 %, positive predictive value – 100.0 %, negative predictive value – 83,3 %, and AUC – 0,957. Sensitivity of the test «doppler signals amount in bowel wall >2 – inflammatory bowel disease» – 93,4 %, specificity – 100.0 %, positive predictive value – 100.0 %, negative predictive value – 88,2 %, and AUC –0,967. Significant differences in pathological vascularization, ascites, terminal ileum affection, mesentery and (or) omentum inflammatory infiltration, and lymph nodes size were revealed between group of Crohn's disease and ulcerative colitis (P<0,05 for all comparisons). Significant differences in pathological vascularization during the activity and remission periods were revealed in all groups; in lymphatic nodes size – in group of ulcerative colitis and combined group of bowel inflammatory disease; in ascites, terminal ileum affection, and mesentery and (or) omentum inflammatory infiltration – in group of Crohn's disease (P<0.05 for all comparisons).
CONCLUSION. Ultrasound examination is an essential method in the diagnosis and monitoring of inflammatory bowel disease in children.
[Key words: ultrasound diagnostics, inflammatory bowel disease, Crohn's disease, ulcerative colitis, children]

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SIMULTANEOUS AND STAGED RESECTIONS FOR SYNCHRONOUS COLORECTAL LIVER METASTASES: META-ANALYSIS
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BACKGROUND. Surgical approaches of colorectal cancer with synchronous liver metastases have been changed in recent years. Simultaneous resections performed more often.
AIM. To analyze the short-term and long-term outcomes two alternative surgical strategies: 1) simultaneous resections for colorectal cancer and synchronous colorectal liver metastases;2) conventional: surgery for the primary tumor during the initial operation. After time, the liver resection is performed at a second operation
METHODS. Meta-analysis was performed to compare outcomes simultaneous resections for colorectal cancer and synchronous colorectal liver metastases and staged surgery. Tumor localization, spread and number of metastasis, extent of operation, blood loss, length of hospital stay, postop mortality, complication rates, overall survival rates were analyzed.
RESULTS. Twenty-nine studies with 5518 patients were included in meta-analysis. Multiple (p=0,007) and bilobed (p=0,0004) metastasis were more often in patients in group of staged resections. Major hepatectomy was also performed more often in group of staged resections. There were no significant differences in blood loss and postopirative mortality rates (p>0,05). Complication rate in group of simultaneous resections was lower than in group of staged resections (OR=0,8, 95 %CI: 0,7-1.0, p=0,048). 3- and 5-year overall survival rates were similar in both groups: 54 % vs 55 %, and 37 % vs 38 %, respectively (p=0,007).
CONCLUSION. Simultaneous resection of the primary tumor and the minor liver resection or extended hepatectomy in selected patients didn't adversely affect on complications and mortality rates in equivalent long-term survival compared to staged liver resection.
An important limitation of the present study is the bias and heterogeneity in compared groups due to retrospective data over the 20-year period.
[Key words: colorectal cancer, synchronous liver metastases, simultaneous resection]

EXPERT SYSTEM FORECAST OPERATIONAL RISK ASSESSMENT EFFECTIVE IMPLEMENTATION OF SIMULTANEOUS OPERATIONS
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PURPOSE. With developed in the clinic expert operational risk forecasting system (EORFS) to clarify evidence, conduct pre- and post-operative period and prove the effectiveness of the implementation of the SOC in patients with various diseases of the colon (CD) and surgical pathology of abdominal cavity (SPAC).
MATERIALS AND METHODS. For the period from 2012 to 2015 surgical treatment 986 patients with pathology of the colon. Results of treatment of 127 (12,8 %) patients with SPAC concomitant abdominal pathology, which made the SO. Among them, 79 (62,2 %) women, 48 (37,8 %) men. The age of patients ranged from 32 do 87 years. With regard to non-tumor pathology of the colon was operated on 51 (40,1 %) patients, tumor – 76 (59,9 %). A combination of several transactions (2 or more) is produced in 21 (16,5 %) patients.
RESULTS. The postoperative period in patients undergoing SOC is not significantly different from that after the implementation of standard procedures on the colon. Among the postoperative complications, which amounted to 3,2 % in patients who underwent PSB should be noted : seroma with suppurating wounds – 3 cases of pneumonia – 2, infiltration of the abdominal cavity – in 1 fatal outcomes were not.
CONCLUSION. EORFS provides effective correction of associated pathology in the preoperative period, the prevention of intra – and postoperative complications, as well as the implementation of effective targeted intensive therapy in these patients, allowing in all cases to reduce complications while maintaining simultaneously the surgical radicalism and to abandon a combined stage because of the very high risk of complications and possible fatal outcome in 13 % patients
[Key words: expert operational risk forecasting system, simultaneoussurgical treatment]

TO THE PROBLEM OF SURGICAL TREATMENT FISTULA ANUS AND RECTUM
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PURPOSE. Examine the results of surgical treatment of fistulas of the anus and rectum.
MATERIALS AND METHODS. Generalized material surgical treatment of 53 patients with different types of fistulas of the anus and rectum during the period 2010-2015. based coloproctological DRKTMU center. We used clinical, laboratory and instrumental methods of investigation according to generally accepted standards of coloproctology.
RESULTS. We used an individualized approach, which, along with the known operations: seton, Gabriel-1, Gabriel-2, and used more modern methods of radical surgical procedures, taking into account «case» building the wall of the rectum: 1) muco-submucosal flap; 2) muco-muscular flap (consisting of mucosal and submucosal layers and inner circular smooth muscle layer of the gut). Methods of radical plastic surgery were performed in 39 (73,6 %) patients with transsphincteral and extrasphincteral fistulas. Among them by the method of V.M.Maslyak (1990) – 18 (34,0 %) patients and mucosal flap according to the technique developed in the clinic – 21 (39.6 %) patients. Patients satisfactorily suffered an intervention. In 4 (7,6 %) patients the disease recurred. Among them in 1 patient after 3 weeks and in 3 patients after 2-3 months after the intervention the recurrence of disease was detected. Of these in 2 (3,8 %) patients was detected transsphincteral fistulae and in 2 (3,8 %) – extrasphincteral rectum fistulas. Patients with recurrent fistulas were reoperated.
CONCLUSION. The results indicate the feasibility of application in surgical proctology transanal plastic interventions with the movement of mucous-submucosal or mucosal-muscle flap from the known and improved our procedures.
[Key words: anal fistula, rectum fistula]

INFLUENCE OF DEFUNCTIONING COLOSTOMY AFTER LOW ANTERIOR RESECTION FOR RECTAL CANCER ON EARLY POSTOPERATIVE PERIOD
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The AIM of this study was to evaluate the influence of defunctioning colostomy after low anterior resection for cancer on early postoperative period and effectiveness of Fast Track protocol.
MATERIALS. Retrospective analysis of medical records of 186 patients with rectal cancer who underwent anterior resection of the rectum in our department was done. All patients were allocated into 2 groups – conventional (had conventional perioperative care) and optimized (perioperative treatment according to Fast Track protocol). Both groups were subdivided into 3 subgroups (unprotected anastomosis, defunctioning colostomy and Hartmann procedure). The following data were analysed: average time of operation, operative bloodloss, volume of infusion and urination, time of mobilization, removement of dranages and catheters, postoperative complications.
RESULTS. Age, sex, comorbidities had no effect on decision about a preventive colostomy. The main reason for preventive colostomy was a middle-rectum location of a tumor. Preventive colostomy didn't affect the course of early postoperative period in groups. Defunctioning colostomy effectively prevent catastrophic consequences of anastomotic leakage and didn't compromise Fast Track protocol.
CONCLUSION. Defunctioning colostomy did not reduce postoperative anastomotic leak rate, but mitigate consequences of an anastomotic leakage. Defunctioning colostomy did not affect the course of early postoperative period and Fast Track protocol.
[Key words: defunction stoma, colorectal cancer, optimization of perioperative care]

STANDARDIZED ENHANCED RECOVERY PROTOCOL IMPROVES OUTCOMES AFTER COLORECTAL RESECTIONS IN ELDERLY PATIENTS
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AIM. To evaluate the influence of standardized enhanced recovery protocol on the results of oncological colorectal resections in elderly (≥75) patients.
MATERIALS AND METHODS. We retrospectively analyzed the results of 745 colorectal resections, performed from March 2009 till Oct. 2016. During 2009-2013 (220 procedures, 45 among the elderly) only sporadic components of enhanced recovery were used. In 2014-2015 (354 surgeries, 82 among the elderly) new surgical team developed and started to implement a standardized enhanced recovery protocol. In 2016 (186 procedures, 51 among the elderly) the protocol was systematically used in every patient. Short-term surgical results were analyzed.
RESULTS. Generally, implementation of enhanced recovery protocol led to mild but not statistically significant improvement of short-term results. Only postoperative hospital stay decreased significantly. However, we observed a dramatic improvement of short-term results after the implementation of enhanced recovery protocol among the elderly patients.
CONCLUSION. Standardized evidence-based enhanced recovery protocol leads to significant improvement of short-term surgical results in elderly patients undergoing colorectal surgery for cancer.
[Key words: colonic cancer, rectal cancer, elderly patient, standardized enhanced recovery protocol]

THE EFFICACY AND SAFETY OF THE NEW DRUG FISSARIO IN CLINICAL USAGE FOR THE TOPICAL TREATMENT OF THE ACUTE ANAL FISSURE ASSOCIATED WITH CHRONIC HEMORRHOID DISEASE
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AIM. To prove primary efficiency of Fissario in comparison with Relif Advans for anal fissure therapy and to confirm previously received safety data.
MATERIAL AND METHODS. Multicenter, open, randomized, comparative clinical trial in parallel groups with active control (RelifAdvans) was conducted at 18 clinical centers in Russia, 188 patients participated. Patients with deep and superficial anal fissure in combination with chronic hemorrhoids were eligible for participation in trial. Patients administered investigational drugs 2 times a day for 28 days. Efficacy primary endpoint assessed as part of patients with full healing of anal fissure and epithelization on Day 28 from start of therapy. Also pharmacokinetics research was performed: concentration of Nifedipinein blood plasma was assessed. Safety assessment was performed based on frequency and character of registered adverse events.
RESULTS. Efficacy analysis showed statistically significant differences in favor of investigational drug in comparison with comparator

on efficacy primary endpoint –part of patients with healing of anal fissure at Day 28. Difference of parts of defendants between group of investigational drug and comparator in full data population (with replacement of missed data) was 24,5 % (two-sided confidence interval 95 % for a difference of parts [11,9; 37,0 %], p <0,001), ratio of parts 1,4. Pharmacokinetics analysis based on Nifedipine concentration in plasma showed that observed concentration of Nifedipine in plasma after single rectal and topical use are significantly lower than therapeutic range. Most common adverse events registered during trial were gastrointestinal tract reactions and reactions at investigational drug application site. No serious adverse events, no serious unexpected adverse drug reactions nor cases of death were registered during trial. No influence of Fissario on results of clinical blood tests, biochemical blood tests, general urinalysis and ECG were registered during trial.
CONCLUSION. Fissario, ointment for rectal and topical use, is an effective and safe drug for local therapy of acute anal fissure in combination with a chronic hemorrhoids. Fissario achieved more than 40 % superiority in comparison with Relif Advans based on anal fissure epithelizationrate at Day 28 of treatment.
[Key words: Fissario, anal fissure, hemorrhoid, nifedipine, lidocaine, clinical trial]

EXTENSIVE COLONIC INTUSSUSCEPTION CAUSED BY TUMOR OF THE CECUM, A SIMULATED SIGMOID COLON CANCER
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[Key words: intussusceptions, colon cancer, subtotal colectomy]

UNUSED EPIDERMAL CASTE OF PRESACRAL SPACE (clinical cases)
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[Keywords: presacral cyst, small pelvic tumor, cyst removal]

PRIMARY COLONO-GASTRIC FISTULA (clinical case)
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INTRODUCTION. The gastro-colonic fistula: a common definition of a pathological communication between the stomach and colon. This pathology is a rare complication. Fistula can be primary (spontaneous) or secondary (iatrogenic) and can be suspected by the presence of typical symptoms. Most often it allows by the barium enema. Computer tomography and endoscopy (colonoscopy, gastroscopy) in combination with biopsy also have a certain diagnostic value. Clinical case: We present a case report of gastro-colonic fistula in a 64-year-old men patient with colon adenocarcinoma. Symptoms and clinical examination did not reveal typical signs of this complication. Colonoscopy revealed abnormal communication between the colon and stomach. It was confirmed by gastroscopy and computed tomography. Biopsy verified colon adenocarcinoma. The patient underwent radical surgery. Morphological study confirmed colon adenocarcinoma with fistula formation into the stomach.
CONCLUSION. Morphological confirmation of the neoplasm grows from the originating organ (colon) to the other (stomach) with the formation of the pathological fistulous tract allows the diagnosis of primary colono-gastric fistula. This definition makes clear the mechanism of the fistula's formation and indicates the localization of the primary tumor.
[Key words: gastro-colonic fistula, adenocarcinoma of the colon]

POSTOPERATIVE PREVENTIVE TREATMENT OF CROHN'S DISEASE (review)
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[Keywords: Crohn's disease, recurrence, treatment]

EFFICACY AND SAFETY OF VEDOLIZUMAB IN CROHN'S DISEASE (review)
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[Key words: Crohn's disease, inflammatory bowel disease, vedolizumab, anti–α4β7 integrin monoclonal antibody, safety, efficacy]

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HAND-ASSISTED LAPAROSCOPIC SURGERY FOR THE CANCER OF THE LEFT COLON AND RECTUM – AN IDEAL OPTION OF MINIMALLY INVASIVE SURGERY? SINGLE CENTRE EXPERIENCE WITH 459 CASES
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BACKGROUND/OBJECTIVE. Hand-assisted laparoscopic surgery (HALS) has been introduced into clinical practice almost three decades ago, very soon after the introduction of conventional laparoscopic surgery. It combines the advantages of both laparoscopic (minimally invasive) and open surgery. Despite a good piece of data in the medical literature, the clear place of this kind of laparoscopic surgery today is not easy to delineate. Our study aimed to review single centre experience in treating patients with left colon and rectal cancers using HALS.
METHODS. This study was a retrospective analysis of prospectively collected data of 459 patients undergoing hand assisted laparoscopic colorectal surgery for left colon and rectal cancer, in a single tertiary care institution, National Cancer Institute, from January 1, 2006, to December 31, 2016. All consented patient with confirmed invasive cancer of left colon and rectum undergoing HALS were included in the analysis.
RESULTS. The patients' mean age was 64.14 ± 9.75 years. Female and male ratio was similar: 232 (50,5 %) versus 227 (49,5 %). The mean length of postoperative hospital stay was 6.7 (from 2 to 34) days. There were 5 (1,1 %) conversions to open surgery. Histological examination revealed mean lymph node harvest to be 15 ± 12, ranging from 8 to 90. Stage I, II and III cancer was similar in distribution accounting for 133 (28,9 %), 139 (30,3 %), 151 (32,9 %) patients respectively and 36 (7,8 %) patients with stage IV. 244 (53,2) of patients underwent surgery for the cancer of the left colon (sigmoid colectomy or left hemicolectomy), and 215 (46,8 %) patients underwent surgery for rectal cancer. Postoperative complications occurred in 28 (6.1 %) patients, eight of them (1,7 %) needed reintervention (laparotomy) because of anastomotic insufficiency and intraabdominal abscesses. Two (0,4 %) patients died during 30 day postoperative period.
CONCLUSION. In our experience, HALS was very reliable and feasible minimally invasive surgical technique for the cancers of left colon and rectum, related with short learning curve and excellent oncological clearance, short operating time and low number of postoperative complications. It may be used as a standard approach for this type of pathology, or as a safe bridge from open to conventional laparoscopic surgery.
[Key words: laparoscopic colectomy, hand-assisted laparoscopic surgery, conventional laparoscopic surgery, colorectal cancer]

INCIDENCE OF TOXIN – PRODUCING STRAINS OF CLOSTRIDIUM SPP. AMONG MEDICAL STAFF IN COLOPROCTOLOGY DEPARTMENT
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INTRODUCTION. The spread of microorganisms of the genus Clostridium in the population is 15 %. This phenomenon has not been studied in coloproctology department in Russia.
AIM. To estimate the spread of toxin – producing strains of Clostridium spp. among the medical staff in coloproctology department.
MATERIALS AND METHODS. There were analysed 39 of intraluminal faeces. The material was examined for the presence of glutamate dehydrogenase, toxins A and B of C.difficile using the immunochromatographic method. To detect microorganisms a matrix-activated laser desorption ionization time-of-flight mass spectrometry technique was used.
RESULTS. Positive tests for toxins A and B of C.difficile were in 28 (71,8 %) of 39 samples. We have identified the culture of the genus Clostridium in 24 (61,5 %) of the 39 samples of intraluminal faeces. 17 (70,8 %) of these samples had positive tests for C.difficile toxins and 7 (29,2 %) was negative. In addition to C. difficile (3) others Clostridium were identified: C.perfringens (17), C.bifermentas (4), C.tertium (3), C.disporicum (2), C.sordellii (2).
CONCLUSION. C.difficile was identified in 3 (7,7 %) cases. The spread of Clostridium microorganisms in medical stuff is almost 5 times higher than the average in the population. Professional activity is a risk factor for the spread of toxic strains of the genus Clostridium.
[Key words: clostridium difficile infection, pseudomembranous colitis, antibiotic-associated diarrhea, clostridial infection, medical staff, toxin – producing strains]

EXPERIENCE OBTAINED IMPROVES RESULTS OF LAPAROSCOPIC END STOMA CLOSURE
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Comparative analysis of laparoscopic reversal procedure after Hartamn's operations on the left half of the colon from 46 patients completed by the single surgeon for 3 year period.
The study confirmed that growing number of procedures allowed to expand indications for laparoscopic approach for restoring the continuity of the large intestine. It also decrease the time of intervention, reduces dimensions of operating wounds, blood loss and rate of intra-abdominal complications.
[Key words: colostomy, laparoscopic recovery operations, surgeon's experience]

APPLICATION OF THE FIT FOR DETECTION OF COLORECTAL PATHOLOGY. EXPERIENCE OF YAROSLAVL REGION
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AIM. To evaluate the effectiveness and diagnostic value of FIT «Colon View Hb and Hb/Hp» («Colon View»).
MATERIALS AND METHODS. The study included 588 patients who underwent FIT «Colon View Hb and Hb/Hp» («Colon View»).
RESULTS. When performing a three-time «Colon View» the diagnostic accuracy of the procedure increased for both – for hemoglobin (sensitivity – 92,86 specificity – 73,17) and for hemoglobin-haptoglobin complex (sensitivity – 88,1 specificity – 63,41), p<0,05. However, only 39,4 % of patients with a positive «Colon View» test agreed to undergo a colonoscopy.

CONCLUSION. Three-fold execution of the FIT «Colon View» increases the diagnostic accuracy of the method, as for Hb and for Hb/Hp. However, the effectiveness of the test using hemoglobin is higher. Joint use of two indicators (Hb and Hb/Hp) further improves the precision of this model for screening large adenomas and CRC.
[Key words: CRC screening, «Colon View», colonoscopy]

EXTRALEVATOR ABDOMINOPERINEAL EXCISION OF THE RECTUM: SHORT-TERM OUTCOMES IN COMPARISON WITH CONVENTIONAL SURGERY
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AIM. To compare short-term outcomes of extralevator abdominoperineal excision (ELAPE) of the rectum with laparoscopic and open abdominal approach and a conventional abdominoperineal excision (APE).
METHODS. A total of 90 patients who underwent APE for low rectal cancer were screened between 2013 and 2015. Patients of the first group (group I, n=42) underwent ELAPE:subgroup 1a (n=18) –with laparoscopic abdominal approach, 1b (n=24) – laparotomy; patients of the second group (group 2,n=48) – conventional APE.
RESULTS. The operation time for the group 1 was 250,2 ± 73,8 min vs 155,9 ± 28,4 min for the group 2 (p<0,001).There were significant differences betweensubgroup 1a and subgroup 1b and group 2 in terms of blood loss (193,4 ± 97,6 ml vs 307,1 ± 58,4 and 322,3 ± 175,4 ml).The postoperative complications rate was lower in the group 1 compared with the group 2 (7,1 % vs 22,9 %, p=0.03).Compared with APE with open abdominal approach (subgroup Ib and group II), laparoscopic ELAPE patients demonstrated less need in postoperative analgesia and shorter postoperative recovery period. The rates of inadvertent intra operative bowel perforation in the group I was significantly lower than it was in the group II (2,4 vs 16,7 %, p=0,024).The circumferential resection margin involvement rate was lower in the ELAPE group compared with the conventional APE group (4,8 % vs 22,9 %, p=0,015).
CONCLUSION: The ELAPE for rectal cancer patients is safe, and is associated with lower postoperative complications rate, circumferential resection margin involvement rate, and intraoperative bowel perforation rate compared with the conventional APE group. Laparoscopic ELAPE has advantages in operative blood loss, duration postoperative analgesia and postoperative recovery over ELAPE and conventional APE with open abdominal approach.
[Key words: Rectal cancer, Surgical treatment, Extralevatorabdominoperineal excision,Short-term outcomes]

EFFECTIVENESS OF HERBAL MEDICINES FOR THE TREATMENT OF POSTOPERATIVE PERINEAL WOUNDS
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AIM. The problem of treatment of postoperative wounds of the anal canal and perineum does not lose its relevance to the present time. Operated surgeons are concerned about finding new drugs for conservative treatment of postoperative perineal wounds.
In the State Scientific Center of Coloproctology, from December 2015 to January 2017, a study was conducted to evaluate the effectiveness of the Gem drug for the treatment of postoperative crotch injuries and anal canal.
METHODS. The study included 82 patients diagnosed with a chronic anal fissure, hemorrhoids, fistulas of the rectum. The main group (1) consisted of 40 patients who were treated with Gem, control (2) – 42 patients treated with water-soluble ointments for topical application.
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, at discharge and on the 28th day after surgery.
In each group, patients were included, homogeneous in terms of key indicators.
RESULTS. The quality of life and the intensity of the pain syndrome in the early postoperative period did not have statistically significant deviations in the patients of the main and control groups. Clinical evaluation of the course of the wound process with the use of the Gem drug showed that the duration of hyperthermia already decreases on the second day of the postoperative period from 35.7 % in the control patients to 10 % in the patients of the main group (p<0,05).
In the patients of the main group, in a cytological study, a significant decrease in the inflammatory wound reaction was revealed from 59.5 % to 10 % as early as the 15th day after surgery (p<0.001). Compared with patients of the control group, statistically significant clinical acceleration of wound surface healing was observed on the 15th and 28th days after the operation (by 34 % and 40 %, respectively) against the background of administration of the Hem preparation (p<0,05). Hem demonstrated itself as a safe drug – no side effects or allergic reactions were observed in any observation against its background. In patients of the main group on day 28 after the operation, a significant improvement in the quality of life as a physical from 36.7 ± 0.56 to 44.9 ± 0.42 and a mental state from 35,6 ± 0,5 to 44,8 ± 0,37, (p<0,001).
[Key words: Local treatment of postoperativel perineal wounds, a plant preparation, methods for assessing the course of the wound process]

SIMULTANEOUS RESECTIONS FOR SYNCHRONOUS COLORECTAL CANCER LIVER METASTASES
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BACKGROUND. The choice type of surgery between staged and simultaneous operations remains an actual issue in patients with colorectal cancer with synchronous liver metastases. The aim of this prospective study is to compare Short-term outcomes of patients with synchronous colorectal liver metastases treated by simultaneous or staged surgery.
METHODS. 172 suitable patients were treated in State Scientific Centre of coloproctology named after A.N.Ryzhih, Moscow, Russia between January 2013 and February 2017. Simultaneous colorectal and hepatic resections were performed in 128 patients; 44 patients underwent delayed hepatectomy. Short-term outcomes were compared in patients who underwent simultaneous colorectal and hepatic resection and staged surgery depending on the demographic, clinical and morphological characteristics and type of operations.
RESULTS. Median size and number of metastases in the liver were significantly smaller in the group of simultaneous operations: 2.2 cm vs 3.2 cm (p=0.034) and 2 vs 3.5 (p=0.0001), respectively. Major liver resections were rarely performed in group of simultaneous operations: 20 % vs 61 % (p=0,0001). Mortality and complications rates were similar in both groups: 1 % vs 2 % (p=0,98) and 30 % vs 45 % (p=0,08), respectively. Median days after surgery were also similar in both groups: 14 (12-21) vs 14 (12-21) days, (p=0,6), respectively. Median bloodloss in cases of major liver resections in group of simultaneous operations was lower than in analogical group in staged surgery: 345 ml vs 900 ml (p=0,007), respectively. There was no difference in mortality and complications rates between major liver resections in both groups: 0 vs 4 % (p=0,98) and 52 % vs 48 % (p=1,0), respectively. Rates of acute hepatic insufficiency were similar in both groups of major liver surgery: 4 % vs 11 %, (p=0,36).
Median inpatient days were also similar in both groups of major liver surgery: 19 (15-27) vs 19 (11-27) days (p=0,1), respectively.
CONCLUSION. Simultaneous operations, requiring economical resections are indicated in cases of synchronous metastases of colorectal cancer in the liver. Simultaneous major liver surgery do not lead to increased bloodloss, complications, mortality rates and inpatient days regardless on type of colorectal surgery in cases of synchronous colorectal cancer liver metastases.
[Key words: synchronous colorectal cancer liver metastases, liver resections, colorectal cancer, Simultaneous resections]

ON APPLICATION OF MECHANICAL COLORECTAL ANASTOMOSIS AFTER ANTERIOR RESECTION AND LOW ANTERIOR RECTAL RESECTION
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AIM. to evaluate results of anterior (AR) and low anterior resection (LAR) for rectal carcinoma with stapler anastomosis.
MATERIALS AND METHODS. 114 patients aged from 33 to 84 years were included into study. Of them 60 patients had low anterior rectal resection.
RESULTS. Anastomotic leakage developed in 7 (6,1 %) cases (5 (8,3 %) 5 after LAR and 2 (3,7 %) after AR) between POD 3 and 7 days (p<0,05).
CONCLUSION. Mechanical preparation of the colon, precise techniques of mobilization of the rectum and mesorectum, prevention of tension on suture line, compliance with the application techniques of mechanical anastomosis, control of its integrity, considering of risk factors allow to produce a secure suture and are important in prevention of anastomosis leakage.
[Keywords: mechanical colorectal anastomosis, low anterior rectal resection, anterior rectal resection]

STRAIN ELASTOGRAPHY AS DIAGNOSTIC TOOL FOR EVALUATION OF RECTAL NEOPLASMS
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AIM. To establish cut-off point of strain ratio for rectal adenocarciomas.
PATIENTS AND METHODS. Forty-five patients (29 female) at mean age ± SD of 61 ± 9.5 (range, 38-80) years with histologically confirmed rectal neoplasia were included into study. Endorectal Ultrasonography accomplished by strain elastography was performed by Hitachi Hi Vision Preirus (Japan). All patients were treated by Transanal Endoscopic Microsurgery.
RESULTS. Pathologic examination of operative specimen revealed 31 adenomas (5 intraepithelial carcinomas) and 14 invasive carcinomas. Cut-off point of Strain Ratio was 5,7 with sensitivity of 0.94 (95 %CI 0,68-0,99), specificity of 0.92 (95 %CI 0,74-0,98), positive predictive value of 0,90 (95 % CI 0,84-0,96) and negative predictive value of 0,96 (95 %CI 0,85-0,99).
CONCLUSION. Obtained results testified high diagnostic value of strain elastography and made one perspective method for detection of occult malignancy in large rectal adenomas.
[Key word: rectum, neoplasm, endorectal utrasonograpy, elastography]

REPEAT CYTOREDUCTIVE SURGERY AND INTRAPERITONEAL INTRAOPERATIVE CHEMOTHERAPY IN THE TREATMENT OF PERITONEAL CARCINOMATOSIS RECURRENCE FROM COLORECTAL ORIGIN
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AIM. To assess results of cytoreductive surgery (CRS) and intraperitoneal intraoperative chemotherapy (IIC) in patients with peritoneal carcinomatosis (PC) and PC recurrence (PCR) of colorectal origin.
METHOD. 76 patients with PC were treated by cytoreductive surgery (CRS) and intraperitoneal chemotherapy with mitomycine C (20 mg/m^2). In 57 (75 %) pts. carcinomatosis was synchronous. The median PCI – 3 (2;6) (1-23). There were 15/76 (20 %) pts. with potentially resectable distant liver and lung metastases.
RESULTS. Complications occurred in 15 (20 %) pts. Mortality rate was 1,3 %. The first PCR was developed in 34 (45 %) pts. The median time after first surgery – 11 (9;19) months. 19 (56 %) were underwent CRS with IIS and CC0 status was achieved in 18 cases. The second PCR registered in 8 (18) pts. after last CC0-resection. Median time was 12 (6;29) (2-37) months. In 6 (8) pts. CC0-operation was performed.
The median disease-free survival (DFS) and overall survival (OS) was 20 and 36 months, respectively. The 1-, 3-, 5-year OS and DFS rate was 64 %, 31 %, n/d and 86 %, 48 %, 24 %, respectively. The median OS of patients operated for PCR was statistically significantly greater than nonoperativepatients with PCR – 37 and 26 months, respectively (p=0,029).
CONCLUSION. Combined treatment approach for patients with PC from colorectal origin achieved low postoperative morbidity andmortality, and it provided good long-term survival in our experience.CRS with IIS in PCR is feasible in selected patientsand improve survival rates.
[Key words: carcinomatosis, carcinomatosis recurrence, colorectal cancer, cytoreductive surgery, intraperitoneal chemotherapy]

THE ROLE OF NEUTROPHIL-TO-LYMPHOCYTE RATIO (NLR) IN THE DIAGNOSIS OF LOW COLORECTAL ANASTOMOSIS LEAKAGE

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Anastomotic leakage (AL) following surgical interventions associated with total mesorectal excision (TME) and formation of fistula is the most common and dangerous complication of this kind of intervention, its incidence is 17 %.
OBJECTIVE. Determine diagnostic value of Neutrophil-to-Lymphocyte Ratio (NLR) in the diagnosis of low colorectal anastomosis leakage after low anterior resection (LAR).
Patients and methods: 100 patients with epithelial tumors of rectum in the period 2013-2016 yy underwent surgery – LAR with colorectal anastomosis and preventive stoma. In patients without clinical symptomsrentgenological study was performed in order to identify asymptomatic AL on day 7 after the surgery. An incidence of AL, difference in the levels of NLR in patients with AL and consistent anastomosis, we also assessed sensitivity, specificity, positive (PPV) and negative predictive value (NPV) of these markers.
RESULTS. ALwas diagnosed in 20 % (20/100): in 11 % (11/100) with clinical manifestations, in 9 % (9/100) – without them (contrast leakage according to X-ray examination). In the group of patients with anastomotic leakage, the median of NLR differed from that in patients without compromised integrity of anastomosis at both postoperative day 3 (7,1 vs 5,7, respectively, ((t-test) p=0,042) and postoperative day 6 (6,8 vs 4.4, respectively, ((t-test) p=0,004).
Conclusion: an incidence of anastomotic leakage was 20 %, but only 11 % of the patients had clinical manifestations. Changes in the level of NLR in the postoperative period correlated with the fact of AL.
[Keywords: low anterior resection, colorectal anastomosis, anastomotic leakage, Neutrophil-to-Lymphocyte Ratio]

INDOCYANINE GREEN INTRAOPERATIVE FLUORESCENCE ANGIOGRAPHY AS PROPHYLAXIS OF COLORECTAL ANASTOMOTIC LEAKAGE (a systematic review)

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[Key words: fluorescence angiography, indocyanine green, anastomotic leakage, colorectal surgery]

COMPLICATED CROHN'S DISEASE IN ADOLESCENTS: FEATURES, INDICATIONS FOR SURGICAL TREATMENT, DIFFICULTY OF TRANSITION OF CARE (review article)

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[Keywords: Crohn's disease; adolescents; complications; surgery; transition of care]