TRANSANAL ENDOSCOPIC RECTAL MUCOSECTOMY IN PATIENT WITH ULCERATIVE PROCTITIS – CASE REPORT

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ABSTRACT

AIMS: Ulcerative colitis (UC) is a chronic bowel disease defined by rectosigmoid mucosal inflammation and is associated with an immune system dysregulation. For intractable or complicated ulcerative colitis (UC), restorative proctocolectomy with ileal pouch-anal anastomosis (IPAA) is the treatment of choice. However, when nutritional status and haemoglobin levels are poor or if the patient is receiving treatment with steroids, pouch fashioning should be delayed and an urgent/emergency subtotal colectomy(SC) with terminal ileostomy and closure of a long rectal stump is to be preferred.

MATERIAL AND METHODS: A 44 year-old female from Burgas was admitted urgently to the country hospital three years ago followed by multiple diarrheic stools with blood and severe abdominal cramping. The patient had experience with recurrent episodes of ulcerative colitis for 12 years. Her condition got worse despite the intensive medical treatment and underwent colectomy with terminal ileostomy and closure of a long rectal stump. The postoperative hospital course was unremarkable, with findings for seven wound formed intestinal fistulas. Patient perceived intestinal fistulas as significant nuisance, associated with bad cosmetic results and a poor quality of life. In 2014, the patient referred herself to our institution for restorative bowel surgery and fistulas elimination.

RESULTS: In April, 2014, the patient underwent partial rectal-TEM-mucosectomy, approximately 30 days later, she underwent definitive rectal-TEM-mucosectomy. Her immediate postoperative course was oral 5-aminosalicylic acid therapy for 3 months. However, after therapy, biopsy samples, taken at the time of proctoscopy from rectal wall, were negative for presence of rectal mucosa and inflammation. The patient was hospitalized again in our institution, laparotomy with ileorectal J-pouch anastomosis and fistulas elimination were performed. The postoperative course was benign and she was discharged from the hospital on 14 POD. Postoperative follow included proctoscopy with biopsy every 3 months in the first and the second year, after that, every 6 months for a 5-year period.

CONCLUSIONS: Rectal-TEM-mucosectomy is currently the technique of choice for patients with UP, it has shown to be superior to conventional surgical techniques. TEM-technique allows better visualization of the surgical field and guarantees complete eradication of the UP and incidence of mucosal dysplasia and cancer development. Patients undergoing rectal-TEM-mucosectomy show earlier return to normal activity and hospital discharge. The TEM-technique has demonstrated significantly lower recurrence rates.

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COMPARATIVE ANALYSIS OF SURGICAL PARAMETERS OF DIFFERENT TYPES OF SURGERY IN LOCALIZED AND LOCALLY ADVANCED COLORECTAL CANCER

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ABSTRACT

Introduction. Preoperative determination of the patient as such with advanced disease (locally advanced tumor, engaged regional and non-regional lymph nodes, distant metastases) is often difficult, especially for the first two sets of characteristics, but it is a key point in planning the type and volume of the operation. A lack of presentation of patients with suspected advanced disease to specialized oncology board (multidisciplinary team meeting) prior to surgery leads to inadequate preoperative planning of the type and volume (potentially curative, i.e. radical surgery or palliative surgery) of the intervention in many cases. In a clinical sense, the term "advanced colorectal cancer," especially locally advanced colorectal carcinoma (LACRC) concentrates in itself efforts to determine the dividing line between the possibility of radical and non-radical treatment - in particular, surgical resection. The final decision about the type (potentially radical or palliative surgery) and the volume of resection is taken by the surgeon intraoperatively through an assessment of the specific tumor situs, co-morbidity and technical ability as the main objective is to achieve complete R0-resection.

The aim of this study is to compare specific surgical indicators such as average operative time, intraoperative blood loss, transfusions performed (intraoperative and in the next 24 hrs.), Complications and survival between monobloc radical resection – in a localized tumor (cT1-3),and combined resection, extended resections, concomitant resection and palliative surgery - patients with LACRC (in cT4a-b).

Material and Methods. There were analyzed clinical, para-clinical and biostatistics parameters in patients with established colorectal cancer operated on at the Department of Surgery, University Hospital "Aleksandrovska" during the period 2002-2014. The total number of operated patients is 1196, which provides a representation of the groups and high reliability of the results. The type of study is a retrospective cohort with a degree of evidence 4 of the 5 point scale for level of evidence and grade of recommendation, in accordance with EBM - evidence based medicine.

Results. Compared with other types of radical surgery, the performance of block resections in macroscopic intraoperative presumption of locally advanced process was associated with prolongation of the operating time - up to 240-300 min. (mean 225 min.) It was due to technical difficulties and requirements as in the resection (destructive) stage and the stage of reconstructive surgery. Accordingly, the intraoperative blood loss was in a broad range - from 200 to 1300 ml. There was required a hemo-transfusion of 2 to 3 units of packed red cells during surgery and in the period of up to 24 hours after completion. The data show a significant increase in values for operative time, intraoperative blood loss amount and the number of units of hemotransfused packed red cells in the combined multivisceral resections when compared to standard resection ($p = 0.0358$) and especially with palliative interventions in locally advanced tumor ($p = 0.0179$).

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Surgical postoperative complications, not imposing corrective surgery (in Clavien-Dindo-classification for surgical postoperative complications - Grade IIIa) - mostly superficial SSI (surgical side infection) were observed in 7.8% of the whole group, not demonstrated a significant difference to the rate in all other non-bloc radical resections and palliative operations - an average of 8.8%. In terms of major surgical complications (Clavien-Dindo - Grade IIIb - IVa, b) data showed significantly greater frequency of significant complications in combined multivisceral resection for locally advanced colorectal cancer - 6.8% compared with palliative surgery in advanced tumors - 1.6% (p = 0.0241) and nonsignificant difference between combined resection and standard single organ resection (p = 0.452), and between advanced and combined surgery and standard operations for radical removal of limited and localized within the colon tumor without concomitant surgical pathology (p = 0.193). The early postoperative mortality in patients with multivisceral resections due to significant intra- and post-operative surgical complications was found in 5 patients - 4.9%, while the overall early postoperative mortality resulting from surgical and non-surgical complications was 5.8%. The average survival in the "potentially curative" multivisceral resections in patients with LACRC is approximately 33 months (32.856) with 95% confidence interval (29.349 ÷ 36.319). At the same time, when performed palliative operations in cT4 patients, median survival is equal to 17.241 months with 95% confidence intervals (13.286 ÷ 21.196). The above data clearly show a statistically significant difference (p = 0.00129) in achieving longer survival (survival rate) in surgically aggressive behavior towards locally advanced tumor process, compared to the performance of palliative procedure.

Discussion. The Clinico-pathological definition of advanced colorectal cancer practically excludes performing a radical surgery by "standard resection" - removal of the tumor with part of the bowel and surrounding tissues in the "perfect" volume determined of regional blood flow in the absence of signs of invasion beyond the primary site. This, in addition to the purely technical difficulties, is also associated with a significant prolongation of the average operating time, blood loss and intraoperative and postoperative complications compared with palliative operations, but not with other types of radical interventions. The ability to achieve complete R0-resection, in such cases, however, is relevant to the achievement of the "curative" effect of surgical treatment of patients with locally advanced colorectal cancer.

Keywords: *locally advanced colorectal cancer, radical, palliative operations, surgical parameters*

ANALYSIS OF THE LEARNING CURVE ON THE QUALITY OF SURGICAL PROCEDURE AT 300 LAPAROSCOPIC COLORECTAL OPERATIONS

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ABSTRACT

Introduction. We compare the quality of the surgical procedure during our training in laparoscopic coloproctology.

Material and Methods. The study included 300 laparoscopic colorectal surgery due to colorectal cancer in the period 01.03.2009 to 31.05.2013 performed in MHAT - Evrohospital Plovdiv. The patients were divided into three periods according to the number of interventions performed. The first period is 1-20 operation, second period 20-40 - surgical intervention and the third more than 40 procedure.

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Results. We have observed a significant reduction in the operating time in laparoscopic right hemicolectomy (185 min. vs 100 min.). Anterior resection operating time for the upper rectal cancer is reduced to 120 min, compared to 210 min . At the same time, for distal rectal operations there was not a significant reduction in the duration of the surgery.

The patients with conversion decreased from 11% in the first period to 4% in the third , as these are mostly patients with distal rectal cancer. The frequency of insufficiency was 6% during the first period, with no significant difference in perspective.

Conclusion. With the ascent of the training curve reduced are the operating time and the percentage of convertion rate. The nature of the complication is changed. The major surgical complications do not change as a result of the training, most likely due to an extension of the indications for laparoscopic surgery in the accumulation of relevant experience.

ANNUAL REPORT OF THE MEDICAL UNIVERSITY OF SOFIA CANCER BIOBANK

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ABSTRACT

Introduction: This is the annual report of the project of Department of surgery, Medical University of Sofia (MU-Sofia) for the establishment of a cancer biobank at the Molecular Medicine Center, MU-Sofia. The aim of this biobank is to collect DNA, plasma, tumour and normal tissues samples, as well as the exact clinical and pathological information of Bulgarian patients with colorectal, gastric and thyroid cancer, and to provide a basis for a future scientific research.

Materials and methods: The study was approved by the Ethics Committee of MU-Sofia. All patients enrolled were diagnosed and treated at the Departments of Surgery and General and Clinical Pathology, University Hospital "Aleksandrovska" between December 2014 and May 2015. The patients were informed about the aims of the project and confirmed their agreement to participate upon signing an informed consent. The biological samples and the accompanied clinical and pathological information were collected and stored at the Biobanking Facility of the Molecular Medicine Center, Department of Medical Chemistry and Biochemistry, Medical University of Sofia.

Results: Until now the biobank consists of 24 patients – 19 with colorectal, 2 with gastric and 3 patients with thyroid cancer. Colorectal cancer patients were from 50 to 79 years old at the time of diagnosis. Five of the tumors were localized in the rectum, 1 in the sigmoidal colon, 2 in rectosigmoidal region, 3 in colon ascendence, 3 in transversal colon, 3 in colon descendens, one in the coecum and one multiple cancer with 4 localizations. Eleven of the patients have been previously diagnosed with polyps of the colon. None of them had a family history of colon cancer. Three of the patients have regularly taken aspirin.

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Conclusion: The current biobank is still of a very small size to offer significant results in population based research of risk or prognostic factors, but we hope it will increase in the years to come as we will continue working and looking for new collaborations and future prospects.

ANTERIOR RESECTION SYNDROME

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ABSTRACT

Sphincter-saving operations are the surgical techniques that are used when rectal cancer is located near the anal sphincter complex. Ultralow anterior resections of the rectum include a variety of techniques but all of them have a backdrop of the functional asset: small neorectal capacity and related high endo-neorectal pressures act together on a weakened sphincteric mechanism. Some patients (10-20%), after ultralow anterior resection of the rectum, have signs and symptoms of anterior resection syndrome: high bowel action/day, multiple evacuations within a limited time period, urgency, and fecal incontinence may occur. Validated instruments to evaluate bowel function after sphincter-preserving surgery for rectal cancer may be used: MSKCC bowel function instrument and LARS score are frequently employed. The pathophysiology of the anterior resection syndrome is very intricate: colonic dysmotility, neorectal reservoir dysfunction, and anal sphincter damage may play each time a role. Radiotherapy (neoadjuvant and adjuvant), anastomosis related complications and previous anal and/or pelvic surgery are risk factors. Therapy must be tailored to the pathophysiology in the individual patient and multimodal rehabilitation is a useful method for managing the anterior resection syndrome. Each rehabilitative technique can be used when a specific damage of a single continence mechanism occurs and the overall mean scores show a significant improvement after a rehabilitative treatment. A few papers suggest an alternative therapeutic solution: a sacral neuromodulation can be successfully used and good results may be obtained.

ANTIANGIOGENIC TREATMENT IN COLORECTAL CANCER – ADVANTAGES AND DISADVANTAGES

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ABSTRACT

The antiangiogenic era in oncology starts with the Folkman's publication in 1971, where he suggests its important future role in the anticancer treatment. More than 30 years have elapsed until FDA approved the first angiogenesis inhibitor, used in the treatment of the metastatic setting of colorectal cancer. Due to this biological treatment, a significant improvement in the mean overall survival of the patients with metastatic colorectal cancer has been achieved. Multiple trials have tested the antiangiogenic treatment in different settings, such as neoadjuvant, adjuvant and palliative in the last decade. Despite this progress, there have

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been identified no predictive markers that could potentially target the use of angiogenesis inhibitors to a specific subgroup of patients who would benefit most.

We ran a single-center 2-year study where we tried to correlate different factors – VEGF isoforms and the tumor expression of VEGFR, neuropilin with benefit of the addition of antiangiogenic inhibitors to standard cytotoxic therapy in patients with metastatic colorectal cancer. We expect to report our results by the end of this year.

Key words: *angiogenesis, angiogenic inhibitors, VEGF, VEGFR, neuropilin, chemotherapy, colorectal cancer.*

A CASE OF SYNCHRONOUS BLEEDING FROM ESOPHAGEAL VARICES AND APPENDIX IN PATIENT WITH DECOMPENSATED LIVER CIRRHOSIS

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ABSTRACT

Introduction: Lower gastrointestinal bleeding is defined as any bleeding localized distally to Treitz's ligament. Although in most cases a tendency for self-limitation is observed, in 10% of the cases the bleeding is massive. Unlike upper gastro-intestinal bleeding, it is more difficult for diagnostics and choice of treatment strategy. Bleeding from the appendix is an extremely rare condition and only 21 cases are described in the English literature.

Case report: We present a 61-years-old patient with bleeding from esophageal varices, controlled with a Blakemore tube and subsequent band ligation by Six Shooter® (Cook Medical, USA). Excessive defecation of clear blood and coagula was registered on the next day with unstable hemodynamics and rapid decline of hemoglobin level, while the upper endoscopy did not reveal the source of bleeding. An emergency angiography was performed. It revealed a bleeding from distal branches of the ileocolic artery. It was confirmed by the computed tomography angiography that followed. The patient underwent appendectomy and was discharged in a good condition.

Conclusion: The massive bleeding from gastro-intestinal tract requires rapid diagnostics and taking adequate decision for the time and kind of surgical intervention. Blind resections are related to high morbidity and mortality, which urges exact localization of the bleeding. In relation to this angiography and computed tomography angiography are valuable diagnostic methods which allow for quick and accurate diagnosis and help the surgeon in the decision making process.

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CLINICAL AND IMMUNOLOGICAL CHARACTERISTICS IN COLORECTAL RESECTIONS

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ABSTRACT

Introduction: The surgical intervention induces postoperative immunosuppression, which causes a number of complications in the postoperative period. The degree of immunosuppression depends on the severity of the intraoperative injury. In our study, we compare changes in immunity and several clinical parameters in patients after minimally invasive surgery and a conventional one for colorectal cancer (CRC).

Material and methods: We have studied 40 patients with colorectal cancer, 21 of them underwent minimal invasive colorectal resection. The patients had a mean age of 64.8 years (49 - 86). The remaining 19, who had a mean age of 66.2 years (56-84) were operated conventionally (open resection). Blood serum for laboratory analyses was taken three times in succession: 2 hrs. prior to surgery, 24 hours and 7 days postoperatively. We studied complete blood count, total protein, albumin and markers of inflammation (C-reactive protein, ESR, fibrinogen). Lymphocyte populations T- (CD3 +), B- (CD19 +) and NK-cells were tested, activation of leukocytes, according to the expression of HLA-DR, CD38, CD279, CD163. Statistical analysis of the results was performed using software package SPSS.v21.

Results: There are no significant preoperative differences in the outcomes between the two groups. In the conventional group of 24h. post surgery was observed a significant decrease in the lymphocyte percentage, an increase in the WBC count, the granulocyte rate and C-reactive protein. These levels are retained until the seventh postoperative day (SOD). The activated monocytes (CD163 +), total protein and albumin, eosinophil, monocyte percentage, lymphocytes, basophils and NKT-cells (CD3 + CD16 / CD56 +) were significantly decreased in the conventional group compared to the first postoperative day after minimally invasive. This group presents with a more rapid clinical recovery and shortened hospital stays, unlike the conventionally operated.

Conclusion: Minimally invasive colorectal resections have comparable oncologic results, less tissue damage to the patient, surgical metabolic response and less pronounced immunosuppressive response unlike conventional colorectal resections.

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COLORECTAL RESECTIONS – CLINICAL AND IMMUNOLOGICAL RESULTS

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ABSTRACT

Aims: Surgery induces a generalized state of postoperative immunosuppression responsible for a lot of complications in postoperative period. The magnitude and the type of the intraoperative injury depend on the extent and duration of postoperative immune suppression. This study compared clinical outcomes and immune changes after minimally invasive and open colorectal resections in patients with colorectal cancer (CRC).

Material and methods: Study included 40 patients with CRC who underwent colorectal resections in our clinic last year. Twenty one of them underwent minimally invasive surgery, with a mean age of 64.8 years (49-86). The rest 19 patients underwent conventional surgery, with a mean age of 66.2 years (56-84). Blood tests were performed 24 hours prior to surgery, 24 hours and 7 days after surgery. Analysis included full blood count, total protein, albumin and markers of inflammation (CRP, ESR, fibrinogen). T- (CD3+), B- (CD19+) and NK-cell lymphocyte populations were studied by means of flow cytometry, as well as activation of leucocytes, according to the expression of HLA-DR, CD38, CD279, CD163 and some clinical parameters. All data were analyzed using SPSS version 21.

Results: There was no significant difference in the preoperative results between the minimally invasive group and the conventional group. At 24 hours after surgery there was a significant decrease in the lymphocyte percentages and an increased leucocyte count, granulocyte percentages and CRP levels in conventional group. This ratio was maintained for 7 days after surgery. Activated monocyte (CD 163+), total protein and albumin, eosinophiles, percentage of monocytes, lymphocytes and NKT-cells (CD3+ CD16/CD56+) were significantly decreased in the conventional group compared to the minimally invasive group during the first postoperative day.

Conclusion: Minimally invasive colorectal cancer resection is a technically feasible option, with comparable results in terms of oncologic clearance, lesser degrees of tissue injury, surgical metabolic stress, and immunosuppressive response to conventional open surgery. Patients undergoing minimally invasive resections demonstrated improved clinical recovery and shorter hospital stay than patients undergoing open surgery.

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COMMONLY ENCOUNTERED LEGAL AND COMPLIANCE CHALLENGES IN THE SURGICAL PRACTICE

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ABSTRACT

This work is prompted by the increase of legal complaints filed, investigations started and legal actions taken against surgeons. The lack of understanding about the legal specifics of their work – a legally regulated activity with a high-risk factor – is undoubtedly a prerequisite for the more frequent engagement of surgeons' in the search of liability.

The following overview aims to present the active regulation and existing legal practice related to the types of liability in the surgeon's profession. The goal is to inform and educate the surgeons about the basic types of legal responsibilities they undertake daily, their differences and the events that may trigger liability. The introduction of surgeons to the legal framework in which they operate will provide them with additional security and confidence in the compliance of their actions and will influence positively their team, their medical staff and their patients.

Keywords: *liabilities and legal responsibility for surgeons, medical malpractice for surgeons, legal regulation of the surgical profession*

DERMAL V-Y ADVANCEMENT SKIN FLAP FOR CHRONIC ANAL FISSURE

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ABSTRACT

Introduction: The anal fissure is a common disorder which affects all age groups with an equal incidence in both sexes. It is a tear in the anoderm distal to the dentate line 1. The most common location for a primary anal fissure is the posterior anal midline. Only 10% of females and 1% of males have a fissure located in the anterior midline 2, 3. The exact etiology of the anal fissure remains unclear. The work of Shonten discovered significantly lower anodermal blood flow at the fissure site than at the posterior anal midline. Despite this fact, the new pathophysiology concept is: pain-spasm-ischemia-nonhealing vicious circle 5. In the era of chemical sphincterotomy with: glyceril trinitrate, calcium antagonists, sympathetic neuromodulators and botulinum toxicum. When medical treatments fail, a surgical approach becomes necessary. Lateral internal sphincterotomy is considered the "gold standard" therapy for chronic anal fissure (CAF) and relives symptoms with a high rate of healing and less than 10% of long-term recurrence 6. Anal advancement skin flap is indicated for patients with primary or recurrent fissures, women with an obstetric history with low resting anal canal pressure and for anterior midline CAF 7.

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Aim: To present experience in treatment of recurrent CAF with concurrent excision and V-Y advancement skin flap.

Patients and method: In the period 2006-2014, fifteen patients with recurrent CAF were treated with an excision of the anal fissure and the defect covered with V-Y advancement skin flap. The mean age of the patients was 45 years (21-80). Six were males and 9 females. In the lithotomy position, a general anesthesia was used with metronidazole prophylaxis. Complete excision of CAF was performed and the defect was covered with subcutaneous V with an incision made from the anal verge extending caudally. The skin Y flap is then advanced into the anal canal and positioned to cover the defect and sutured in place. In 2 patients internal sphincterotomy in loco was performed, as a result of insufficient previous internal lateral sphincterotomy. Patients used laxatives two months after the operation.

Results: Fifteen patients were treated for CAF. Operations were performed in general anesthesia as short stay-hospital procedures. Intra and early postoperative complications including flap necrosis were not detected; Main duration of operation was 15 minutes. Complete wound healing occurred in 4-6 weeks period. The intensity and the duration of pain after defecation reduced after the first postoperative defecation. In all patients complete relief of symptoms of CAF occurred. According to the Thornton scoring system of internal anal sphincter exposure, the patients were with 2 and 3 fissure score 8.

Discussion: In 2006, Nelson's meta-analysis (where crude criteria were applied), relevated that glycerin trinitrate, botulinum toxicum and surgery had overall response of about 55%, 65%, 85% respectively 9. The third revision of the American Society of Colon and Rectal Surgeons (ASCRS) guidelines 2010, provides a strong recommendation for lateral internal sphincterotomy as the therapy of choice (based on high quality grade 1a evidence). However, ASCRS maintains that non-operative treatment should usually be considered as the first step in CAF therapy (based on moderate-quality 1b evidence recommendation) 10. Patients with anterior anal fissures have been shown to have significantly lower anal pressures, suggesting a different pathophysiology in the development of these fissures and lateral internal sphincterotomy results in non-helaing 11.

Two independent studies showed 98% success rate with advancement anoplasty for the treatment of CAF 12, 13. Another study showed 100% success rate and no recurrence in 10 patients who underwent fissurectomy and V-Y flap anoplasty with injection of botulinum toxicum in the treatment of anterior anal fissure with hypertonia of the internal anal sphincter 14. Dermal V-Y advancement skin flap shows a very low incidence of mild anal incontinence compared to the lateral internal sphincterotomy 15.

Conclusion: V-Y anoplasty is a safe procedure in the treatment of recurrent CAF. It is simple and easy to perform and produce greatest healing rate. Dermal flap procedure appears to be efficient without increased risk of incontinence and shows better results in comparing with the internal lateral sphincterotomy. V-Y advancement anoplasty can be recommended for patients following failed internal lateral sphincterotomy and anterior midline anal fissure.

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ENDOSCOPIC TRANSANAL RESECTION WITH UROLOGIC RESECTOSCOPE FOR ENDOSCOPICALLY UNREMOVABLE RECTAL POLYPS

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ABSTRACT

Introduction: Endoscopic polypectomy is impractical for resection of large and broad-based polyps. Submucosal transanal excision is impossible in cases of large (≥3 cm) and highly localized rectal lesions. In this article we share our experience with endoscopic transanal resection of rectal villous adenomas removed with an urological resectoscope.

Materials and methods: In two patients, men 58 and 52 years with villous polyps unsuitable for endoscopic polypectomy and submucosal transanal excision we performed transanal endoscopic resection. All procedures were performed under spinal anesthesia and an urological resectoscope was routinely used for transurethral prostatectomy (Storz 26 Ch).

Results: The size of the two removed polyps was 4.5 cm and 5 cm, respectively. In the first patient the distance to the polyp from the linea dentata was 6 cm, and in the second seven centimeters. Both poylps were villous, while in first patient of preoperative histological examination found dysplasia first degree. In the postoperative period we did not have complications. The control examinations carried out on 1, 3 and 6 months did not found pathological findings. In our first patient On the 12th month the first patient was diagnosed with cloacogenic carcinoma of the anal canal and the patient was reffered to radiotherapy.

Conclusions: Transanal endoscopic microsurgery is a routine method in Europe and the USA, but in Bulgaria is still little known and applied. Transanal endoscopic resection of rectal polyps with urological resectoscope is simple and a procedure well tolerated by patients. All urological departments performing transurethral resection have this tool at disposal and trained specialists, which extends the capabilities of surgeons in the removal of highly localized and broad-based polyps.

EXTENDED COLO-RECTAL SURGERY FOR EXTENDED COLONIC, RECTAL, AND PELVIC PRIMARY OR RELAPSE MALIGNANCIES

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ABSTRACT

Background: Extended colorectal surgery means performing colorectal resections that are extended either at length or at width – including surgery on the adjacent organs. The tumors that deserve extended colorectal

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surgery are: 1/ advanced primary colonic or rectal cancers; 2/ relapse or metastatic tumor of any origin, involving colon or rectum and the adjacent organs.

Aim: We define the most common sites of advanced abdominal or pelvic tumors for which extended colorectal surgery was performed with a curative intent. We compare the morbidity for the extended colorectal surgery with those for the non-extended ones. We assess the survival rates for the radical surgery compare to palliations only.

Materials and methods: This is a retrospective of the advanced abdominal or pelvic malignancies we operated throughout the period 2004-2013 – a total number of 210 patients. We assess the tumor as an origin and a localization, primary or relapse, spread and the performed surgery.

For 125 pelvic cancers involving rectum we performed pelvic exenteration (PE) – total (56 patients) or posterior (69). These cancers are: Locally advanced rectal cancer (LARC), involving urinary organs and/or genitalia (including relapse) - 38; Locally advanced genital carcinoma, involving rectum – 28; Pelvic relapses of genital carcinomas (cervical, endometrial or ovarian), involving rectum – 59.

Cancers situated in the splenic flexure region expand easily to the adjacent organs and require extended upper abdominal surgery. For 63 extensive malignancies, originating from the colon - 29; the pancreatic tail - 9; metastatic (ovarian cancer) – 25; surgery may comprise colonic resection (left to subtotal); splenectomy; total omentectomy; partial gastric resection; distal pancreatic resection; rarely left suprarenalectomy and renal adipose capsule resection; diaphragm resection.

In cases of involvement of coecum, ascending or transverse, or sigmoid colon with ovarian cancer metastases, a relevant colon resection with anastomosis is made together with the extended pelvic surgery.

In all cases is possible to perform segmental small bowel resection if it is involved.

For right hemicolon cancers involving duodenum a synchronic duodenal resection of different extent is required. Duodenal repair comprises suture (2 cases); duodeno-jejunal derotation with D2-jejunal anastomosis (2 cases).

Subtotal colectomy for bowel obstruction from sigmoid-descending or sigmoid-rectal cancers – 18.

Results: Posterior PE have morbidity similar to those of abdomino-perineal resections, while total PE have morbidity of 20% to 63%.

Morbidity for extended colonic resections: Leakage rate does not differ from non-extended cases. The complications are associated with the adjacent organs operations. Left subdiaphragmal liquid collection – 23 patients: with long term discharge – 15; needing additional percutaneous drainage – 8.

Survival for T4 colorectal cancers: 3-years – 75-87%; 5-years – 45%. Patients with palliations only live 2 to 6 months. Radical PE patients have 5-years survival of 22%.

Conclusions: Extended colorectal surgery is performed with curative intent. This surgery is the only option for radical operations for extended tumors, originating from or involving the colon or the rectum. Despite that this surgery leads to an increase in morbidity, compared to standard operations, it also results in a significant increase in survival.

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INDICATIONS AND CONTRAINDICATIONS FOR SURGICAL TREATMENT IN PATIENTS WITH IBD

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ABSTRACT

Introduction: The therapeutic approach in inflammatory bowel disease (IBD) has undergone a significant progress over the last decade. Approximately 20% of the patients with ulcerative colitis (UC) are operated on while up to 80% with Crohn's disease (CD) require surgical treatment.

Material and methods: There has been a retrospective study of all patients with IBD between 2001 and 2014 who underwent surgery at "St. Marina" University Hospital

Results: Thirty-one patients (21 with Crohn's disease (CD) 10 with ulcerative colitis (UC)) underwent surgical treatment. The most frequent clinical symptoms of CD were: bowel obstruction, abscess, phlegmon of the anterior abdominal wall, stricture, fistulization and peritonitis. The performed surgical interventions include: resection of the terminal ileum and caecum with subsequent primary anastomosis, lavage, adhesiolysis, stricturoplasty, colonic resection with caecostomy. Leading symptoms in UC were bleeding, ileus, malignancy, perforation. The performed surgeries were a subtotal colectomy, left hemicolectomy, and segmental resection. Postoperative complications were observed in three patients with BK and two with SC.

Conclusion: Surgical treatment of IBD is a consequence of ineffective therapy. In order to optimize the results and the therapeutic behavior a multidisciplinary approach is needed including team of a gastroenterologist, a surgeon, an endoscopist and a radiologist.

LAPAROSCOPIC AND CONVENTIONAL SURGERY IN THE TREATMENT OF COLORECTAL CANCER: RETROSPECTIVE ANALYSIS IN 193 PATIENTS

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ABSTRACT

Aim: To present our experience in colorectal surgery and compare the results with the literature data. Colorectal cancer (CRC) is an important social and health problem due to its high incidence, engaging people in active age and requirement for high costs for diagnosis and treatment. It ranks second in the absolute number of neoplastic diseases after breast cancer in women and it is in the first place among men. The incidence increased steadily in all industrialized countries. According to global data in 1996 about 950 000 new cases were registered, representing 9% of the cancer cases.

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According to the statistical data CRC is the most common malignancy of the gastro-intestinal tract in Bulgaria. In 2002 were registered 252.2/100 000 cases, of which 49.1/100 000 are newly discovered. In 2003 the number of reported cases increased to 269.0/100 000 cases as newly diagnosed are 48.3/100 000 cases. The increased number of new cases is observed for both colon cancer, rectal cancer and anal cancer. This determines the importance and social damage that society suffers from this disease. Rectal cancer occurs more often in men, and the incidence of colon cancer is almost equal in men and women.

Materials and methods: Retrospective analysis of patients with colorectal cancer operated on from 01.04.2013 to 01.04.2015 in the Clinic of Surgery at UMHAT "Kaspela"- Plovdiv, Bulgaria.

Results: During that time in the clinic were operated on 193 patients with colorectal cancer, of them 99 males (51.29%), 94 females (48.70%). We operated 67 patients (34.71%) conventionally and 126 patients (65.28%) laparoscopically. The distribution by tumor localization and the type of surgical intervention, respectfully, is as it follows: localization of the tumor in the distal rectum in 30 patients (15.54%) – abdominoperineal resection; proximal part of the rectum – 51 patients (26.42%) – anterior resection of rectum; sigmoid colon – 61 patients (31.60%) – resection of sigma; coecum, ascending colon, right flexure – 35 patients (18.13%) – right hemicolectomy; transversal colon – 4 patients (2.025%) – extended right hemicolectomy; descending colon – 12 patients (6.214%) – left hemicolectomy. We observed complications in 14 patients - 7.25%, including anastomotic leakage, wound suppuration, bleeding from the port wound, etc.

Conclusion: It is well known that laparoscopic approach in the treatment of colorectal cancer is safe, oncologically consistent, having better early results with better quality of life, shorter recovery period, and survival and rate of local recurrences is equivalent to conventional surgery. In our clinic we prefer laparoscopic surgery in CRC despite the longer operative time, in cases with no contraindications of general and technical aspects, oncological consistency, and we leave a loophole to convert if needed.

LAPAROSCOPIC RESECTION FOR TUMORS AT THE SIGMORECTAL REGION

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ABSTRACT

Introduction: In the surgical treatment of sigmorectal neoplasms a standard that is evolving in recent decades has been approved. The basic rule in treatment is a complex approach to the disease and standing by the traditional oncologic principles. With the aid of laparoscopy any conventional operation may be performed, moreover, in certain areas of the pelvis it is determined to give a much better visibility. A number of innovations such transanal total mesorectal excision require specific training, equipment and organizational events. With their help, the limits of resection descend close to the anal verge and a high quality surgery could be performed. With the laparoscopic approach operated on patients have less blood loss and recover more quickly.

Objective: The aim of this study is to analyze and present the initial experience of the team with laparoscopic approach for resection of the rectum, rectosigmoid junction and sigmoid tumors. The main laparoscopic

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techniques in the international literature were checked and compared the main indicators of laparoscopic and conventional surgeries accomplished in II Surgical Clinic for the period of 01.2012-06.2015.

Material and methods: A total number of 186 sigmorectal tumors during the investigated period. Almost all of them were histological, diagnosed preoperatively with adenocarcinoma (two neuroendocrine tumors). Laparoscopic approach was performed in 26 patients (13.2%) of these. The distribution of sex was as it follows: 16 men (61.5%) and 10 women (38.5%). The average age of the investigated group was 61.2 ±5.3 years and for all conventionally operated it was 63.8 ±4.5. Patients were distributed via tumor parameters like TNM stage, the distance of the neoplasm anal edge and opportunity to purchase non-financed by health system appliances.

Results: Mean operative time in laparoscopic approach was 248 minutes, but there is a steady trend for its reduction (from 330 to 200 min.). In six cases (23.1%) a conversion was performed. The reasons for this were a locally advanced tumor and the radicalism doubts. Some anatomical difficulties were additionally analyzed. Performed were 8 sigmoid resections (30.7%), 12 anterior resections (46.2%), one intersphincteric resection (with coloanal anastomosis) and five amputations of the rectum (19.2%). Average postoperative stay was 6.1 days and that is significantly shorter than after that of 7.8 for the conventional resections (P=0.004).

Conclusion: Laparoscopic surgery provides advantages such as less postoperative pain and a shorter hospitalization. Our initial experience suggests that better visualization of organs in the pelvis reduce blood loss and potential complications. We reckon the bigger price and relatively longer training curve does not reduce the benefits of the minimally invasive approach. This would be a surgery of choice for this growing group of patients.

LAPAROSCOPIC TOTAL MESORECTAL EXCISION IN SURGICAL TREATMENT OF RECTAL CANCER

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ABSTRACT

Introduction: Total mesorectal excision (TME) is the modern model of surgery leading to smaller percentage of local recurrence and better survival in patients with rectal cancer. The benefits of laparoscopic surgery for colon cancer are definitely proven. It leads to faster recovery, less postoperative complications, better cosmetic results, in the same long-term survival. Laparoscopic rectal surgery provides similar benefits taking into account the short-term results. A CLASSIC study showed more frequent involvement of circumferential margin and sexual dysfunction in men after laparoscopic TME with the same oncological long-term results when comparing open with laparoscopic TME. Currently, we have a moderate level of evidence for equal survival after laparoscopic and open TME. Due to some peculiarities in the design of existing studies and the fact that some results could be changed by the current and future research, this issue remains topical. To achieve equal and possibly better oncological results, it is necessary to standardize the conditions of TME in settings of open, laparoscopic and robotic surgery.

Materials and methods: Between 03.2012-03.2015 in the Surgical Department of Hospital Evrohospital were performed 197 surgical interventions in cases of rectal cancer. 118 (59%) of them were open, and 79 (40%) patients have undergone laparoscopic intervention. Surgery for distal rectal cancer after neoadjuvant

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treatment was performed in 77 (39%) patients. We have been working on a standardized protocol for laparoscopic TME since May 2013.

Results: We found involvement of the circumferential margin in 3 patients from the open group and one patient with laparoscopic surgery. The distal margin was affected in two patients, operated on laparoscopically in R1 fashion and in one patient operated on by the open method. LTME is characterized by better visualization, less blood loss (160 ml vs. 250 ml), longer operative time, especially in men with distal rectal cancer, sexual function after laparoscopic operation was not affected more frequently after laparoscopic surgery.

Conclusion: Laparoscopic TME is a safe and effective procedure performed by a team with a complete learning curve. It is characterized by better perioperative outcomes maintaining the equal oncological consistency in comparison to open TME. Standardization of laparoscopic TME may improve the quality of surgery, which may improve the results.

MODERN MR IMAGING OF RECTAL CANCER- CLINICALLY RELEVANT AND NEW OPPORTUNITIES

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ABSTRACT

Rectal cancer is a common cancer disease that continues to be volatile and with uncertain outcome, with frequent local recurrence after surgery. The successful excision of the tumor depends, apart from the appropriate surgical technique, on the exact staging of the tumor, with the evaluation of the mesorectal fat and mesorectal fascia status. High definition MR imaging proved very valuable tool not only for localization and description of the tumor, but also for a clear assessment of the relationship of the tumor to the mesorectal fascia. Total mesorectal excision is the method of choice and includes resection of both the tumor and the mesorectal fat. MR examinations with high resolution are the right method of choice for initial staging and for restaging after preoperative radiotherapy-chemotherapy. Modern MR study with phased array surface coils and optimal software protocols including diffusion techniques provides high accuracy in determining the circumferential resective line in operation, T stage and nodal status.

Keywords: *magnetic resonance imaging, rectal carcinoma*

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MODERN RADIOTHERAPY TECHNIQUES IN RECTAL CARCINOMA AT THE RADIOTHERAPY DEPARTMENT, UNIVERSITY HOSPITAL "ST. MARINA" VARNA

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ABSTRACT

Introduction: Radiotherapy combined with chemotherapy is part of the multimodality treatment of locally advanced rectal cancer, leading to improved local control. In order to reduce the side effects and to improve the precision of the radiation dose delivery the modern radiotherapy techniques volumetric modulated radiotherapy (VMAT) and imaged guided radiotherapy (IGRT) are applied.

Aim: To introduce into the routine clinical practice of Radiotherapy Department, University Hospital "St. Marina" Varna, VMAT technique of irradiation in patients with rectal cancer who are indicated.

Materials and methods: Indicated for inclusion are all patients with locally advanced rectal cancer T1-2 N1-2, T3-4 N0-2, newly diagnosed before or after surgery, and patients with locoregional recurrence, with no previous radiotherapy. VMAT and IGRT radiotherapy techniques were applied and combined with chemotherapy- 5-fluorouracil IV or oral capecitabine.

Results: All patients in the period from the clinical start of the Department till the present date were irradiated with VMAT and IGRT technique. Most of the patients received preoperative radiotherapy followed by the group with postoperative radiation and the ones with locoregional recurrence. The implemented total dose was 45-46 Gy to the pelvis, including the entire rectum or rectal bed and regional lymph nodes with 1.8-2Gy daily fractions. The primary tumor was boosted to 50Gy total dose. The irradiation was combined with 5-FU or capecitabine. All patients completed the radiotherapy course and tolerated it well without increased toxicity. Side effects were reported for the gastrointestinal tract and bladder- Grade 1-2.

Discussion: VMAT and IGRT contribute to the precise delivery of the planned radiation dose to clinical target volume with maximum protection of surrounding normal tissues, which determines the excellent tolerability, even in combination with chemotherapy. This could contribute to improve the clinical results.

Keywords: *Rectal cancer radiotherapy, VMAT, IGRT*

OPERATIVE TREATMENT OF DISTAL RECTAL CANCER AFTER NEOADJUVANT THERAPY

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Introduction: Colorectal cancer is the third most common cancer after lung cancer and breast cancer. Its incidence increases with age and duration of life and men are affected more frequently. In 2012 in Bulgaria were registered 942 new cases of rectal cancer in men and 586 in women. Due to the characteristics of the

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pelvic location of the rectum the treatment of rectal cancer differs significantly from that of colon cancer. The differences are in terms of the aspects in the presentation, surgical strategies, volume and complexity of operations, postoperative complications and cancer results. Neoadjuvant therapy is the standard method of choice for all patients with distal rectal carcinomas in stage II and III. Laparoscopic surgery in these patients is an alternative to open surgery in some countries in Europe and Asia. Short-term oncological results of conventional and mini-invasive approaches are similar.

Materials and methods: For the period 2012-2015 in Hospital Evrohospital- Plovdiv were operated on 77 patients with low rectal cancer after neoadjuvant therapy. Male – 43, women – 34. Conventional surgical interventions were performed in 40 patients, laparoscopic procedures were undertaken in 37. Minimally invasive interventions were divided in three groups - laparoscopic low and ultralow anterior resections - 25; abdomino-perineal resection of the rectum with total mesorectal excision - 8; transanal endoscopic microsurgery - 4.

Results: Eight (10%) patients received complete and almost complete pathological response from the neoadjuvant therapy. All patients were R0. No involvement of circumferential and distal margin was identified in any of the patients. As a result of neoadjuvant therapy tumor downstaging is reported in 19 patients and reduction in tumor size in 17 patients. The results after laparoscopic surgery are as it follows: reduced blood loss (160 ml vs. 250 ml compared with conventional); longer operating time (165 min vs. 135 min); faster recovery of bowel function and shorter hospital stay.

Conclusions: Laparoscopic surgery for distal rectal cancer after neoadjuvant therapy is a good and successful alternative to conventional surgical techniques. When performed by experienced laparoscopic surgeons it has lower levels of conversions, high percentage of organ-sparing operations, infiltration free margins and resection lines.

PILONIDAL DISEASE – A TAILORED SURGICAL TREATMENT

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ABSTRACT

Pilonidal disease is common disease, affecting teenagers and young adults. It can be presented as pilonidal sinus tracks or infected cysts. The pathogenesis is connected with ingrown hair follicles in the buttock cleft. Men are affected twice than women. The incidence of the disease is around 25 per 100 000 people worldwide. The surgical treatment consists of excision of the sinus tracts, followed by primary closure and healing by primary intention or leaving the wound open to heal secondary. There are many techniques and modifications proposed. There is uncertainty on which methods are more effective. Reccurence rate, development of long time chronic discharging wounds, pain and impact of quality of life are main issues, when treating the disease. Literature data suggests that primary closure of off-midline incisions, cleft lift procedures and advanced flaps (operations of Karydakis, Bascom) are most effective. We present our experience with treating primary and recurrent pilonidal disease. In a 5-year period (2010-2015) 30

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patients with primary or recurrent pilonidal disease were radically operated on by the authors, using the non-conventional off-midline incisions: Karydakis operation (excision with cleft lift, off-midline closure) (7 patients), modification of Lord-Bascom operation (excision of pilonidal tracts through separate incisions) (20 patients) and complex advanced flaps (3 patients). All patients were recurrence free. The healing time was 10-30 days. The major complications occurred in two patients – 1 postoperative hematoma formation and 1 partial wound dehiscence, managed conservatively. According to our experience and literature data, we propose modern tailored radical surgical treatment of pilonidal disease: in acute abscess: off-midline incision and drainage; in chronic sinus /cyst formation and after incision: Lord-Bascom operation or in complex cases – Karydakis operation; in recurrent cases: Karydakis operation or complex advanced flaps. Wide excisions and leaving the wound open for secondary healing are rarely indicated nowadays.

PRIMARY COLON RESECTION AND ANASTOMOSIS IN EMERGENCY MALIGNANT COLONIC OBSTRUCTIONS

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ABSTRACT

Introduction: As a leading malignancy of the gastrointestinal system, colon cancer can present as an emergency due to obstruction 1. Fifteen to twenty percent of patients with primary colorectal cancer present with intestinal obstruction 2. In 8 to 29% of patients obstruction is the main symptom at diagnosis 3. A part of those cases are operated on with staged surgical approach (Hartmann's procedure and after colonic stenting) 4,5. The third option for these patients is the single-stage primary colon resection or subtotal colectomy (in cases of massive cecal distension and/or deserosation) and anastomosis in the same time 6,7,8. For right-sided colonic obstruction immediate resection and anastomosis is the universal treatment and for left-sided tumors primary resection has overtaken staged resection in the UK 9. Emergency primary anastomosis in left-sided disease can be performed with a low morbidity and mortality in selected patients, even in the presence of a free perforation with diffuse peritonitis 10. Due to the lack of possibility for colonic stenting and postponing surgery in our clinic, we often apply primary colon resection with anastomosis.

Aim: This is a retrospective study of a 64 patients that presented in our emergency department as cases of malignant colonic obstruction. All were treated with single-stage surgery (colonic resection/subtotal/total colectomy) with primary anastomosis.

Materials and methods: In the period of 4.5 years (Jan 2010 - Apr 2015) a total number of 64 cases were operated on in our clinic as a malignant colonic obstruction with the single stage surgery. Cases with cecal and tumor perforation and consequent diffuse peritonitis were excluded from the study. The locations of the obstructing tumor were: sigmoid (42), recto-sigmoid (5), upper rectum (2), descending colon (3), splenic flexure (2), transverse colon (5), hepatic flexure (2), ascending colon (2) and cecum (1).

Female/male ratio was 28/36 patients. The mean age was 64.3 years. The period from the onset of the symptoms to hospital admission varied from 1-12 days. All patients were diagnosed with plain abdominal radiograph and 3 phase contrast CT-scan of the abdomen. After admission, short resuscitation was done and the patients were operated on. A third generation cephalosporine (2 g) was given 1 hour before skin incision, and additional Metronidazole (500 mg) during the operation. They were administered continuously in the postoperative period of 4 days. Depending of the tumor location and colon distension,

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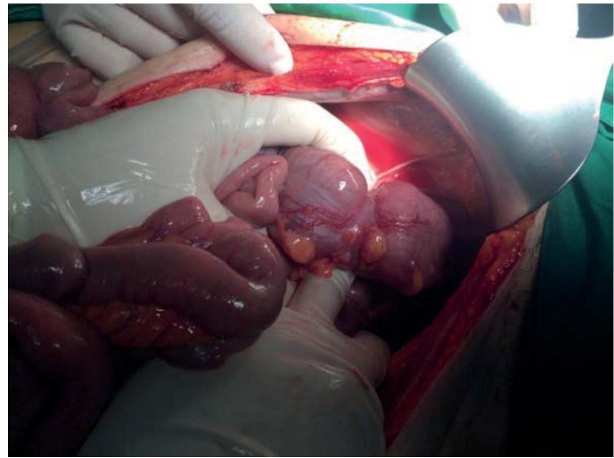
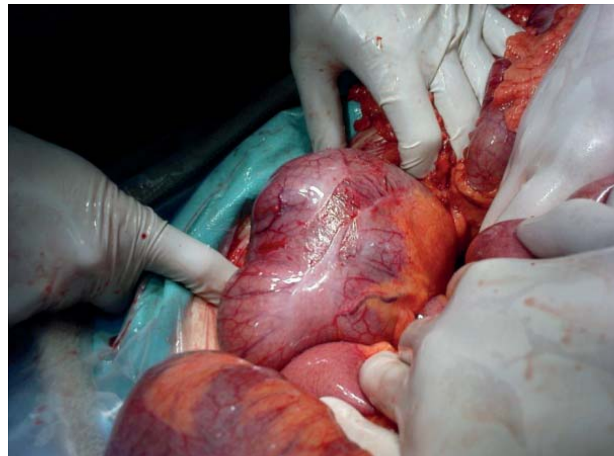
colon resection, subtotal or total colecotmy was done. Intraoperative manual decompression of the full colon was done in all cases. On-table lavage was never used. A two-layer hand sewn anastomosis was performed with monophylament 3-0 suture in termino-terminal or termino-lateral fashion. There were no intraoperative deaths. Two early postoperative deaths occurred; the first case due to pulmonary embolism and the second due to anastomotic dehiscence and secondary generalized peritonitis. Complication rate was 29%. There were three cases of anastomotic dehiscence (4.6%) that were reoperated with a terminal colostomy creation. Wound seroma occurred in 9 cases, wound hematoma in 5 and surgical site infection in 2 cases. Median length of stay was 21.3 days.



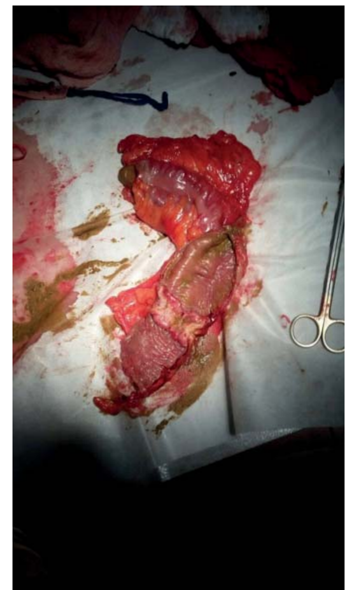
Obstructive tumor of the sigmoid colon

Discussion: Obstructed large bowel carcinoma is a disease of the aged, often with concomitant disease and also advanced malignancy. The immediate mortality rate of operation is high and long-term prognosis is poor in comparison with elective surgery. Primary anastomosis after left- sided resection is associated with higher risk of leakage than after an elective operation. In the most adverse circumstances of associated sepsis, Hartmann's operation retains its place but immediate anastomosis is the most frequent option for many. It is also important that the anesthetist is experienced and capable of instituting, interpreting and acting upon sophisticated cardiopulmonary monitoring 9.



Cecal deserosation due to left colon obstructive neoplasm

Conclusion: Primary colon resection and anastomosis in emergency malignant colonic obstructions is applicable in over 80 per cent of patients requiring urgent operation 11. Hartmann's procedure should be considered in patients with high surgical risk (Grade 2C) 8. The single-stage procedure should be the objective for the treatment of patients with obstructing colorectal cancers, except when patients are hemodynamically unstable during surgery or when the condition of the bowel is not optimal for primary anastomosis 2. Segmental resection and primary anastomosis either with manual decompression or intraoperative colonic irrigation are associated with the same mortality/ morbidity rate (Grade 1A) 8. The limited number of identified trials together with their methodological weaknesses does not allow a reliable assessment of



Adenocarcinoma of the descending colon

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the role of either therapeutic strategy in the treatment of patients with bowel obstruction from colorectal carcinoma. It would appear advisable to conduct high quality large scale Randomized Clinical Trials to establish which treatment is more effective 3. Therefore, the single staged surgery for obstructed colon cancer is certainly the preferred method considering the lack of possibility for colon stenting.

PROGNOSTIC VALUE OF VEGF SERUM LEVELS IN PATIENTS WITH COLORECTAL CANCER

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ABSTRACT

Aim: Angiogenesis is a complex process that is mediated by various proteins, VEGF is considered to be the main stimulator. However its clinical significance has not yet been validated in terms of its prognostic value. The aim of our study is to study the clinical significance and prognostic value of preoperative serum levels of vascular endothelial growth factor (VEGF) in patients with colorectal cancer (CRC).

Materials and methods: During the period May 2011 – 2013 were analyzed 64 patients diagnosed with sporadic colorectal cancer who subsequently underwent surgery at the Surgical Clinic of the University Hospital - Stara Zagora, Bulgaria. The preoperative serum VEGF levels were measured by ELISA method in patients with colorectal carcinoma and 40 healthy controls.

Results: The measured levels of VEGF in patients with CRC are significantly higher compared to the levels in the healthy controls (p=0.014). Apart from the fact that the levels are significantly increased in patients with advanced clinical stage compared to those who were in early stages (p=0.017). Furthermore, we found high levels of VEGF in poorly differentiated tumors (p=0.041). The median survival after surgery of patients with low serum levels of VEGF is 38.23 months while for those with higher levels it is 30.15 months.

Conclusion: Preoperative elevated serum levels of VEGF should be considered a prognostic factor associated with the prognosis as well as the progression of disease in patients with colorectal cancer.

Keywords: *colorectal cancer, serum VEGF, forecast.*

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RETROSPECTIVE ANALYSIS OF RESULTS AFTER SURGICAL TREATMENT OF PATIENTS WITH HEMORRHOIDAL DISEASE UNDERGOING LONGO PROCEDURE IN A TWO-YEAR PERIOD

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ABSTRACT

Aim: To perform a retrospective analysis of the indications for surgery and postoperative outcomes in patients treated by the method of Longo and compare them with the literature data.

The hemorrhoidal disease is a socially significant disease that is found in 4-20% of the population. Various invasive methods are used for its treatment - ligation, sclerotherapy, open hemorrhoidectomy (Milligan-Morgan, Fergusson), Longo procedure.

Materials and methods: Our study included all patients operated on by the method of Longo for the period 13.04.2013-13.04.2015 in the Surgery Clinic of University Hospital "Kaspela" Plovdiv. Preoperative examination of patients included physical examination, rectal examination, rectoromanoscopy or total videocolonoscopy in risk groups. During the hospital stay the patients were followed postoperatively at 6th ,12th ,24th ,48th hour basis, taking into account the level of pain using Visual Analog Scale (VAS 0: no pain, VAS 10: very severe pain). The primary assessment of pain performed using index of Katz, which shows the need for injection analgesic and assesses basic activities of daily living. General state and local status were followed after hospital discharge on 15th and 30th days and on third and sixth months.

Results: In the observed period were operated 31 patients, 20 male (64.5%±0.8),female - 11 (35.5%±1.1). Mean age of patients undergoing surgery was 52±1.3 years, and the youngest is 24 years old, and the eldest 81 years. The indications for surgery in three patients (9.7%±0.48) were uncontrolled bleeding with anemia at second stage hemorrhoidal disease. Third-degree hemorrhoids with severe discomfort were observed in 10 patients (30 ± 0.6%), fourth-degree with anal prolapsed - in 18 patients (59%±2.3). Median hospital stay was 5.4±0.4 days ranging from 1-7 days. The degree of pain in the first postoperative day was 4.6±0.9, while the next day before hospital discharge was 1.6±0.3. No additional analgesia was required other than the agreed protocol in the clinic. Complications in the postoperative period were observed in three patients (9.7%±0.4). Two patients had early bleeding (6.5% ± 1.2) which required revision and hemostasis, constipation and swelling was observed in one patient (3.2%±0.5) which resolved with conservative measures.

Conclusion: When using the Longo method patients can return to their daily activities earlier due to less painful sensations and a shorter recovery period. Important for a successful procedure are better patient selection and proper implementation of the operational equipment. Various complications may occur in the postoperative period that can be treated with a variety of non-surgical and surgical techniques.

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RETROSPECTIVE ANALYSIS OF THE RESULTS OF THE OPERATIVE TREATMENT OF THE PATIENTS WITH PROTECTIVE ILEOSTOMY IN FRONTAL RESECTION OF THE RECTUM

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ABSTRACT

Introduction: Protective ileostomy is a widely used and proven method for protection of low rectal anastomoses. Indications for its use are well-known. The use of protective ileostomy has a proven positive effect on morbidity after coloanal anastomosis without prevention of leakage, although it is related to a number negative factors such as the worse quality of life, disturbances in electrolyte balance, soft tissue infections, parastomal hernias after its closure and during the subsequent operation for its closing may occur number of complications and even death of the patient. Routine anterior resection does not necessary require protective ileostomy. Risk factors increasing the likelihood of insufficiency of the anastomosis and requiring ileostomy are male gender, poor nutritional status, cardiovascular disorders, use of steroids, perioperative transfusion of blood products, neoadjuvanted radiotherapy, low anterior resection.

Aim: To perform a retrospective analysis of indications for protective ileostomy, its impact and rate of complications after its closure.

Materials and methods: A retrospective analysis including all patients who underwent anterior resection for rectal cancer with protective ileostomy and its subsequent closing in University Hospital "Kaspela" Plovdiv for the period 01.04.2013 - 01.04.2015.

Results: During this time interval were performed anterior resections of the rectum in 51 patients. Of them male were 29 (56.86%) and female - 22 (43.13%). The average age was 67.8 years. In 42 (82.35%) of them was performed laparoscopic anterior resection and in 9 (17.64%) open. Protective ileostomy was done in 6 (11.76%) of the patients by adhering to the established protocol at the clinic - in ultra-low anterior resection, presence of a large tumor formation with neoadjuvant chemo and/or radiotherapy, but the leading criteria was a positive leak test. Six patients tested positive for leakage. In the rest who had negative test we observed one case (2.22%) of anastomotic leakage with signs of diffuse peritonitis who was revised with ileostomy. After closure of the ileostomy in one of seven patients (14.28%) was observed anastomotic leakage with total peritonitis and despite repeated revisions the case ended with exitus. In the rest there were no complications in the postoperative period, except for single wound suppuration.

Conclusion: Protective ileostomy after anterior resection of the rectum has its indications. The reduced morbidity and mortality rate in the postoperative period should not tilt the scales in favor of lowering the criterion for its implication. In ileostomy closure which by its nature is another major surgery was observed high incidence of complications with significant morbidity and mortality rate.

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THE ROLE OF SONOGRAPHY IN THE DIAGNOSING OF POSTOPERATIVE COMPLICATIONS IN COLOPROCTOLOGY

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Introduction: Much of the general and specific postoperative complications in coloproctology could be diagnosed quickly, accurately and at the bedside using ultrasound sonography.

Objective: To present our experience with sonographic diagnosis of postoperative complications coloproctological surgery.

Material and methods: For the period January 2010 - May 2015 in the Clinic of General, Abdominal and Vascular surgery sonographically were followed 243 patients undergoing surgery for neoplasm of the colon or the rectum.

Results: In 17% of the operated on patients were identified sonographically postoperative complications immediately after surgery (between 0 and 6h). Postoperative complications in the early postoperative period between 6 hours and 7 days after surgery were diagnosed in 43% of patients. In the late postoperative period, between 7 and 30 days sonographically complications were established in 24% of patients.

Conclusion: Performed at the bedside sonography is the most appropriate method for the diagnosis of intraperitoneal hemorrhage, myocardial ischemia or massive pulmonary embolism in hemodynamically unstable patients when the cause of hypotension is unclear, as it can be performed simultaneously with resuscitation. But with the help of sonography the source of septicemia can be quickly discovered, as it allows for its treatment (drainage under sonographic control) and follow-up.

SACRAL NEUROMODULATION FOR "LOW ANTERIOR RESECTION SYNDROME" FOLLOWING NEOADJUVANT TREATMENT FOR RECTAL CANCER: CAN WE INFLUENCE INCONTINENCE AND EVACUATION DISORDERS?

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ABSTRACT

Poor functional outcome has been reported in 30 to 70 percent of patients who underwent neoadjuvant radio-chemotherapy with low anterior resection for rectal cancer. Fecal incontinence and symptoms of "low anterior resection syndrome" have a significant impact on the quality of life. Focusing on incontinence and obstructed defecation symptoms, fragmented and incomplete evacuation as well as fecal urgency have been described after low anterior resection. As results of traditional conservative treatment (medical

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treatment influencing stool consistency, biofeedback, pelvic floor rehabilitation) remain disappointing, the introduction of sacral neuromodulation has led to very promising functional success. Following own results, the application of sacral neuromodulation in patients with "low anterior resection syndrome" enriches the therapeutic modalities if conservative management has failed after surgery for rectal cancer.

SIMULTANT LAPAROSCOPIC SURGICAL INTERVENTIONS IN COLORECTAL CANCER COMBINED WITH SYNCHRONOUS LIVER METASTASES

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ABSTRACT

Introduction. Laparoscopy is a method of choice for the separate treatment of colorectal cancer and liver metastases. There is currently no accepted consensus on the use of simultaneous laparoscopic resection for primary colorectal cancer with synchronous liver metastases. The purpose of this paper is to assess the simultaneous totally laparoscopic approach in the surgical treatment of colorectal cancer with liver metastases.

Material and methods. The study includes patients with colorectal cancer and synchronous liver metastases who underwent single-stage laparoscopic surgery from 2010 to 2014. Compared were morbidity, mortality, blood loss, duration of surgery, duration of hospital stay in patients with laparoscopic and conventional surgery.

Results. For this period operated on were 42 patients with synchronous liver metastases from colorectal cancer. In 18 (42%) of them were performed simultaneous laparoscopic surgery and in 5 patients were carried out large (>3 segments) laparoscopic liver resections. Conversion was required in 1 patient due to vague localization of the metastases after complete hilar dissection. In one patient was identified low output biliary fistula which healed conservatively by drainage (Grade B). We have established a single wound suppuration. The operative time ranged from 90 minutes to 300 minutes.

Conclusion. Total laparoscopic surgical strategy for the treatment of IV stage colorectal cancer is feasible procedure that can be carried out securely and safely. Surgery is characterized by minimal operative trauma, less intraoperative blood loss and morbidity comparable to those of open surgery.

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SINGLE-ACCESS TRANSUMBILICAL LAPAROSCOPIC APPENDECTOMY USING CURVED REUSABLE INSTRUMENTS: AN INITIAL REPORT OF THREE CASES.

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ABSTRACT

Introduction: The continuous evolution of laparoscopic surgery and the ambition of better cosmetic results always tend to less invasive procedures. The umbilicus represents a natural scar and constitutes a well-healing site of access to the peritoneal cavity. Single-access transumbilical laparoscopy (SATL) is gaining popularity and can be an alternative surgical treatment for acute appendicitis. We report three cases of SATL appendectomy using curved reusable instruments.

Material and methods: Three female patients (mean age – 30,3 years) were admitted to our hospital in April 2015 with acute abdominal pain in right iliac area. A SATL appendectomy was performed using a standard 11-mm reusable trocar for a 10-mm, 30°- angled, rigid scope and curved reusable instruments according to DAPRI (Karl Storz-Endoskope, Tuttlingen, Germany) placed transumbilically.

Results: Neither conversion to open surgery nor insertion of extraumbilical trocars was necessary. Mean operative time was 101.6 +/- 24.66 minutes and mean blood loss 6.66 +/- 11.54 mL. Mean scar length was 16.66 +/- 0.57 mm. No intraoperative complications were registered and the use of minimal pain killers allowed the discharge after mean hospital stay of 2.66 +/- 1.15 days. After 3 months of follow-up no late complications occurred and the umbilical scar was not visible.

Conclusion: In young women with acute appendicitis SATL appendectomy can be performed safely and offers the possibility of surgical treatment without a visible scar.

Keywords: *single-access, single-incision, appendectomy, laparoscopy*

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TACTICS FOR DIAGNOSTICS AND TREATMENT OF THE SYNCHRONOUS TUMORS (BENIGN AND MALIGNANT) OF COLON AND RECTUM

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ABSTRACT

Background: The advance and the wide spread of endoscopic methods results in early diagnostics of colorectal tumors - benign or cancers in early stages, as well as in finding some synchronous tumors.

Aim: In this retrospective analysis we discuss the tactics for diagnostics and management of the synchronous colorectal tumors (benign and malignant) treated in the Fifth General Hospital, Sofia, Bulgaria - in First and Second Surgical Departments and Gastroenterology.

Materials and Methods: During the period 2010-2014 we have studied a total number of 35 patients –from First and Second Surgical Departments, and Gastroenterology. In our hospital colonoscopy is performed in the Gastroenterology and in First Surgical Departments.

Results: The synchronous tumors are found to be:- Only benign – 22 cases

- Benign and malignant – 9 cases

- Only malignant – 4 cases

Performed are:

- Only biopsy – 5 cases

- Biopsy and endoscopic polypectomy – 7 cases

- Surgery and endoscopic polypectomy – 8 cases

- Only surgery – 15 cases

Discussion: The tactics for diagnostics and management of the synchronous colorectal tumors comprises:

- Total colonoscopy is performed in all cases

- If synchronous polyps are found to be small and not proper to be removed, biopsy of every tumor is performed; and the patient is included in follow-up.

- Pediculated polyps should be removed during colonoscopy, if possible – if not, they should be subjected to an open surgery – laparotomy, colotomy, polypectomy and suture.

- When synchronous benign and malignant tumors are found – it is possible:

1. To remove the benign during colonoscopy and surgery for the malignant to follow

2. To remove the one of the benign during colonoscopy and surgery for the malignant and the remaining benign (if close) to follow

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3. Only surgery

Conclusions: The advance in endoscopic technique results in the increase of endoscopic procedures for diagnostics and treatment of colorectal tumors. We aim to remove the benign colorectal tumors endoscopically. Colorectal cancers are submitted to surgery after endoscopic diagnosis.

THE FREQUENCY AND TYPE OF RAS MUTATIONS IN BULGARIAN PATIENTS WITH COLORECTAL CANCER

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ABSTRACT

Introduction: RAS mutation status is an important biomarker that can be used to select the best treatment for individual patients with metastatic colorectal cancer (mCRC). RAS is a group of genes (including KRAS and NRAS) in a tumor that may be normal, known as 'wild-type', or abnormal, known as 'mutant'; and this RAS 'status' can help determine which treatment the patient is given.

Materials and methods: 213 mCRC patients from Bulgaria were analysed for full KRAS (exons 2, 3 and 4) and NRAS (exons 2, 3, and 4) mutations. KRAS/ NRAS mutation detection was performed by allele-specific real-time PCR.

Results: We evaluated 213 mCRC patients for full KRAS (exons 2, 3 and 4). A subset of these samples comprised 117 samples wild type for KRAS were tested for NRAS (exons 2,3, and 4). Patients exhibited KRAS/NRAS gene mutations in 45.54% (97/213) of cases. The following distribution was observed: 41.78% KRAS mutations (89/213) and 3.76% NRAS mutations (8/213). The most common mutations were G12D 13.14% (28/213) and G12V (25/213).

Conclusions: This analysis provides robust estimates of overall RAS mutation prevalence and variation patterns in Bulgarian mCRC patients. Given the frequency of RAS mutations in Bulgarians, making a genetic study before deciding to treat mCRC patients with monoclonal antibodies is indispensable.

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THREE-DIMENSIONAL (3D) LAPAROSCOPIC COLORECTAL SURGERY

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ABSTRACT

The introduction of laparoscopy in the routine surgical practice was one of the most significant events in the history of surgery. As with any innovation it was tested and applied in almost all abdominal regions and demonstrated clear advantages not only in the surgery of cardio-esophageal junction, adrenal gland, etc. The presence of laparoscopic staplers allowed for advancement also in the colorectal surgery. Another novel technology is the three-dimensional (3D) laparoscopy. It has been used in robotic surgical systems, but until recently it was not widely available as a standalone 3D laparoscopy. Several studies comparing 3D vs 2D laparoscpy have shown the benefits of 3D: shorter operation time, shorter learning curve due to the better depth perception. The better special orientation leads to less frequent errant instrument movements, which is important in dissection and creation of anastomosis. Although robotic surgery also has 3D, it lacks the tactile feedback of standard laparoscopy. Thus, 3D laparoscopy is an alternative to both 2D laparoscopic and robotic surgery.

GALLSTONE ILEUS – DIAGNOSTICS, TACTICS AND CHOICE OF TREATMENT OPTION

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ABSTRACT

The gallstone ileus is a rare disease, comprising 1 to 4% of all patients with obstruction of the small intestine and 0.3 to 0.5% of all patients with gall stones. It is associated with high levels of mortality and morbidity and the treatment options are inconsistent.

Our goal is to study the diagnostics, tactics and the best current treatment option for gallstone ileus.

We present a case of a 61-year-old patient, named N.G.S., who was accepted on July 4th 2014 at MHAT "Sv. Ivan Rilski", Dupntisa for the first time. He complained of intermittent abdominal pain, nausea and vomiting for several years. His symptoms have deteriorated in the last few months. He has no weight loss. He suffers frequent obstipation and since 17.02. to 21.02. was treated in NMTH "Tsar Boris III" with diagnosis Subileus, which was treated conservatively. The laboratory results demonstrated anemic syndrome with anisocytosis. The patient had underwent cholecystectomy 16 years ago due to acute gangrenous cholecystitis.

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Ultrasound, magnetic resonance and computer tomography have revealed fecaloma in Meckel's diverticulum with differential diagnosis tumor.

The patient underwent: laparotomia mediana superior et media, general debridment, resectio intestini tenuis (50 cm), anastomosis latero-lateralis, lavage, drainage. During section of the ileum were discovered five large gall stones. The ileum was resected 20 cm from the ileocecal valve on length 50 cm. The continuity was restored with double layer latero-lateral anastmoosis due to the difference in the lumen diameter. Two drains were placed intraabdominally. No biliary fistula was found. The postoperative period was uneventful with reanimation therapy.

We always try to find the four characteristic symptoms of gall stone ileus, but its features are nonspecific, the symptoms are fluctuating with cyclic recurrence and intermittent pattern of the clinical signs.

Enterolithotomy remains a life-saving surgical procedure and procedure of choice for high-risk patients.

We associate with the advocates of the single stage procedures but only in selected patients, because otherwise we risk to turn the radical surgery into an "option with high morbidity". The timing of the double-stage surgical procedure is defined by the follow-up of patients by clinical and modern instrumental examination.

SURGICAL TREATMENT OF CROHN'S DISEASE – ANALYSIS OF THE 2004-2015 PERIOD

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ABSTRACT

Introduction: Although the medical management is the mainstay treatment in Crohn's disease, about 70% of the patients will require surgery during their lifetime, whereas the possibility is higher in ileocolic localization – up to 90% for a ten-year period.

Aim: To analyze the experience for the period 2004-2015.

Material and Methods: A retrospective analysis of 51 operated patients due to complicated Crohn's disease in Military Medical Academy during 2004-2015.

Results: The mean age of the included patients was 31.8 years (17-49), 32 males and 15 females. Ileocolic localization was identified in 37 patients (72,5%). The causes for operative treatment are divided in three groups – obstruction, abscess and fistulization. Obstruction was found in 37 of the cases, for which were performed 20 right hemicolectomies, 2 ileocecal resections, 4 stricturoplasties, 6 small bowel resections, 1 resection of transversal colon and adheiolysis in 4. Intraabdominal abscess were found in 6 patients and 4 right hemicolectomies and 2 ileo-cecal resections were performed. Eight patients with fistulas underwent 6 right hemicolectomies, 1 en-bloc resection and 1 resection of ileo-transversostomy. The median level of serum albumin was 30.7 mmol/l (26-41) with median hospital stay of 11.4 days (5-34). Anastomotic leakage was found in 1 patient with laterolateral anastomosis (3.6%), which is comparable to the clinical data, showing rate of leakage for hand-sewn and stapled of 14.1% and 2%, respectively.

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Conclusions: Even though Crohn's disease is incurable, the surgical methods are the only way to cope with the complications. Most of the clinicists consider the surgical treatment as a last resort, but many studies show that early surgery is related to better results. The microscopic persistency of the disease, as well as the type of anastomosis have no effect on the complication's rate. Surgery in Crohn's disease requires considerable experience, which justifies the creation of specialized centers in order to improve the results.

Keywords: *Crohn's disease, surgical treatment, anastomosis, laparoscopy*

"WATCH AND WAIT" APPROACH IN RECTAL CANCER – ESMO OR NCCN SELECTION CRITERIA FOR TREATMENT

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ABSTRACT

Introduction: The colorectal carcinoma is the most common gastrointestinal neoplasm worldwide and in Bulgaria. Often the choice of surgical treatment is difficult and organ-preserving surgery is not feasible. In borderline situations when choosing a surgical approach is difficult, a neoadjuvant chemoradiotherapy may downstage the disease and provide better results and more surgical options. If the treatment response is partial or complete, the possibility of carrying out sphincter-sparing surgery is increased. The aim of the study is to present a clinical case of a patient with rectal carcinoma, submitted to multimodal treatment.

Case report: The presented patient is a 65-year old female with alarming symptoms and diagnosed rectal adenocarcinoma. The patient underwent neoadjuvant preoperative treatment. After a full course of treatment, the patient was restaged and reported a full clinical response of therapy. After the recommended period she underwent an anterior resection of the rectum. This case is an example of the potential possibilities of a multidisciplinary team in surgical oncology.

Conclusions: There are certain criteria, regarding the waiting approach in rectal carcinoma and it is subjected to a set of indications in case of a complete response to the treatment. The current case is an excellent example of performing a sphincter-sparing surgery that may lead to a higher quality of life for the target patient group. The ESMO guidelines for neoadjuvant treatment of rectal adenocarcinoma are applicable in Bulgaria.

Keywords*: rectal carcinoma, neoadjuvant treatment, waiting approach, chemoradiotherapy*

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PELVIC EXENTERATIONS FOR LOCALLY ADVANCED PELVIC TUMORS

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ABSTRACT

The pelvic exenteration is a surgical procedure, applied for locally advanced tumor of the rectum or of the urinary bladder, as well as centrally located recurrent gynecological neoplasms. The procedure includes an en bloc resection in a different volume of the pelvic structures – urinary bladder, uterus, vagina and rectum.

Aim: We present our experience in pelvic exenterations.

Material and methods: During the period from January, 2008 to May, 2015, in the Clinic of General, Abdominal and Vascular Surgery of the Internal Affairs Hospital have been done 23 surgical interventions with an en bloc removal of organs, which have their origin in two or more systems in the small pelvis. The operations are done for tumors, which originate in the small pelvis with a secondary engaging of the low urinary vessels - rectal or recurrent genital carcinoma and in patients with primary carcinoma of the urinary bladder. In the presented cases the intraoperative time was 6 to 9 hours, and no intra- or peri-operative mortality was observed. Postoperative complications were observed in 40% of the patients: wound suppuration, pyelonephritis, lymphocele, deep venous thrombosis, lung thromboembolism and pneumonia. Long-term recurrences were found in 8 patients.

Conclusion: The exenterations have their own role in the treatment of advanced pelvic tumors. Despite the more severe surgical trauma and the comparatively high frequency of the postoperative complications, in correctly selected patients, the procedure gives an opportunity for an improvement of the survival rate and has its indications. With the acquisition of more experience with this pathology leads to better options for improving the surgical technique and lowering the rate of the surgical complications.

SURGICAL TREATMENT OF THE COMPLICATIONS OF LARGE BOWEL DIVERTICULOSIS

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ABSTRACT

The diverticulosis of the large bowel continues to be a very frequent disease mostly in the Western countries. Approximately 66% to 80% of the people above 80 develop diverticulosis. The inflammation in the zone of the diverticulum is accompanied with a hemorrhage or with a micro-perforation of the mucosa and a local inflammatory reaction. These processes could progress to severe hematochezia or peridiverticular abscesses, retroperitoneal phlegmon or a perforation of the intraperitoneal space with diffuse peritonitis.

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The treatment of all of these complications requires emergency surgery. The aim of the current study is to present and analyze the experience from the surgical treatment of patients with complicated cases of large bowel diverticulosis.

TECHNICAL ASPECTS OF THE LAPAROSCOPIC LEFT LATERAL SECTIONECTOMY - GLISONIAN APPROACH

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ABSTRACT

Introduction: The laparoscopic liver surgery is a highly specialized field in the modern surgery, because its implementation is connected with technical issues, overcoming of which requires advanced laparoscopic skills and specialized instruments. Despite the 19 years since the first anatomic liver resection (left lobectomy, 1996) and that the number of laparoscopic liver operations is constantly increasing, the laparoscopic anatomic resections are not widely accepted because of the technical issues in hilar dissection and pedicular control. During open anatomic liver resection, the Glisonian pediculus is mobilized, ligated and is cut "en bloc" without mobilizing all of the elements, outside of the liver. Using the same concept, every Glisonian pediculus, could be surrounded and cut by "EndoGia" successfully, and in this way there could be quality vascular control, avoiding the technical issues of the hilar dissection. The laparoscopic left lateral sectionectomy is the first anatomic laparoscopic liver resection which was established as a feasible and safe procedure with the benefits of the mini-invasive surgery.

Surgical technique: The patient is placed in "supine" position and mild "Fovler" positon on the table. The trocars are placed on typical places; the pneumoperitoneum is in 12 to 14 mm range. We use the anterior approach without mobilization of the liver. We cut the hepato-gastral ligament with readiness for a Pringle maneuver, which we use in case of need. We start overcutting of the Glisonian capsule and transection of the parenchyma by ultrasound and bi-polar dissector. We cut and dissect selectively the space between the portal pediculus and I segment as we clip and cut 1 or 2 portal branches from lobus caudatus. In this manner we made a plan in a dorsal direction which makes easier using of the "EndoGia". During transection, we selectively clip venous branches, which drain to the middle liver vein. We overcut the liver capsule til the base of left liver vein. We mobilize the left triangular ligament and left coronar ligament, and after that we use EndoGia with "white magazine" as we start from the left glisonian pediculus. We use a second EndoGia for cutting of the left liver vein.

Conclusion: The main advantage of the Glisonian approach is the fast and safe access to Glisonian sheath. This is an approach of an easy and safe "inflow" control which spares the heavy hilar dissection in selective clamping and prevents iatrogenic traumas of the biliary tree. The approach is standardized for laparoscopic anatomic left and right hemi-hepatectomy which lead to less intraoperative blood loss and less operative time.

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18F-FDG PET-CT IN COLORECTAL CANCER

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ABSTRACT

Colorectal cancer is the second leading cause of death from malignant diseases at world scale and the third most commonly diagnosed malignancy. The diagnosis of CRC requires multimodal approach, which requires blood and imaging tests. The combination of positron emission tomography and computer tomography in a single device allows to combine the advantages of both modalities by fusion of the images, which provides better anatomical orientation. The PET-CT scanner has the possibility to perform contrast enhanced CT as a separate study or as part of the PET-CT study. The indication for PET-CT are preoperative staging, differentiation of equivocal lesions, search for local recurrence, increased tumor marker and unclear findings from the conventional imaging modalities, evaluation of the therapeutic response. 18F-FDG PET/C is an irreplaceable imaging modality when used according to its indications and should be routinely included in the surgical and oncological practice.

Keywords: *PET-CT, colorectal cancer, scan*

CLINICAL AND PATHOLOGICAL PROGNOSTIC FACTORS IN HEMATOGENOUS SPREAD METASTASES FROM COLORECTAL CANCER

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ABSTRACT

Introduction: In 1986, Ekberg defined the criteria for liver resections for liver metastases from colorectal cancer, which are accepted as dogma, and the procedure as a "golden standard". There are established factors with prognostic significance for the early and the long-term results, but some of them are still discussable.

Aim: Investigation of the eventual prognostic significance of some clinical and pathological factors in patients with large in volume liver resections (more than 2 segments) for CRLM. Material and Methods: For the period from 01.01.2007 to 31.12.2014 in the Clinic of hepato-biliary, pancreatic and general surgery, MHAT "Tokuda", Sofia, we performed 143 big synchronous and metachronous liver resections. We ana-

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lyzed the information about the demographics, concomitant diseases, liver function, ASA, undergoing chemotherapy, type and volume of the surgery (liver resection or multi-organ resections) as well as patho-histologic characteristics.

Results: We have observed more frequent specific complications in patients with the following criteria: age more than 65, more than 3 CD, with more than multi-organ resections. Poor prognostic factor was found in the cases with appearance of metachronous metastases in less than 12 months.

Conclusion: Knowing of the prognostic factors in patients with CRLM along with the exact indications and contraindications support the correct preoperative decision about the type and the volume of the operation.

COMPARATIVE ANALYSIS OF THE EARLY POSTOPERATIVE RESULTS AFTER LARGE IN VOLUME LIVER RESECTIONS OF COLORECTAL AND NON-COLORECTAL LIVER METASTASES.

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ABSTRACT

Introduction: In colorectal liver metastases, the liver resections are an obligatory element in the multi-disciplinary treatment. But for non-colorectal liver metastases many authors are not convinced of the advantage of the surgery, because the frequency of the specific post-resection complications is unacceptably high, combined with unsatisfactory long-term results.

Aim: Comparative analysis between the specific complications rate in patients with large in volume liver resections in colorectal and non-colorectal liver metastases for proving or denying the theory for higher risk in the group of NCRLM.

Material and methods: For the period from 01.01.2007 to 31.12.2014, in the Clinic of Hepato-Biliary, Pancreatic and General Surgery, in Hospital "Tokuda", Sofia, we did 331 large in volume liver resections for benign and malign diseases. In this group we did radical interventions for synchronous and metachronous 143 CRLM (group 1) and 58 NCRLM (group 2). The study was retrospective, monocentric.

Results: The early postoperative mortality rate for all of the patients was 3.2% - 3 cases, one of them (1.7%) from group 1 and two cases (5.5%) from group 2. The frequency of the specific complications was much higher in group 2 (44.4%), than those in group 1 (30.5%). Only 8.3% of the complicated cases in group 2 and 5.1% from the group 1 led to re-operations.

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Conclusion: The aggressive liver resections for CRLM and NCRLM in correctly selected patients are validated. We found that the severe complications and the mortalities are connected with the presence of 3 or more concomitant diseases, which we found as an only prognostic factor for the early postoperative period.

VIRTUAL COLONOSCOPY

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ABSTRACT

Introduction: The mortality rate of colorectal cancer remains high due to the increasing prevalence of colon cancer and the low compliance of the recommended screening guidelines. One of the suggested screening strategies implements virtual colonoscopy (VC) in asymptomatic patients over 50 followed by optical colonoscopy (OC) for removal of detected adenomatous polyps. This may result in lowering the colon cancer death rate. The screening potential of VC has yet to be recognized since it was first reported in 1994.

Aim: To review the literature data on currently available screening options and discussions on their advantages and drawbacks.

Results: VC has many advantages over the existing screening options and its several drawbacks can be mitigated so that it would become a valuable screening modality. A strategy that utilizes VC for population-based screening over the age of 50 and OC for screening high-risk individuals and those with positive VC findings would result in a significantly reduced rate of colon cancer deaths. The limitation of optical colonoscopy include its inability to detect synchronous lesions in case of distal obstructive mass. VC combines the cross sectional imaging of CT with virtual colonoscopic images which provides the option for preoperative locoregional staging and detection of distant metastases.

Conclusion: Both OC and VC (i.e., CTC and MRC) have been progressing toward the clinical needs as new technologies are developed and applied to overcome their drawbacks. Each of these two methods has its unique role for the goal of preventing colon cancer.

EARLY AND LONG-TERM RESULTS AFTER OPERATIVE INTERVENTIONS FOR RECTAL CANCER

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ABSTRACT

The surgical treatment in rectal cancer in this period of the oncologic evolution is the only radical method for treatment. The survival rate is still far away from the aimed levels. The poor results are due to local recurrences and distant metastases. The first ones are the main reason for high levels of mortality and severe complications which lead to a significant disturbance in the quality of life in those patients.

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Aim: Our aim of the study is to evaluate the influence of the total mesorectal excision (TME) upon post-operative complications, the risks of recurrences, the survival rate, as well as the influence of the recurrence as factor upon survival rate.

Material and methods: In our study were included 1368 patients with rectal carcinoma, operated by the method of TME, for the period from 2001 to 2014.

Results: In the early postoperative results, there were not found any significant differences, but in the long-term period we found that after the application of TME, the results were significantly better.

Conclusion: The total mesorectal excision significantly reduces the rate of local recurrences. The recurrences are an extremely bad prognostic factor. The long-term results are in direct correlation with the factor "team work and wide-accepted and proven effective method of treatment"

GASTROINTESTINAL STROMAL TUMORS OF THE RECTUM

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ABSTRACT

Gastrointestinal stromal tumors (GIST) are very rare tumors, less than 1% of all primal neoplasm of the gastrointestinal tract. They are the most common non-epithelial tumors of GIT. For a period of 5 years – 2010-2015, in our clinic were admitted 92 patients with rectal tumor. 86% of them were histologically verified as adenocarcinoma. Only one of them, 1.08%, was found as gastrointestinal stromal tumor of the rectum. The surgical treatment of GIST of the rectum is the main method of choice, but not all the time a first line of treatment. Application of biological therapy with antibodies is highly specific target therapy in treatment gastrointestinal stromal tumors, including GIST of the rectum, with proven extension of survival rate.

INTESTINAL INTUSSUSCEPTION IN ADULTS

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ABSTRACT

Introduction: The intestinal Intussusception (II) in adults is a rare disease and it is very different in etiology from the same disease in children. II in elderly represents around 5% from all cases of Intussusceptions and is responsible for about 1% of all patients with intestinal obstruction.

Aim: To do a retrospective study of all of the patients with II for the period from 1998 to 2015, who have been hospitalized in the Second Clinic of Surgery

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Materials and methods: All of the 27 patients (15 males and 12 females) are at an age between 28 and 79 (an average age of 54.5). Most of them were with clinical manifestation of intestinal obstruction – chronic, intermittent and/or acute. Abdominal pain was the most common symptom.

The exact preoperative diagnosis was identified in only 11 patients (41%). Ten of the patients were with symptoms of small bowel intussusception and 17 – with symptoms of large bowel intussusception. CT combined with intravenous contrast is the most informative diagnostic tool. In above 90% of the cases with II in elderly was found a pathologic lesion for the intussusception – adenocarcinoma, big polyp, secondary metastatic lesion. Surgical intervention was performed in all of the patients. Resection and primal anastomosis was done in all of the patients with small bowel intussusception, and in one patient – des-intussusception. In the patients with large-bowel intussusception, in 11 patients was done resection with primary anastomosis, and in 6 patients – resection with colostomy. Postoperative complications were found in 6 patients, early postoperative mortality in one patient.

Conclusion: II in adults is presented with wide clinical variety – acute, intermittent and/or chronic symptoms and very often the diagnostics are very tough. The surgical intervention – radical resection of the affected segment is preferred and it is the only radical method because in most of the cases the reason for the intussusception was a malignant lesion

Keywords*: intestinal intussusception, resection, primary anastomosis, colostomy*

LIVER METASTASES FROM COLORECTAL CANCER

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ABSTRACT

Introduction: Liver metastases are found in 50% in the patients with colorectal cancer. The five-year survival rate is very rare and the average length of life doesn't extend for more than 12 months without surgical radical resection. In combining the liver resection with systematic chemotherapy, the 5-year survival rate is increasing in more than 40% of the patients. Only 10% of the patients are primary resectable. Only one in ten patients with LM is indicated for LR, and in 60% of them a recurrence of the metastases will occur in the liver or in other organs.

Material and methods: For the period from January, 2003 to May, 2015 we did 284 LR and in 187 patients the reason for the surgery was LM from CRC.

Results: Postoperative morbidity was observed in 72 patients (38.5%) and perioperative mortality was found in 7 patients (3.7%). Laparoscopic LR was performed in 17 patients (9%). Recurrence of the LR was found in 132 patients (70.5%)

Conclusions: In potentially resectable, LM is recommended, followed by adjuvant chemotherapy. In patients with more than 4 metastases (except in the case when they are not unilateral), engaged lymph nodes in lig. hepatoduodenale or bi-lobar metastases, is indicated neo-adjuvant ChT, followed by re-staging and eventual second resection. In patients with synchronous LM, the synchronous resection is the better choice. The

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laparoscopic LR is an alternative to the conventional resection and has to be done in every case with indications for laparoscopic surgery.

METHOD FOR PREVENTION OF THE POSTOPERATIVE SMALL BOWEL ILEUS AND LIQUIDATING OF THEAMPUTATION CAVITY AFTER EXTIRPATION OF THE RECTUM

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ABSTRACT

The aim of this study is to analyze the applied methods for liquidation of the amputation cavity after extirpation of the rectum in the clinics of abdominal surgery in the National Hospital of Oncology and "Vita" Hospital, for the period of two years. We propose our own method for prevention of postoperative small bowel obstruction.

For that period in our clinic were operated 211 patients with primary and recurrent carcinoma of the rectum, and on 35 of them was done abdomino-perineal extirpation of the rectum. Twenty eight of them have undergone neoadujuvant radiotherapy. In all of the described patients, we closed the pelvic floor without peritonization, with sutures of the levator muscles and layered sutures on the perineal wound. We drained the small pelvis and filled it with reposition of the urine bladder, in two patients, with omentum major in 1 patient, and with small intestine in 30 patients. In 2 patients we liquidated the cavity with previously chosen small bowel loop from the ileum and by-pass latero-lateral anastomosis on the entry of the small pelvis. The perineal wound was healed primary in 30 of the patients. Postoperative urine retention was observed in two patients. Postoperative ileus was found in 11 patients; only 3 of them were operated (re-laparotomy). The average postoperative hospital stay was 15 days. No mortality was observed.

The primary suture of the pelvic floor without peritonization is a method of choice after extirpation of the rectum and is increasing significantly the quality of life of the patients in the early and long-term postoperative periods. The filling of the small pelvis with previously by-passed small bowel loop is a safe method for prevention of the intestinal obstructions in the small pelvis.

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