



איגוד הכירורגים בישראל
ISRAEL SURGICAL ASSOCIATION



החברה הישראלית לכירורגיה
של הקולון והרקטום

**הכנס השנתי של
החברה הישראלית לכירורגיה
של הקולון והרקטום**

מלון שרתון סיטי טאואר, ר"ג
25 באוקטובר, 2007

תכנית

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SCIENTIFIC PROGRAM

Thursday, October 25, 2007

08:00 Registration, Coffee / Tea and Visit the Exhibition

08:30 - 09:00 **Opening Session**

WELCOMING REMARKS

M.M. Krausz, Chairman, Israel Surgical Association
Y. Ziv, Chairman, Israel Society of Colon and Rectal Surgery,
Conference Chairman

09:00 - 10:40 **Session I** **INVITED LECTURES**

Chairpersons: **A. Deutsch**, Israel
S. Walfisch, Israel

09:00 [LOCAL EXCISION OF RECTAL CANCER - A STEP BACKWARDS?](#)

M.L. Corman

Dept. of Surgery, Stony Brook University, Stony Brook, NY, USA

09:30 TREATMENT OF COLORECTAL CANCER IN SERBIA -
EXPERIENCE AND RESULTS IN 55 CENTERS

Z.V. Krivokapic

Colorectal Dept., Institute for Digestive Diseases, First Surgical Clinic,
Clinical Center of Serbia, Belgrade, Serbia

10:00 RECONSTRUCTIVE TECHNIQUES IN RECTAL CANCER SURGERY

H. Tulchinsky

Proctology Unit, Dept. of Surgery B, Tel Aviv Sourasky Medical Center,
Sackler Faculty of Medicine, Tel Aviv University, Tel Aviv, Israel

10:10 FUNCTIONAL ASPECTS AFTER RECONSTRUCTIVE RECTAL
SURGERY

M. Beer-Gabel

Dept. of Gastroenterology, Sackler School of Medicine, Chaim Sheba
Medical Center, Tel Aviv University, Israel

10:20 Panel Discussion

Panel Members:

M. Beer-Gabel, Israel

M.L. Corman, USA

A. Eitan, Israel

Z.V. Krivokapic, Serbia

H. Tulchinsky, Israel

10:40 *Coffee Break and Visit the Exhibition*



Thursday, October 25, 2007 (continued)

11:10 - 12:20

Session II

FREE PAPERS

Chairpersons: **E. Ram**, Israel
A. Rosen, Israel

11:10 [LONG TERM OUTCOME FOLLOWING LOOSE-SETON TECHNIQUE FOR TRANS-SPHINCTERIC ANAL FISTULA](#)

A. Eitan, M. Koliada, A. Bickel
Dept. of Surgery, Western Galilee Hospital, Nahariya, Faculty of Medicine, Technion, Israel Institute of Technology, Haifa, Israel

11:20 [CIRCULAR STAPLER HEMORRHOIDECTOMY \(PPH APPROACH\) - A TEN-YEAR EXPERIENCE](#)

I. Waksman, **R. Sivan-Hofmann**, A. Bickel, A. Eitan
Dept. of Surgery, Western Galilee Hospital, Nahariya, affiliated with the Faculty of Medicine, Technion, Israel Institute of Technology, Haifa, Israel

11:30 [LIGATION UNDER VISION \(LUV\) OF HEMORRHOIDAL CUSHIONS FOR THERAPY OF BLEEDING HEMORRHOIDS](#)

M. Bronstein, N. Issa, M. Gutman, D. Neufeld
Dept. Surgery A, Meir Medical Center, Kfar-Saba, Israel

11:40 [OUTCOME OF PRIMARY REPAIR OF ANAL SPHINCTER FOR OBSTETRIC INJURY](#)

S.D. Duek¹, N. Issa¹, M.M. Krausz²,
Colorectal Unit¹, Dept. of General Surgery A², Rambam Medical Center and The Bruce Rappaport Faculty of Medicine, Technion - Israel Institute of Technology, Haifa, Israel

11:50 [TOPICAL CAPTOPRIL CREAM: A NEW TREATMENT FOR ANAL FISSURE? THE FIRST HUMAN STUDY](#)

M. Khaikin, S. Yebara, B. Bashankaev, N. Daniel, E.G. Weiss, J.J. Noguerras, S.D. Wexner, D.R. Sands
Cleveland Clinic Florida, Weston, FL, USA

12:00 [THE VALUE OF ANORECTAL ULTRASOUND IN CHRONIC IDIOPATHIC ANAL PAIN](#)

M. Beer-Gabel, D. Carter, Y. Assulin, B. Avidan, S. Bar-Meir
Dept. of Gastroenterology, Sackler School of Medicine, Chaim Sheba Medical Center, Tel Aviv University, Israel

12:10 Wrap-up

Thursday, October 25, 2007 (continued)

12:20 - 13:00

Session III

FREE PAPERS

Chairpersons: **N. Geron**, Israel
D. Neufeld, Israel

12:20 [OUTCOME OF TRANSANAL ENDOSCOPIC MICROSURGERY \(TEM\) AND ADJUVANT RADIOTHERAPY IN PATIENTS WITH T2 RECTAL CANCER](#)

S.D. Duek^{1,2}, N. Issa¹, D.D. Hershko², M.M. Krausz²
Unit of Colorectal Surgery¹ and Dept. of Surgery A², Rambam Medical Center and The Bruce Rappaport Faculty of Medicine, Technion - Israel Institute of Technology, Haifa, Israel

12:30 [TRANS ANAL RESECTION OF RECTAL TUMOR – IS IT SAFE?](#)

Y. Ziv^{1,3*}, I. Starkier^{2**}, J. Sandbank^{2*}, A. Halevy^{1*}, S. Walfisch^{1**}
Depts. of Surgery¹ and Pathology², Assaf-Harofe Medical Center.* , Zerifin, Soroka Medical Center**, Beer-Sheva, Assuta Medical Center³ Tel-Aviv, Israel

12:40 [DO ELDERLY PATIENTS BENEFIT FROM LAPAROSCOPIC COLORECTAL SURGERY?](#)

B. Person, S.M. Cera, D.R. Sands, E.G. Weiss, A.M. Vernava III, J.J. Noguerras, S.D. Wexner
Dept. of Colorectal Surgery, Cleveland Clinic Florida, Weston, FL, USA

12:50 [LAFIET COLON RESECTION FOR TUMORS OF THE COLON](#)

A. Ferdman¹, S. Argov²
¹ Laniado Hospital, Netanya, Leumit Health Fund, ²Elisha Medical Center, Israel

13:00 *Lunch Break*



Thursday, October 25, 2007 (continued)

14:00 - 15:10

Session IV

FREE PAPERS

Chairpersons: **P. Reissman**, Israel
R. Weil, Israel

- 14:00 **Invited Lecture**
[COMPLICATIONS OF COLOSTOMIES AND THEIR MANAGEMENT](#)
M.L. Corman
Dept. of Surgery, Stony Brook University, Stony Brook, NY, USA
- 14:30 [URINARY BLADDER CATHETER FOLLOWING RECTAL SURGERY - DO WE NEED IT FOR THAT LONG? PRELIMINARY RESULTS OF A MULTICENTER RANDOMIZED TRIAL](#)
O. Zmora¹, K. Madbouly², H. Tulchinsky³, A. Lebedyev¹, A. Hussein², M. Khaikin¹
¹Dept. of Surgery and Transplantation, Chaim Sheba Medical Center, Tel Hashomer, Israel, ²Dept. of Surgery, University of Alexandria, Egypt, ³Dept. of Surgery and Colorectal Surgery Unit, Tel Aviv Sorasky Medical Center, Tel Aviv, Israel
- 14:40 [THE MECHANISMS OF MICROVASCULAR DYSFUNCTION IN CHRONIC HUMAN GUT INFLAMMATION](#)
O.A. Hatoum
Dept. of Surgery B, HaEmek Medical Center, Afula, Israel
- 14:50 [ONE STAGE VS. TWO-STAGE PROCEDURE FOR ACUTE SIGMOID DIVERTICULITIS: DOES IT MAKE ANY REAL DIFFERENCE?](#)
M. Khaikin, B. Bashankaev, D.R. Sands, S.M. Cera, E.G. Weiss, A.M. Vernava III, S.D. Wexner, J.J. Nogueras
Cleveland Clinic Florida, Weston, FL, USA
- 15:00 [WHAT IS THE MORBIDITY OF POUCH REVISION AND EXCISION?](#)
B. Person, D.R. Sands, J. Efron, E.G. Weiss, J.J. Nogueras, A.M. Vernava III, S.D. Wexner
Dept. of Colorectal Surgery, Cleveland Clinic Florida, Weston, FL, USA

15:10 - 16:00

Session V

PANEL DISCUSSION

BENIGN PROCTOLOGY

Moderator: **J. Sayfan**, Israel

Panel Members:

M.L. Corman, USA
Z. Dreznik, Israel
M.M. Krausz, Israel
Z.V. Krivokapic, Serbia
Y. Ziv, Israel
O. Zmora, Israel

16:00 *Coffee Break and Visit the Exhibition*



Thursday, October 25, 2007 (continued)

16:30 - 17:00

Session VI

16:30 Meeting of the Israel Society of Colon and Rectal Surgery

16:55 Closing Remarks
S.D. Duek
Chairman, Scientific Committee

POSTER

PRESENTATIONS

POSTER PRESENTATIONS

Board No.

1. [NEUROENDOCRINE CARCINOMA OF THE RIGHT COLON:
A RARE CAUSE OF BOWEL OBSTRUCTION](#)
M. Bala, **T. Hadar**, G. Almogy
Dept. of General Surgery, Hadassah - Hebrew University Medical Center,
Jerusalem, Israel
2. [IMPACT OF EUA ON THE DIAGNOSIS AND TREATMENT OF SEVERE
ACUTE ANAL PAIN](#)
Y. Khromov, L. Koltun, J. Sayfan
Dept. of Surgery A, Haemek Medical Centre, Afula, Faculty of Medicine,
Technion, Israel Institute of Technology, Israel
3. [THE LAPAROSCOPIC APPROACH IN THE TREATMENT OF RECTAL
CANCER](#)
A. Lebedyev, D. Urban, D. Rosin, A. Ayalon, D. Aderka, O. Zmora
Dept. of Surgery and Transplantation and Oncology Institute,
Chaim Sheba Medical Center, Tel Hashomer, Israel
4. [COMPARISON BETWEEN STAPLED, BIOFRAGMENTABLE RING AND
CAC-NITI DEVICE ANASTOMOSES IN COLON SURGERY](#)
H. Mizrahi, Y. Khromov¹, L. Koltun¹, J. Sayfan¹, B. Rappaport²
Dept. of Surgery A, Haemek Medical Centre, Afula¹, Faculty of Medicine,
Technion, Haifa², Israel
5. [SUBTOTAL COLECTOMY - A PROCEDURE OF CHOICE?](#)
R. Sivan-Hoffman, A. Eitan
Dept. of General Surgery, Western Galilee Hospital, Nahariya, Israel

ABSTRACTS

ORAL PRESENTATIONS

LOCAL EXCISION OF RECTAL CANCER - A STEP BACKWARDS?

M.L. Corman

Dept. of Surgery, Stony Brook University, Stony Brook, NY, USA

The decision of attempting to avoid abdominoperineal resection, a surgical procedure that has been reasonably successful in the primary treatment of carcinoma of the rectum for more than 80 years, requires careful consideration. It would be helpful if there were a prospective, randomized, controlled clinical study comparing abdominoperineal resection with local treatment. However, it is unlikely that we shall ever see one. But even in the absence of a controlled study, sufficient evidence has accumulated to warrant adoption of a policy of advising a local procedure for selected patients with carcinoma of the rectum.

Local treatment may be considered when the tumor encompasses less than 50% of the circumference of the bowel wall, when the lesion is exophytic and well-differentiated (or of a low-grade malignancy), when the patient with known metastases can have symptoms effectively palliated by this means, when debilitating disease is present, or when the patient refuses or cannot manage a colostomy. Relative contraindications to the procedure include a circumferential lesion, a poorly differentiated or highly anaplastic tumor, a deeply ulcerating growth, an anterior lesion in a woman, or a tumor that extends above the peritoneal reflection. Certainly, if the growth is high enough to be removed by anterior resection, this is the treatment of choice.

It is difficult to assess the results of local treatment by comparison with standard resection. Only those who have the most favorable prognoses are selected. A patient who undergoes abdominoperineal resection for a Dukes' A lesion has a chance of cure that approaches 90%, so that claiming a cure rate less than this figure does not represent a great breakthrough in the treatment of cancer of the rectum. Furthermore, one wonders if some patients are being deprived of the only possibility for cure if they harbor lymph node metastases. Recent evidence suggests that when compared with radical surgery, local excision may compromise overall survival in patients with T2 rectal cancers. Even with careful patient selection, the decision to employ any of the local treatments or procedures requires considerable preoperative counseling and close follow-up care.

LONG TERM OUTCOME FOLLOWING LOOSE-SETON TECHNIQUE FOR TRANS-SPHINCTERIC ANAL FISTULA

A. Eitan, M. Koliada, A. Bickel

Department of Surgery, Western Galilee Hospital, Nahariya, Faculty of
Medicine, Technion, Israel Institute of Technology, Haifa, Israel

Background: The staged fistulotomy with a Seton is generally used to preserve the external sphincter during operation for various trans and supra-sphincteric anal fistula. The loose-seton technique was further suggested to avoid any external anal division following Seton placement, to ensure anal continence.

Patients and methods: Between Jan. 2000 and Jan. 2006, 97 patients were operated for trans-sphincteric anal fistula, 41 patients of whom (42.3%) underwent the loose-seton technique. The outcome was assessed at clinic review and further retrospectively by detailed telephonic questionnaire. The study included 36 male (87.8%) and 5 women. Mean age was 45.3 years (range 21 to 86 yr.). Thirty one operations were elective (75.6%). Fifteen (36.5%) patients had concomitant diseases, of whom, 3 suffered from Crohn's disease. Twenty nine patients had previous anal operations (abscess drainage – 27, fistulotomy – 7).

Results: The time from Seton placement to its removal ranged from 3 to 7 month. At short-term follow-up, early complications were noted in 5 patients (bleeding in 1 and abscess formation in 4). Late complications included liquid stool soiling in 1 patient (2.4%), solid soiling in 2 (4.8%), and mucous discharge in 3 (7.3%). Neither gross stool nor flatus incontinence were noted. Fistula recurrence (persistence) were noted in 8 (19.5%) patients, and successfully treated by the same loose-seton technique.

Conclusions: The loose-seton technique for trans-sphincteric anal fistula carries favorable results and can be safely applied while preserving the external sphincter function. We also recommend repeating the technique in case of post-operative fistula recurrence.

CIRCULAR STAPLER HEMORRHOIDECTOMY (PPH APPROACH) – A TEN-YEAR EXPERIENCE

Waksman I, **Sivan-Hofmann R**, Bickel A, Eitan A

Department of Surgery, Western Galilee Hospital, Nahariya, affiliated with the Faculty of Medicine, the Technion, Israel Institute of Technology, Haifa, Israel

Background: The surgical approaches to symptomatic hemorrhoids include several techniques, ranging from open (Milligan-Morgan) resection, to close (HAL) suture of hemorrhoidal arterial supply.

The aim: To analyze our experience concerning the use of circular stapler (PPH) for hemorrhoidectomy, focusing on the significance of squamous epithelium in the resected specimen.

Patients and methods: During 10 years period (1997 to 2007), 385 patients were electively scheduled for hemorrhoidectomy in our department, of whom 146 were treated by the PPH technique. The technique was based on the HCS type circular stapler (33 mm diameter, Ethycon Endosurgery, Cincinnati OH). Statistical methods: We used the Mann-Whitney and the Chi-Square tests for data analysis. A *P* value less than 0.05 was considered significant.

Results: Mean age of the study population was 44.3. The male to female percentage ratio was 74 to 26. Six patients underwent additional open resection of hemorrhoidal tissue, and 6 needed Ligasure assistance. Mean hospital stay was 1.28 days (from 1 to 4). Time to return to normal life activities ranged from 3 to 30 days (mean 11.4 ± 2.5 days). Out of the 134 patient who had PPH alone, in 63 patients (47%), the histological examination of the resected tissue included an additional squamous –cell epithelium. Peri-operative complications occurred in 10 patients (7.5%) (urinary retention - 5, bleeding necessitating re-admission and hemostasis – 3, re-admission due to severe pain – 2). Concerning the sub-group of patients that had squamous epithelium in the resected specimen, the hospital stay, duration of post-operative pain and recovery time were significantly longer, in comparison to the rest of the study group (1.29 to 1.22, 12.7 to 8.2, and 12.8 to 8.34, respectively). There were no late complication such as incontinence of anal sphincter or anal stenosis.

Conclusions: According to our experience and others, the use of circular stapler (PPH type) is feasible, providing proper surgical solution to symptomatic hemorrhoids. However, the placement of the device in the proper proximal depth in the anal canal is crucial, as the involvement of squamous epithelium in the resected specimen is associated with worse post-operative convalescence.

LIGATION UNDER VISION (LUV) OF HEMORRHOIDAL CUSHIONS FOR THERAPY OF BLEEDING HEMORRHOIDS

M. Bronstein, N. Issa, M. Gutman, D. Neufeld

Dept. Surgery "A", Meir Medical Center, Kfar-Saba

Purpose: Ligation under vision (LUV) is a simple method for the surgical treatment of hemorrhoids. In this study, we evaluate the results of our initial experience with the procedure, in terms of postoperative pain, patients' final satisfaction and complications.

Methods: We have reviewed a group of patients who underwent suture ligation of symptomatic hemorrhoids grade 2 and 3. This was performed with the hemorrhoids under direct vision and without the use of any ancillary instrumentation such as the Doppler sensor.

All interventions were performed in the day care surgical unit using general or regional anesthesia. Surgical outcome and degree of postoperative pain were determined according to outpatient's clinic follow up and individual phone interviews.

Results: A total of 32 patients (19 men and 13 women) with a mean age of 59 years had undergone LUV. The indication for the surgery was bleeding (59 %), prolapse (19%) or both (22%). Seventeen patients (53%) had had a previous rubber band ligation.

On average, the surgery took 22 minutes. All patients were discharged on the same day.

Four (12 %) patients had suffered only mild postoperative pain, fourteen (44%) had suffered from moderate pain and another fourteen (44%) had had severe pain. At follow-up, twenty eight (87.5 %) of the patients were completely asymptomatic during the phone interview.

nineteen patients (60 %) had assessed the final result as excellent, ten (31 %) as successful and three (9%) as unsuccessful. All patients had complete functional recovery and there were no major surgical complications.

Conclusion: Our data show that ligation under vision of symptomatic hemorrhoids is a simple and safe procedure.

It can be performed as effective isolated surgery for symptomatic hemorrhoids as an additional procedure in the complex perianal pathology as well.

OUTCOME OF PRIMARY REPAIR OF ANAL SPHINCTER FOR OBSTETRIC INJURY

S.D. Duek¹, N. Issa¹, M.M. Krausz²,

Colorectal Unit¹, Department of General Surgery A², Rambam Medical Center and The Bruce Rappaport Faculty of Medicine, Technion - Israel Institute of Technology, Haifa, Israel

Background: Clinically detected anal sphincter tears usually occur in about 3 percent of vaginal deliveries. Primary sphincteric repair may be undertaken in stable patients without significant tissue loss, as in most vaginal deliveries, avoiding them the consequences of fecal soiling during the awaiting interval.

Methods: Patients who underwent primary sphincter repair between January 2001 and April 2005 were investigated. All the patients had third or fourth degree perineal tear diagnosed immediately after delivery. The repair was performed in the operation room by the same surgeon. Patient's files available were evaluated and a questionnaire that asked about preoperative and postoperative and current bowel function, and quality of life after the procedure was sent.

Results: 88 patients underwent a primary repair during the study period, 69 patients who underwent the repair by the colorectal surgeon were included in the study. 60 patients (86%) had third degree perineal tear, and 9 patients (14%) had fourth degree tear. For 35 women (51%) it was the first delivery.

Twenty-four women (35%) had regular follow up in the outpatient clinic at least for the first six months after the discharge. In 15 patients (21%) TRUS was performed in the follow up period.

Forty-eight (70%) of the women answer the questionnaire; Thirty-seven women (77%) had complete continence without significant changes from the preoperative period. Eleven patients (23%) reported various degree of anal incontinence with Wexner incontinence score more than 2. Six patients (12.5%) had flatus incontinence, and 5 (10.5%) had fecal incontinence.

Conclusion: Primary repair for perineal tears after delivery is a satisfactory method of repair, and carries an acceptable percentage of failure similar to that reported in the literature, whenever done by expert team. First delivery, and fourth degree perineal tear are factors associated with unsuccessful outcome.

TOPICAL CAPTOPRIL CREAM: A NEW TREATMENT FOR ANAL FISSURE? THE FIRST HUMAN STUDY

M. Khaikin, S. Yebara, B. Bashankaev, N. Daniel, E.G. Weiss, J.J. Nogueras, S.D. Wexner, D.R. Sands
Cleveland Clinic Florida, Weston, Florida, USA

Introduction: Previous laboratory studies showed that Angiotensin II is produced locally in the rat internal anal sphincter (IAS) and causes potent contraction of the sphincter. The aim of this first human study was to evaluate the safety and the manometric effect of the topical Captopril application on the anal resting pressure in healthy adult volunteers.

Methods: Ten volunteers, mean age of 32.5 (range, 19-48) years, had anorectal manometric evaluation of a mean anal resting pressure (MARP), maximum resting pressure (MRP), and the length of high pressure zone (HPZ) before, 20 min and 60 min after the topical 0.28% Captopril cream application. Cardiovascular variables (systolic blood pressure, diastolic blood pressure, and pulse) were measured before and for up to an hour after the cream application. Side effects were recorded. Adverse events and patient comfort after the cream application were evaluated within a 24-hour period by completing a questionnaire.

Results: Captopril cream reduced MARP and MRP in 5 volunteers (50%) at 20 minutes with a maximum reduction of 44 and 62 mm Hg (44%), ($p=0.35$ and $p=0.17$, respectively); 3 had further reduction of maximum 20 and 24 mmHg (19%) at 60 minutes after the application ($p=0.43$ and $p=0.76$, respectively). The HPZ length was not changed or decreased in 5 of the 10 volunteers ($p=0.73$). There were no significant changes in blood pressure or pulse in the study group ($p=0.62$ and $p=0.97$, respectively). One subject complained of mild cough at 60 minutes after the cream application and one had a single episode of flatus incontinence within a 24-hour period. Overall, 9 volunteers (90%) were very comfortable with the cream application.

Conclusions: Topical Captopril cream. Application causes reduction in MARP and MRP and is associated with minimal side effects. This is a new potential therapeutic option in the treatment of anal fissure. Further studies are needed to determine optimal and safe cream concentration, frequency of application, efficacy, and duration of treatment in patients with anal fissure.

THE VALUE OF ANORECTAL ULTRASOUND IN CHRONIC IDIOPATHIC ANAL PAIN

Beer-Gabel M., Carter D., Assulin Y., Avidan B., Bar-Meir S.

Department of Gastroenterology, Sackler School of Medicine, Chaim Sheba Medical Center, Tel Aviv University, Israel

Background: Anorectal pain has a prevalence of 6.6% in a sample of American householders. It is related to organic as well as functional conditions. The diagnosis is generally made by physical examination, sometimes under general anesthesia.

Aim of the study: This study was undertaken to evaluate the benefit of ultrasound in patients whose diagnosis was not made by clinical examination although the digital examination was painful.

Methods: Consecutive patients who suffered from chronic idiopathic anal pain were studied from 2004 to 2006. All had an anorectal ultrasound. The female patients had a perineal ultrasound as well.

Results: One hundred and twenty patients were included. Forty three were male. The average age was 52 years \pm 15 years. All patients suffered for a long period of time. In 92 cases the ultrasound were normal. A functional defecation disorder was diagnosed in 17 patients by perineal ultrasound only.

An intersphincteric sepsis without external drainage diagnosed in 28 patients. Associated findings such as rectocele in 17 patients, cystocele in 12 cases of female patients were diagnosed by perineal ultrasound. Anal tears in 6 patients, anal fissure in 2 patients, anal cysts in 2 patients and endometriosis in 1 patient were seen as well.

Conclusion: Anal Ultrasound is a key examination since it can diagnose patients with intersphincteric sepsis missed by the clinical examination and change the management of these cases. The perineal approach allows avoiding an anal canalulation. It is an adjunct to the diagnosis of functional defecation disorders.

OUTCOME OF TRANSANAL ENDOSCOPIC MICROSURGERY (TEM) AND ADJUVANT RADIOTHERAPY IN PATIENTS WITH T2 RECTAL CANCER

Simon D. Duck^{1,2}, Nidal Issa¹, Dan D. Hershko², Michael M. Krausz²
Unit of Colorectal Surgery¹ and Department of Surgery A², Rambam Medical Center and the Bruce Rappaport Faculty of Medicine, Technion - Israel Institute of Technology, Haifa, Israel

Background: The use of TEM for local excision of rectal cancer has recently gained wide acceptance as a valid and safe alternative for the surgical treatment of T1 tumors. The adequacy of such treatment for T2 tumors, however, is still controversial. The aim of the present study was to evaluate our results with local excision of T2 cancers.

Methods: Patients with T2 cancer admitted to our hospital between 1995 and 2005 were offered surgery by TEM if found medically unfit, or unwilling to undergo radical surgery. Patients that were preoperatively staged as T1 tumor but were found to be pathologically T2 were also included.

Results: Overall, we performed 59 TEM operations for rectal cancers. Thirty-five patients were T1, 21 patients were T2 and 3 were T3 rectal cancers. In 16 (76%) of the T2 patients the tumors were completely removed with clear margins and no additional surgery was performed. Radical surgery was subsequently performed in 5 patients with involved margins and residual disease was found in 2 of these patients. At a median follow-up of 3 years, all 12 patients that received local excision and radiotherapy remained disease-free whereas a 50% recurrence rate was observed in patients that refused adjuvant radiotherapy.

Conclusion: The results of this study support the feasibility of TEM for the treatment of selected patients with T2 rectal cancer. The addition of radiotherapy may decrease the rates of early local recurrence. However, at present, this treatment strategy should not be routinely considered for patients that may undergo radical procedures.

TRANS ANAL RESECTION OF RECTAL TUMOR – IS IT SAFE?

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The role of trans-anal resection of rectal tumor (TAR) in curative intent remains controversial.

Purpose: To evaluate the results of TAR in patients (Pts) with rectal tumor.

Methods: Data of 70 Pts operated for rectal tumor/polyp since 1996 were retrospectively reviewed.

Results: Median age was 77 years (range, 25 to 96). All 38 males and 32 females had pre-operative TRUS. All Pts underwent TAR, 2 Pts with additional resection (1-sigmoidectomy, 1-right hemicolectomy), with no mortality. Median distance of the tumor from anal-verge was 6 cm (range, 2-11) with a median diameter of 2.2 cm (range, 1.7-4). Histo-pathological classification was Tis, T1, T2 and T3 in 16, 39, 10 and 5 Pts, respectively. Of 54 Pts, Moderately to well differentiated adeno-carcinoma was found in 51, poorly differentiated in 2, and one patient had mucinous adeno-carcinoma. 6/70 (8.5%) Pts (T1-2 and T2-4 Pts) had re-TAR due to involved margins with no residual tumors. 2/10 Pts with T2 were treated with radiotherapy and 2 with radio-chemotherapy. Pts with T3 refused (2), or were not suggested adjuvant therapy (3). 11 Pts were lost to follow-up, and 59 Pts (Tis-15, T1-36, T2-8) were followed-up for a median of 76m (range, 1-125m) with repeated digital, rectoscopies, colonoscopies, TRUS and tumor markers. 4 of 59 Pts had re-TAR with T1 tumor, and one patient with recurrent re-T2 tumor after chemo-irradiation, underwent abdomino-perineal resection.

Conclusions: TAR is safe procedure in highly selected Pts. Close follow-up is needed to detect recurrent tumors.

DO ELDERLY PATIENTS BENEFIT FROM LAPAROSCOPIC COLORECTAL SURGERY?

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Background: The steadily increasing age of the population mandates that potential benefits of new techniques and technologies be considered for older patients.

Aim: To analyze the short-term outcomes of laparoscopic (LAP) colorectal surgery in elderly compared to younger patients and to patients who underwent laparotomy (OP).

Methods: A retrospective analysis of patients who underwent elective sigmoid colectomies for diverticular disease or ileo-colic resections for benign disorders; patients with stomas were excluded. There were 2 groups: age < 65 years (A) and age \geq 65 years (B). Parameters included demographics, body mass index (BMI), length of operation (LO), incision length (LI), length of hospitalization (LOS), morbidity and mortality.

Results: 641 patients (M/F – 292/349) were included between 7/1991 and 6/2006; 407 in group A and 234 in group B. There were significantly more LAP procedures in group A (244/407 – 60%) than in group B (106/234 – 45%) – $p=0.0003$. Conversion rates were similar: 61/244 (25%) in group A, and 25/106 (24%) in group B ($p=0.78$). There was no difference in LO between the groups in any type of operation. LOS was shorter in patients in group A who underwent OP: 7.1 (3-17) days vs. 8.7 (4-22) days in group B ($p<0.0001$), and LAP: 5.3 (2-19) days vs. 6.4 (2-34) days in group B ($p=0.01$). In both groups LOS in the LAP group was significantly shorter than in OP group. There were no significant differences in major complications or mortality between the 2 groups; however, the complication rates in the OP groups were significantly higher than in LAP and CON combined ($p=0.003$).

Conclusions: Elderly patients who undergo LAP have a significantly shorter LOS and fewer complications compared to elderly patients who undergo OP. Laparoscopy should be considered in all patients in whom ileo-colic or sigmoid resection is planned regardless of age

LAFSAET COLON RESECTION FOR TUMORS OF THE COLON

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Despite the fact that there still exists a dispute in the medical literature concerning the best surgical method of excision of tumors of the colon between laparoscopic resection and traditional open resection, the last years seem to have favored laparoscopic resection of colon tumors due to the fact that it has been proven that there are no differences in oncological results between the two methods.

The laparoscopic approach has many advantages, however this approach also has some disadvantages the most prominent being:

- 1) longer surgical time (at least 1 hour)
- 2) more expensive procedure (at least \$2000)
- 3) a long learning curve (fifty operations)

In order to overcome these shortcomings, a technique with new technology has been developed. This technique which we are presenting - the Lap. Assisted Ferdman-Argov Economic Technique - LAFSAET allows

- 1) Shortening of the time of surgery to a time comparable with open resection.
- 2) Significantly decrease the cost of surgery
- 3) Decreased learning curve

Principles of the LAFSAET technique

- 1) laparoscopic survey of the peritoneal cavity
- 2) release of large bowel with scissors and normal diathermy.
- 3) Performance of a transverse incision of the abdominal wall above the area of the resection.
- 4) Removal of the released large bowel with the tumor from the peritoneal cavity
- 5) Resection of the large bowel with the tumor and performance of the anastomosis as is done in the standard open procedure
- 6) Closure of the abdomen in layers

Between the years 2000-2004, 62 patients underwent excision of large bowel tumors by the LAFSAET method.

All patients received Post Op. Epidural Anesthesia for the first one to two days post surgery.

Passage of gas per rectum appeared one day post surgery and the first stools were noted 3 days post surgery.

Clear fluids were initiated the day after surgery, a fluid diet was started 2 days after surgery and soon afterwards a soft diet was started.

Complications intra op were 3%.

Discharge from the hospital occurred on an average of 5 days post surgery.

Average follow up was 36 months.

Aesthetic results were judged to be good-excellent in 90% of the cases.

The results of the LAFSAET operation is similar to the results of laparoscopic performed resection with the addition of the following advantages:

- 1) Operation time 120minutes after 10 operations.
- 2) Wound length in 55% of cases less than 10cm.
- 3) Intraoperative complications less than 3%
- 4) Necessity for minimal oral post op analgesia
- 5) Short recovery of bowel function
- 6) Lower post operative morbidity rates
- 7) Short hospital stays
- 8) Lower operative costs (\$2000-3000)
- 9) Good cosmetic results
- 10) Short learning curve (5-10operations)

Summary

LAFAT enables the performance of a safe resection of carcinoma of the large bowel according to the requirements of the oncological surgeon with results similar to laparoscopic surgery, with time and cost of surgery comparable with traditional open resection.

All general surgeons with experience with laparoscopy and large bowel resection will be able to learn the method in minimum time.

COMPLICATONS OF COLOSTOMIES AND THEIR MANAGEMENT

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Preparing the Patient

Overcoming ignorance and fear are often the most important issues that must be addressed by the surgeon in preparing an individual for undergoing a stoma. Some patients have had unpleasant associations with ostomies through experience and jeremiads of family and friends. Myths and misunderstandings further prejudice the patient. The surgeon must confront one's fear of the disease itself, the potential for complications, and, indeed, possible mortality. These issues must be addressed as part of a comprehensive rehabilitative program. It is usually very helpful to provide literature concerning the nature of the surgery and the reasonableness of living with a colostomy. In addition, it is often helpful to have an individual of similar age, gender, and socioeconomic position serve to acquaint a patient with the concept of living and functioning normally with a stoma. Whenever possible, the enterostomal therapist should be involved with the preoperative counseling, not necessarily to provide detailed stomal care at that time, but to supply information about the wide variety of ostomy products available. It has been well demonstrated that the total number of ostomy complications is significantly reduced when preoperative evaluation and site-selection by an enterostomal therapist has been performed.

Stomal Marking

The location of the stoma has a direct bearing on subsequent ostomy management. Proper location of the colostomy can often present complications such as prolapse, hernia, and skin problems. Important factors include: location of the groin, the waistline, the costal margins, the umbilicus, skin folds, scars, body habitus, and the patient's preference for clothing style

Stomal Creation

Methods for creating a satisfactory sigmoid colostomy will be discussed as well as those factors which predispose to the development of complications. The causes, prevention and treatment of stomal problems of ischemia, necrosis, stricture, retraction, abscess, perforation, bleeding, prolapse, and hernia will be addressed. Besides sigmoid colostomy, the pitfalls in the creation and management of complications of transverse colostomy and cecostomy will also be addressed.

Appliance Management

This is an area which has been delegated to enterostomal therapists in most hospital settings. However, with the knowledge and understanding of a few straightforward principles most stoma management problems may be ameliorated without the need for specialized nursing assistance.

URINARY BLADDER CATHETER FOLLOWING RECTAL SURGERY - DO WE NEED IT FOR THAT LONG? PRELIMINARY RESULTS OF A MULTICENTER RANDOMIZED TRIAL

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Background: Several days of urinary bladder drainage following rectal surgery with pelvic dissection is a common surgical dogma, despite the lack of evidence based data to support its use. The aim of this study is to prospectively evaluate the utility of urinary bladder drainage after rectal surgery.

Methods: Patients undergoing rectal surgery using abdominal approach were prospectively randomized into 3 groups. In group A, the Foley catheter was removed on post operative day (POD) 1, and in group B and C on POD 3 and 5 respectively. Male patients with severe prostatic symptoms (score of 20/35 and higher) were excluded from the study. Main outcome criterion was acute urinary retention requiring Foley reinsertion.

Results: Eighty three patients (40 females, 43 males) undergoing abdominal rectal surgery were included in this study (group A- 30, group B- 28, group C-25). Overall, urinary retention following removal of the Foley catheter occurred in 6% of the patients: 2 (6.6%) in group A, 1 (3.4%) in group B, and 2 (8%) in group C ($p=0.78$). Clinical urinary tract infection was diagnosed in 3 patients in group A compared to 6 patients in group C ($p=0.15$). There was no significant difference in anastomotic leak or intra-abdominal abscess rate between the 3 groups.

Conclusions: Routine prolonged urinary bladder catheterization following abdominal rectal surgery is not required, and the Foley catheter may be safely removed on POD 1.

THE MECHANISMS OF MICROVASCULAR DYSFUNCTION IN CHRONIC HUMAN GUT INFLAMMATION

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Background & Aims: Inflammatory bowel disease (IBD) includes Crohn's Disease (CD) and Ulcerative Colitis (UC), both characterized by poorly healing, recurrent ulcerations of the mucosa which result from chronic inflammation which resemble those seen in diabetes and peripheral vascular disease. Because microvascular dysfunction resulting in diminished vasodilatory capacity and tissue hypoperfusion is associated with impaired wound healing, we hypothesized that microvascular dysfunction may also occur in chronically inflamed IBD microvessels.

Methods: Intact submucosal arterioles from control, involved and uninvolved IBD specimens were assessed using *in vitro* videomicroscopy to assess endothelium-dependent vasodilation in response to acetylcholine (Ach) and fluorescence microscopy to detect oxy-radicals.

Results: Normal microvessels dilated in a dose-dependent and endothelium-dependent manner to Ach (max: $82 \pm 2\%$). Inhibition of nitric oxide (NO) synthase with L-NAME reduced maximal dilation to $54 \pm 6\%$ ($p < 0.05$) and further reduction was observed after inhibiting cyclooxygenase (indomethacin; $23 \pm 10\%$). Chronically inflamed IBD microvessels demonstrated significantly reduced Ach induced vasodilation (max: $15 \pm 2\%$), with no effect of L-NAME. Indomethacin eliminated the remaining Ach induced vasodilation resulting in frank vasoconstriction ($-54 \pm 9\%$). Uninvolved IBD gut vessels and non-IBD inflammatory controls responded in a fashion similar to normal vessels. IBD involved microvessels generated significantly higher levels of reactive oxygen species compared to control and uninvolved IBD vessels ($p < 0.01$). **Conclusions:** Human intestinal microvessels from chronically inflamed IBD demonstrate microvascular endothelial dysfunction, characterized by loss of NO-dependent dilation. This microvascular dysfunction can lead to impaired tissue perfusion, and to poorly healing mucosal pathology which characterizes IBD.

ONE STAGE VS. TWO-STAGE PROCEDURE FOR ACUTE SIGMOID DIVERTICULITIS: DOES IT MAKE ANY REAL DIFFERENCE?

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Purpose: The aim of this study was to assess one-stage vs. two-stage management of acute sigmoid diverticulitis (ASD) and compare benefits from different techniques.

Methods: Retrospective chart review of a prospectively entered database was performed to identify patients who underwent emergency surgery for ASD. Data regarding demographic and clinical characteristics, surgical details, and postoperative course were reviewed. One-stage patients were case-matched to two-stage by diagnosis, Hinchey stage, BMI, and ASA score.

Results: Seventy patients, mean age 67.8 (range, 36-92) years, were identified; 41 of them who underwent Hartmann's procedure were compared to 18 patients with primary sigmoid resection, anastomosis, and protective ileostomy and 11 patients with primary anastomosis without ileostomy.

There were no significant differences in age, ASA score, BMI, or Hinchey stage between the 3 groups.

	Hartmann's procedure	Primary resection with anastomosis and protective stoma	Primary resection with anastomosis without stoma
Patients (n)	41	18	11
Operative time (min)	150	158.5	150
Hospital stay (total/postoperative) (days)	11/9	11/9	10/8
Bowel movement (days)	4	4	4
Estimated blood loss (ml)	241	258	295
Morbidity/mortality* (%)	46/14.6	22/5.6	27/0

No anastomotic leaks were recorded. There were no statistically significant differences between the groups in the length of hospital stay (total and postoperative), operative time, and bowel function ($p > 0.05$). The complication rate was comparable between the 3 groups ($p > 0.05$). However, the perioperative mortality rate was significantly higher in the Hartmann's group than in groups with primary anastomosis with or without ileostomy ($*p < 0.05$).

Conclusions: One-stage sigmoid resection may be safely performed for ASD. This is a procedure with low mortality and comparable to two-stage surgery morbidity and offers to patients similar short-term clinical outcomes.

WHAT IS THE MORBIDITY OF POUCH REVISION AND EXCISION?

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Background: Up to 10% of patients who undergo total proctocolectomy and ileal pouch anal anastomosis (TPC & IPAA) suffer from a non-functioning pouch and require revisional surgery. The aim was to report our experience with reoperations due to failure of an ileal pouch.

Methods: A retrospective review of a prospectively entered database patients who underwent corrective surgery due to pouch related complications was undertaken. Only procedures performed by a combined abdominoperineal approach were included. Parameters included demographics, diagnosis and reason for pouch failure, type of procedure, intra-operative and postoperative course, morbidity and mortality. Comparison of pouch excision to any type of revision was performed as well.

Results: From 12/1992 to 8/2006, 49 patients (M/F – 21/28) of a mean age of 43 (19-74) years underwent 52 operations. Diagnoses included ulcerative colitis (UC) in 40 patients, Crohn's disease in 7 patients and familial adenomatous polyposis (FAP) in 2 patients. Sixty-one reasons for pouch failure (≥ 1 per patient) included pouch-cutaneous fistula in 23, pouchitis in 13, pouch stricture in 11, pouch-vaginal fistula in 9, fecal incontinence in 4 and pouch-vesical fistula in 1 patient. The 52 procedures included revision and repair in 12, advancement in 9, excision and creation of a new pouch in 4 and excision with creation of end ileostomy in 27 patients. Patients' mean body mass index (BMI) was 24.2 (15.2-36.6); operative time was 234 (120-410) min; estimated blood loss (EBL) was 450(50-2000) ml; mean length of hospital stay was 10.7(4-38) days. There was no postoperative mortality; complications included prolonged postoperative ileus in 11, abdominal wound infection in 8, pelvic abscess in 4, urinary tract infection in 3, and line sepsis, subclavian vein thrombosis and sacral osteomyelitis in one patient each. Two of the 27 patients (7%) who had a pouch excision had a perineal wound infection and a prolonged healing time; both of these patients had Crohn's disease. Diagnosis, reason for pouch failure, gender, BMI, time elapsed since creation of original IPAA to excision/revision all were similar in patients who underwent either excision or revision of the pouch.

Conclusions: Salvage operations following TPC & IPAA are technically demanding procedures with a relatively long operative time and potential for pelvic bleeding; however, postoperative complications usually are minor and length of postoperative stay acceptable in view of the more serious complications. We could not identify any parameters which serve as risk factors for pouch excision as opposed to revision.

ABSTRACTS

POSTER PRESENTATIONS

NEUROENDOCRINE CARCINOMA OF THE RIGHT COLON: A RARE CAUSE OF BOWEL OBSTRUCTION

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Background: Colorectal neuroendocrine tumors comprise less than 1% of all colorectal neoplasms and mostly involve the rectum. Neuroendocrine tumors include well differentiated carcinoid tumors and aggressive neuroendocrine carcinomas.

Patients: From March 2007 to September 2007, 3 patients (2 males) with neuroendocrine carcinomas underwent surgery at the Department of Surgery of the Hadassah University Medical Center, Jerusalem. Average patient age was 63 years (range 52-75 years). The clinical presentation was bowel obstruction in all cases. CT scan showed a large obstructing lesion involving the right colon with multiple, bilateral liver metastases. The pre-operative diagnosis was obstructing colon carcinoma in all cases.

Results: Patients had urgent surgery for bowel obstruction. A large right colonic mass with extensive lymph node involvement, and bilateral multiple liver metastasis were found in all cases. Two patients underwent right hemicolectomy and the third a diverting ileostomy. Extensive vascular invasion and high mitotic index were noted. Immuno-histochemical staining was positive for chromogranin and synaptophysin. The pathologic report classified all 3 tumors as neuroendocrine carcinoma of the colon. Analysis of blood drawn pre-operatively revealed high levels of Chromogranin-A. Two patients have started systemic chemotherapy. A 75 year old female died of her disease 2 months after palliative diversion.

Conclusions: Colorectal neuroendocrine carcinomas involving the right colon are extremely rare tumors which show aggressive biologic behavior and early distant metastasis. Palliative reductive surgery of the primary tumor as well as solitary hepatic metastases may ameliorate symptoms and prolong survival. Improved survival may be achieved by aggressive multimodality therapy.

IMPACT OF EUA ON THE DIAGNOSIS AND TREATMENT OF SEVERE ACUTE ANAL PAIN

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Purpose: The term “severe acute anal pain “may imply a large variety of pathologic conditions and findings, which can be recognized and treated only under anesthesia.

In this study we intend to assess this condition based on the experience of our department.

Methods: Forty-seven patients with “severe acute anal pain “underwent an emergency Examination Under Anesthesia. The following data were analyzed: demographics, pain duration, prevalence of anorectal disorders and operations in the past history, anesthesia type, intra- operative findings and procedures, complications and re- admission rate.

Results: Forty- seven patients, aged 20 to 60 years were included. Sixty-nine percent of patients had previous history of anal disorders and anorectal operations. Sixty- two percent of patients suffered at least 3 days of pain. 9(20%) had spinal and 38(80%) general anesthesia.

In 34 patients common pathologic conditions such as anal fissure, intersphincteric abscess or infiltrate were revealed. There were no pathologic findings in 23,5% of patients. Less common findings were found in 13 patients including fistula with abscess (38,4 %), anal stenosis (15%), foreign body (15%), post -operative bleeding (23%). Three cases (6,3%) required re -intervention (EUA)due to post -operative bleeding (2) and missed abscess (1).

There were no re -admissions.

Conclusions: When faced with inconclusive or impossible physical examination - imaging techniques and finally operative exploration should be strongly considered.

Anorectal examination under anesthesia should not be delegated to junior members of the team. Supervision by an experienced surgeon is required.

THE LAPAROSCOPIC APPROACH IN THE TREATMENT OF RECTAL CANCER

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Background: Laparoscopic approach is now considered oncologically safe for colon cancer, but its utility in the treatment of rectal cancer is still controversial.

The aim of this study is to review our experience with laparoscopic surgery in the treatment of rectal cancer.

Methods: Retrospective review of prospectively entered database was performed to identify patients who underwent laparoscopic resection of rectal cancer with curative intent. Follow up data were obtained from clinic charts. Patients who did not complete follow up in our institution were not analyzed.

Results: Sixty six consecutive patients (35 males, 31 females, mean age 70 years) had laparoscopic surgery for rectal cancer between 1997 and 2005. Nine patients were excluded owing to stage 4 disease at surgery, leaving 57 patients in this study. Reconstructive surgery was performed in 47 patients, and in 10 patients abdominoperineal resection was required. Conversion to open surgery was required in 24% of the patients, mostly owing to difficult dissection.

Only 22 (39%) patients had complete oncology follow-up at our center. Mean postoperative follow-up was 3 years 7 months. Recurrent disease was found in 4 (18%) patients, 2 (9%) of which with local pelvic recurrence. Two (9%) patients had expired owing to metastatic disease. None of the patients in this study suffered from port site recurrences.

Conclusions: These results suggest that laparoscopic surgery for rectal cancer is feasible, with acceptable oncologic result. Adequate patient selection and sound judgment to convert to laparotomy are necessary for the safe commence of this complex procedure. Studies randomizing patients with rectal cancer to laparoscopic surgery or laparotomy are required to define the role of laparoscopy in this setting.

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COMPARISON BETWEEN STAPLED, BIOFRAGMENTABLE RING AND CAC-NITI DEVICE ANASTOMOSES IN COLON SURGERY

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Background: The task of connecting together two parts of the bowel is complicated. Details such as tension, blood supply and apposition of bowel wall layers are important to the success of anastomoses. To facilitate the task, automatic techniques have been developed and studied. Most studies published demonstrate reduction of operation time, but none achieved lower complication rates. Commercial staplers, circular or linear, connect layers with metallic sutures. The nickel-titanium compression anastomoses clip (CAC-NITI) and biofragmentable anastomotic ring (BAR), were designed as compression devices, attaching the bowel layers until healing proceeds. The purpose of this study was to compare stapled and compressible colonic anastomoses in routine colon surgery.

Methods: A retrospective, observational, cohort study was conducted, including all elective colon resections in the last three years - with BAR and CAC-NITI anastomoses as a study group and stapled anastomoses as a control group. Demographic parameters, patient health status, operative parameters, postoperative outcome and complications were analyzed. **RESULTS:** 79 patients were included - 43 stapled anastomoses (control), 18 BAR and 18 CAC-NITI anastomoses. No statistical difference was found in preoperative, operative and postoperative data. Surgical outcome, complication rate and mortality were alike among all groups. The only significant difference found was that the BAR group required more operative blood transfusions.

Conclusion: We found no significant difference between stapled and compressible anastomoses in colon surgery.

SUBTOTAL COLECTOMY - A PROCEDURE OF CHOICE?

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Background: Subtotal colectomy is the procedure of choice in synchronous colon cancer and is generally thought to be the primary procedure when cancer of the colon is associated with synchronous adenomatous polyps. It is also an acceptable means of managing patients with obstructing carcinoma of the left colon. In a single procedure, subtotal colectomy achieves relief of the obstruction, tumor resection and restoration of gut continuity while allowing resection of synchronous lesions and eliminating the risk of metachronous tumor. However, there is not enough data comparing emergency subtotal colectomy with elective procedure.

The purpose of this study was to review our experience with subtotal colectomy for various indications.

Methods: We did a retrospective chart review of all patients who underwent subtotal colectomy from January 2000 to September 2006. Complete demographic data, comorbidity and details regarding the operative procedure were collected along with diagnostic methods used, length of stay and postoperative complications. The pathology reports were also documented, as were the files of the hospital oncology clinic.

Results: Forty-nine procedures of subtotal colectomy were performed during these years for multiple indications (22 men and 27 women, average age 67.5). Emergency operation was performed in 24 patients (49%), 18 of these due to complete obstruction of the colon. Thirteen patients were operated after proper, though urgent, preparation and 12 had elective surgery. Indications for the surgery were: obstructing tumor in the sigmoid colon (n=19), tumor in the splenic flexure (n=10, 7 of them with complete obstruction), synchronous tumors known before the operation (n=4), multiple polyps (n=5) and massive bleeding (n=4). Nine patients needed hospitalization in an intensive care unit (18.3%), 7 of them following emergency surgery. Infection was found in 7 patients (14.3%), 4 of them due to anastomotic leak. There was no mortality.

Of the four patients who had an anastomotic leak, 3 were operated on due to an obstructing tumor; all underwent re-operation with colostomy. Two of those patients later suffered from an entero-cutaneous fistula.

While reviewing the pathology reports we found that out of the 45 patients who had a tumor, 17 patients had a tumor in Dukes' stage B2 (37.7%), 18 in C (40%) and 6 (13.3%) in D. In 9 patients synchronous tumor was found without prior suspicion (20%).

Conclusion: We conclude that subtotal colectomy is a safe procedure when the patient has been carefully selected. The procedure becomes even safer when it has been possible to prepare the patient and perform the operation as semielective (urgent) and not as an emergency.