

Overview on Colorectal papers

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Ulcerative Colitis

1. Clinical aspects and research

Infliximab

[Actis and cols](#) conducted a trial of infliximab treatment on eight consecutive steroid-refractory severely ill patients admitted with uncontrolled ulcerative colitis of whom 6 were non-responders to parenteral steroids. Of these eight, 4 (50%) did not respond to the first injection and were submitted to urgent colectomy; the other four responded clinically. Two have maintained clinical remission for 7 months, without the need for steroids; both have received daily azathioprine at 2 mg/kg, and only one has received two further infliximab injections. Thus, the rate of sustained response is 2/8 (25%) in this study.

[Kohn and cols](#) evaluate the efficacy of Infliximab in a series of 13 patients with severe ulcerative colitis, refractory to therapy with methyl-prednisolone. Ten patients (77%) had a clinical response to therapy defined by a clinical activity index 10 on two consecutive days and all patients who responded showed very rapid clinical improvement, within 2 to 3 days of infusion. In a mean time of follow-up of 10.1 months, 9 out of 10 patients (90%) maintained clinical remission and were able to discontinue corticosteroid therapy.

[Su and cols](#) analysed data from all UC patients receiving infliximab at four institutions. From a total of 27 patients, 12 (44%) achieved remission and six patients (22%) had partial response. The median time to achieve response and remission was 4 days and the median duration 8 wk. Nine of the 18 patients who responded experienced 19 relapses; 18 of these relapses (95%) were successfully treated with repeat infusions. Steroid-refractory patients were less likely to respond to infliximab therapy than were steroid-responsive patients (33% vs 83%; $p = 0.026$). Two patients developed serious adverse events, including death in one case.

Immunosuppression

[Mahadevan and cols](#) undertook a study to determine whether the use of azathioprine/6-mercaptopurine before colectomy is associated with an increased rate of postoperative complications. A review of all patients who underwent colectomy with ileal pouch-anal anastomosis for ulcerative colitis between 1997 and 1999 showed that early complications after restorative proctocolectomy for ulcerative colitis are

associated with high dose steroids and severe disease but not use of azathioprine/6-mercaptopurine.

[Paoluzi and cols](#) assessed the role of azathioprine and methotrexate in inducing and maintaining remission in 42 patients with ulcerative colitis who were treated with a daily dose of azathioprine or, if intolerant or not responding, with methotrexate. Ten patients experienced early side-effects requiring withdrawal from treatment, 22 (69%) achieved complete remission, six (19%) achieved improvement and four (12%) obtained no substantial benefit. Methotrexate, administered to eight patients intolerant to and two patients resistant to azathioprine, induced complete remission in six patients (60%) and improvement in four (40%). During follow-up, a larger number of patients on azathioprine relapsed in comparison with patients on methotrexate (57% vs. 20%). They concluded that azathioprine is effective in patients with steroid-dependent or steroid-resistant ulcerative colitis and that methotrexate seems to be a good alternative in patients intolerant to or not responding to azathioprine.

[McCormack and cols](#) conducted a retrospective study to assess the role of cyclosporin therapy in severe ulcerative colitis in 46 patients. Thirty-two (69 percent) of these had an initial response to therapy, and 50 percent met criteria for a sustained response. At a mean of 22 months' follow-up, 26 percent of patients remain well and have never relapsed. Serious infective complications occurred in two patients, possibly attributable to therapy. They concluded that this study confirms the efficacy of cyclosporin in the management of severe ulcerative colitis.

ASCA and pANCA

Perinuclear antineutrophil cytoplasmic autoantibody (pANCA) is known to be a marker for ulcerative colitis, and anti-Saccharomyces cerevisiae Mannan antibody (ASCA) is a serologic marker associated with Crohn's disease. [Kim and cols](#) performed a study to assess these markers in serum samples of patients with Crohn's disease (n=85), ulcerative colitis (n=77), Behcet's colitis (n=36), tuberculous colitis (n=14), healthy controls (n=20), and first-degree relatives of patients with Crohn's disease (n=21). A relatively high percentage of patients with Crohn's disease (49.4%), relatives of Crohn's disease patients (61.9%), and patients with Behcet's disease (41.7%) tested seropositive for ASCA compared with normal controls (10%). In cases of ulcerative colitis, 44.2% tested seropositive for pANCA, whereas the controls showed 0% positivity. They concluded that ASCA may be associated with Crohn's disease and Behcet's disease and pANCA with ulcerative colitis.

Similar study was undertaken by [Linskens and cols](#), who evaluated the diagnostic accuracy of three serological tests (pANCA, ASCA and agglutinating antibodies to anaerobic coccoid rods) in differentiating ulcerative colitis from Crohn's disease by single or combined use. Sera from 51 patients with clinically well-defined ulcerative colitis and 50 patients with clinically well-defined Crohn's disease were analysed. Sensitivity and specificity were respectively 63% and 86% for pANCA in supporting the diagnosis of ulcerative colitis, 72% and 82% for ASCA for diagnosing Crohn's

disease and 52% and 90% for antibodies to anaerobic coccoid rods in diagnosing Crohn's disease. When combined results were observed, respective sensitivity and specificity were 51% and 94% for pANCA (+) and ASCA (-) in ulcerative colitis, and 64% and 94% for ASCA (+) and pANCA (-) in Crohn's disease. The combination of all three tests increased positive predictive value and specificity to 100% for both ulcerative colitis and Crohn's disease. They concluded that the use of these testes can improved substantially the accuracy of diagnosis in inflammatory bowel disease.

Molecular markers and risk of cancer

[Kobayashi and cols](#) assessed the use of p53 immunohistochemistry for optimal decision for treatment of polypoid lesions in in 4 adenocarcinomas and 4 adenomas in ulcerative colitis. Three carcinomas and 3 adenomas were positive. One carcinoma and 3 adenomas stained positively for p53 were treated only by polypectomy or local excision. Surveillance from 1 to 10 years have shown no metachronous dysplasia. The authors suggest that some polypoid lesions can be resected locally even if stained positively by p53 immunohistochemistry.

[Heinzlmann and cols](#) investigated the use of molecular screening to identify cancer risk in patients with longstanding inflammatory bowel disease. They determined the prevalence of p53 and K-ras mutations in colonic lavage fluid of 190 patients with ulcerative colitis (73), Crohn's disease (58) or controls (49 non-tumour, 10 colorectal cancer). Mutations were most frequent in carcinomas (5/10, 50%) and rare in non-tumour controls (1/49, 2.0%). They were found in Crohn's colitis in 15.4%, in extensive ulcerative colitis in 18.6%, in left-sided ulcerative colitis in 13.3%, and in distal ulcerative colitis in 6.7% ($P > 0.05$). There was a positive association with disease duration ($> \text{ or } = 11$ years, $P < 0.05$). They concluded that molecular screening may be used for the detection of malignant precursor lesions in at-risk patients.

Dexamethasone pulse therapy

[Sood and cols](#) reviewed results obtained with dexamethasone pulse therapy, i.e., use of supraphysiologic dose followed by complete withdrawal, which is likely to have fewer side effects in 14 patients with severe ulcerative colitis. None of the patients enrolled got subsequent oral corticosteroids after their 3 days of megadose corticosteroid infusion. Clinical remission was achieved in 93% patients by day 15. Clinical remission was sustained in 79% patients at 30 and 60 days. They concluded that dexamethasone pulse therapy is highly effective in inducing remission in patients with ulcerative colitis.

Sulphasalazine x mesalazine: adverse reactions

[Ransford and cols](#) suspected serious adverse reactions reported to the Committee on Safety of Medicines of the UK in 1991-1998. Adverse effect profiles were categorised for interstitial nephritis, pancreatitis, serious skin reactions, hepatitis and hepatic failure, and blood dyscrasias. A total of 4.7 million prescriptions were dispensed for

sulphasalazine compared with 2.8 million for mesalazine. Based on these spontaneous reports, they suggest that within the five sets of disorders considered, there is no evidence to indicate a safety advantage of mesalazine over sulphasalazine in the treatment of inflammatory bowel disease. Pancreatitis and interstitial nephritis appear significantly more common with mesalazine, and advice on renal monitoring in patients who receive mesalazine may need reinforcing.

2. Surgical treatment

Ileoanal pouches: complications

Portal vein thrombi

Remzi and cols reviewed the incidence of portal vein thrombi (PVT) in patients who underwent restorative proctocolectomy (RP) at Cleveland Clinic. Ninety-four from a total of 702 patients had a CT scan within the postoperative period. PVT was diagnosed in 42 of these patients (45%). The indications for CT scan included abdominal pain, fever, leukocytosis, and delayed bowel function. Septic complications of RP caused these symptoms and signs in 45 patients, 20 of whom had PVT. Twenty-two patients were found to have had PVT without evidence of any septic source. They concluded that PVT can be found in a high proportion of patients undergoing abdominal CT scan after RP. It is often associated with pain, fever, nausea vomiting, tenderness, and leukocytosis, and that PVT subtle enough to go undiagnosed has no serious consequences, even when not treated.

Pouch failure

Lepisto and cols studied the occurrence of pouch failure among 486 patients who had undergone proctocolectomy and ileoanal anastomosis for ulcerative colitis or familial adenomatous polyposis. The other goal was to compare the quality of life in the failure group of 21 patients, the successful group, and the healthy population. The overall failure rate was 5.3 percent (26), including 24 pouch excisions and 2 early deaths (0.4 percent). Neither pouchitis, gender, nor diagnosis correlated with pouch failure, but fistula formation ($p < 0.001$) did. Patients with failure had significant lower quality-of-life scores for physical function, social function, energy and physical role function than healthy population. They concluded that the most common cause of pouch failure is fistula.

Ileoanal pouches: results

Ileoanal pouches with no ileostomy

Gignoux and cols reported the results of a series of 84 patients undergoing Ileo-anal anastomosis (IAA) for ulcerative colitis (UC) or familial adenomatous polyposis without ileostomy. One patient died from a pulmonary embolus. Early and late complications were seen in 25 (30%) and 23 patients (27%) respectively, necessitating reoperation in 13, including three temporary ileostomies and one pouch excision for

Crohn's disease. Functional results were analysed in 81 patients at a median follow-up was 22 months showed a mean number of stools per day was 3.8 +/- 1 and normal daytime and night time continence in 77 (95%) and 73 patients (90%) respectively. They concluded that for a selected group of patients undergoing an IAA, a defunctioning ileostomy may be avoided. Morbidity and functional results are equivalent to those obtained with a defunctioning ileostomy.

Laparoscopic ileoanal pouch

[Pace and cols](#) reported their early experience with 13 laparoscopic ileal pouch-anal anastomosis (LIPAA) for ulcerative colitis, all of whom had previously undergone total abdominal colectomy with ileostomy. Median operative time was 255 minutes with one conversion (8%) due to adhesions. There were no deaths or intraoperative complications. Six patients experienced seven postoperative complications within 30 days of final closure of defunctioning ileostomy. The median number of day and night bowel movements was 6.0 and 1.0, respectively. None had incontinence of stool or retrograde ejaculation; however, one had occasional incontinence of gas, three had occasional nocturnal soiling, and one was impotent. Three patients (23%) had pouchitis, all treated successfully with oral antibiotics. They concluded that LIPAA is technically feasible in experienced centers.

Pouches x pregnancy

[Ravid and cols](#) undertook a study to evaluate the pregnancies, method of delivery, and functional results of females with chronic ulcerative colitis who have an ileal pouch-anal anastomosis. Thirty-eight subjects had 67 pregnancies. Of these, 29 subjects had 49 deliveries. There were 25 vaginal deliveries and 24 cesarean sections. There were two pouch-related complications during the pregnancies and four pouch-related complications postpartum. All were treated nonoperatively. Stool frequency and day and night incontinence were increased during pregnancy in most subjects, but after delivery, prepregnancy function was restored in 24 (83%) of them. Five subjects (17 percent) had some degree of permanent deterioration in pouch function. Multiple births and birth weight were not found to adversely affect subsequent pouch function. They concluded that pregnancy is safe in females with ileal pouch-anal anastomosis. Functional results are altered almost exclusively during the third trimester, but pouch function promptly returns to prepregnancy status in most females.

Pouches in the elderly

[Almogly and cols](#) reviewed their experience with 33 patients with late-onset ulcerative colitis (> 65 y.o.) and define the predictors of short-term outcome. The median age at surgery was 74 years. The most common indication for surgery was refractoriness to medical treatment. There were 4 deaths for a mortality rate of 12%, and 7 major complications. There was no mortality for elective procedures. On univariate analysis, albumin levels of 2.8 g/dl or less and urgent surgery were predictors of poor outcome.

Colonoscopy

Learning with virtual endoscopy simulator

[Ferlitsch and cols](#) undertook a study to determine whether the GI-Mentor, a virtual reality endoscopy simulator, can distinguish between beginners and experts in endoscopy and to assess whether training improves the performance of beginners. A total of 13 beginners and 11 experts were included. The final evaluation showed significant differences between training and no-training groups, in favor of the training group. The training group improved its abilities on the simulator significantly. Differences between experts and the training group were no longer seen. They concluded that virtual endoscopy simulator is capable of identifying differences between beginners and experts in gastrointestinal endoscopy and its impact on real-life endoscopy must be evaluated.

[Datta and cols](#) examined the role of PreOp (Immersion Medical, USA) system as a virtual reality based flexible sigmoidoscopy simulator. The system records several performance parameters, such as percentage of colonic mucosa visualized, time taken, and pathlength of endoscope travel. Forty-five subjects were divided into three groups: novice, intermediate, and trained. There was a significant difference between all three groups with respect to percentage of mucosa visualized and efficiency ratio. They concluded that PreOp virtual reality simulator is a valid discriminator of flexible sigmoidoscopic experience and its effect on training needs to be explored.

Disposable sheath for flexible sigmoidoscopy

[Bretthauer and cols](#) investigated the feasibility of a disposable sheath system for flexible sigmoidoscopy in decentralized colorectal cancer screening. In an on going colorectal cancer screening trial, 226 consecutive participants were randomly allocated to have their flexible sigmoidoscopy performed with either a fiberoptic sigmoidoscope covered with a disposable sheath or a conventional video colonoscope. No significant differences were observed for polyps larger than 5 mm. They concluded that sheathed video instruments are desirable and may increase the diagnostic yield.

Attempts to improve colonoscopy accuracy

Total colonic dye spray

[Brooker and cols](#) performed a randomized-controlled trial to determine the effect of total colonic dye spray on adenoma detection during routine colonoscopy. Two hundred fifty-nine patients were randomized, 124 to the dye-spray and 135 to the control group. Extubation from the cecum took a median of 9:05 minutes in the dye-spray group versus 4:52 minutes in the control group. In the dye-spray group significantly more diminutive adenomas (<5 mm) were detected proximal to the sigmoid colon ($p = 0.026$) and more patients were identified with 3 or more adenomas ($p = 0.002$). They concluded dye-spray increases the detection of small adenomas in

the proximal colon and patients with multiple adenomas, but long-term outcomes should be studied to determine the clinical value of these findings.

Fluorescein-labeled antibodies

[Keller and cols](#) reported the a study using an endoscopic technique using locally applied fluorescein-labeled antibodies for in-vivo detection of colorectal dysplasia and carcinoma in 27 patients with colonic polypoid lesions. During conventional colonoscopy, the monoclonal antibody was applied directly onto the mucosal surface. After an incubation time of 10 min, specific fluorescence was visualized with a conventional endoscope whose optical range was increased via two narrow-band filters. Fluorescence in vivo was present in 19 out of 25 carcinomas and in three of eight adenomas. The technique failed in the presence of mucosal ulceration or bleeding. Endoscopic fluorescence significantly correlated with the CEA expression of luminal epithelial cells as determined immunohistochemically. They concluded that fluorescence endoscopy using fluorescein-labeled monoclonal antibody against CEA was shown to be positive in most cancers and some adenomas, but further and larger studies will be needed to demonstrate the value of this technique for differential diagnosis.

Tattoo with sterile carbon compound.

[Askin and cols](#) assessed the injection of SPOT, a formulation of carbon particles as a tool for subsequent localization of colonic sites during surgical resection or postpolypectomy surveillance. Ten patients with colonic polyps deemed endoscopically unresectable or malignant-appearing had the area surrounding the lesions injected with SPOT and subsequently underwent surgical resection. Additional 103 patients underwent colonoscopic injection with SPOT and were followed endoscopically or underwent surgery at another hospital. The SPOT injection sites were visible to the surgeons in all 10 cases. No necrosis or abscess formation were found. In the nonoperated group, 42 patients subsequently underwent colonoscopies and in all cases stains were readily identifiable at the injection sites. They concluded that SPOT is a safe and effective marker for use for colonoscopic tattoo.

Use of a variable-stiffness colonoscope

[Shumaker and cols](#) evaluated the efficacy of a small-caliber, variable-stiffness colonoscope in patients with incomplete colonoscopy. Sixteen of 385 attempted colonoscopies (4.2%) did not reach the cecum with the standard colonoscope Fifteen of these 16 patients (94 %) had a complete colonoscopy with the variable-stiffness colonoscope undertaken by the same examiner immediately after the first examination. They concluded that this variable-stiffness colonoscope allowed completion of colonoscopy in all patients without obstruction who had an incomplete colonoscopy with the standard colonoscope and suggest further studies to determine whether it should be used routinely for colonoscopy.

Variable stiffness colonoscope was also assessed by [Shah and cols](#) in two studies. In study 1, the effect of routinely stiffening the straightened variable-stiffness colonoscopes in the mid-descending colon was determined in 82 patients. In study 2,

patients were examined by using standard adult variable-stiffness colonoscopes and real-time views of the procedure with magnetic endoscope imaging were recorded, but procedures were randomized to be done either with (n = 88), or without (n = 87) the endoscopist viewing the magnetic endoscope imaging display. They found that the variable-stiffness device used was effective in controlling looping 57% of the time and that routine magnetic endoscope imaging further enhances the efficacy of the variable-stiffness colonoscopes by helping to identify the optimal time for stiffening.

Improving patient's comfort

Propofol x pethidine

Paspatis and cols performed a study to compare the safety and efficacy of the synergistic sedation with a low dose of midazolam combined with propofol versus the standard regimen of midazolam and pethidine for conscious sedation in colonoscopy in a total of 120 patients. Multivariate stepwise logistic regression analysis revealed that the synergistic sedation with midazolam and propofol was the only factor associated with a higher level of patient comfort and quicker recovery times.

CO₂ versus air

Sumanac and cols compared the effects of CO₂ and air insufflation regarding the residual bowel gas and postprocedure pain. Ninety-seven patients were randomized to undergo colonoscopy with insufflation of air (n = 51) or CO₂ (n = 49) by means of a regulator. Pain scores (ordinal scale: 0 = none, to 5 = extreme) were recorded immediately after colonoscopy and at 1, 6, and 24 hours. Residual colonic gas was evaluated on abdominal radiographs at 1 hour. They found that residual colonic gas and postprocedural pain at 1 and 6 hours were significantly less in the CO₂ group. Seventy-one percent of patients insufflated with room air had colonic distension in excess of 6 cm versus 4% for those in the CO₂ group. 94% of patients insufflated with CO₂ had minimal colonic gas versus 2% in whom air was used. No complications resulted from use of the CO₂ delivery system. They concluded that insufflation of CO₂ rather than air significantly reduces abdominal pain and bowel distension after colonoscopy.

The effect of music

Smolen and cols examined the effects of music therapy on self-reported and physiological signs of anxiety among patients undergoing colonoscopy. Thirty-two patients were randomly assigned to either a group who listened to music during the colonoscopy or a standard procedure no music control group. Results were assessed by both State Anxiety Inventory and physiological signs including heart rate and blood pressure. They found that heart rate and blood pressure significantly decreased among the music group during the procedure while remaining unchanged in the control group. No significant effect of the treatment was observed on the State Anxiety Inventory, although a trend indicated that the music intervention decreased state anxiety was observed. Finally, the group who received the music intervention required less physician-administered sedation during the procedure than did the control group.

Male or female endoscopists ?

[Varadarajulu and cols](#) assessed the preference of patients for endoscopist gender and compared the degree of preference expressed by men and women. From a total of 150 consecutive patients scheduled for colonoscopy 45% (36/80) of women expressed a gender preference (34 for a female and 2 for a male endoscopist), whereas only 4.3% (3/70) of men expressed a preference. More than 90% (32/34) of the women patients who had expressed a preprocedure gender choice said they were willing to wait until an endoscopist of the preferred gender was available. They concluded that compared with male patients, female patients are more likely to have gender preferences for an endoscopist.

Constipation

Surgery for constipation

[Verne and cols](#) performed a study to determine the long-term outcome of patients who had previously undergone subtotal colectomy for severe idiopathic constipation as well as determining whether preoperative motility abnormalities of the upper gastrointestinal tract are more common among those patients who have significant postoperative complications. They evaluated 13 patients who preoperatively exhibited a pattern consistent with colonic inertia as demonstrated by means of radiopaque markers. Abdominal pain had decreased after subtotal colectomy. Patients with abnormal upper gastrointestinal motility preoperatively experienced greater postoperative pain than those with normal motility regardless of the type of anastomosis. The total number of bowel movements per week increased from 0.5 +/- 0.03 preoperatively to 15 +/- 4.5 postoperatively. They concluded that patients with isolated colonic inertia have a better long-term outcome from subtotal colectomy than patients with additional upper gastrointestinal motility.

[Lundin and cols](#) evaluated the functional results following segmental resection in a consecutive series of patients with slow-transit constipation (STC). Twenty-eight patients (26 women) were treated with segmental resection and followed prospectively with a validated questionnaire. After a median of 50 months, 23 patients were pleased with the outcome. The median (range) stool frequency increased from 1 to 7 per week and the number of patients passing hard stools and straining excessively decreased. They concluded that a symptomatic relief comparable to that after ileorectal anastomosis and less severe side-effects, maybe be obtained by segmental colectomy in selected patients with STC.

Irritable bowel syndrome and functional disorders

Tegaserode

[Jones and cols](#) undertook a systematic review to assess the clinical effectiveness of tegaserod for the treatment of irritable bowel syndrome (IBS). Six placebo-controlled,

randomized controlled trials (RCTs) were retrieved from electronic searches and hand-searching. In a small pharmacodynamic study, tegaserod 4 mg/day accelerated orocecal transit compared with placebo, but did not affect gastric emptying rate and colonic transit. Five placebo-controlled studies evaluated Subject's Global Assessment of gastrointestinal (GI) symptoms in predominantly female patients who fulfilled Rome criteria for constipation-predominant IBS. Responder rates were higher with tegaserod 1-24 mg/day than with placebo, although it was not possible in this review to evaluate the consistency of this effect, to fully quantify the effect size, or identify patients who may gain most benefit from this treatment. They concluded that currently published data on tegaserod for IBS are limited and further research is required.

Tougas and cols determined the long-term safety and tolerability of tegaserod in patients suffering from irritable bowel syndrome with constipation by a multicentre, with flexible dose titration of tegaserod in out-patients suffering from constipation-predominant irritable bowel syndrome. In a total of 579 patients, 304 (53%) completed the trial. The most common adverse events, classified as related to tegaserod for any dose, were mild and transient diarrhoea (10.1%), headache (8.3%), abdominal pain (7.4%) and flatulence (5.5%). Forty serious adverse events were reported in 25 patients (4.4% of patients) leading to discontinuation in six patients. They concluded that Tegaserod appears to be well tolerated and suggest that treatment is safe over a 12-month period.

High fiber diet

Parisi and cols investigated the use of partially hydrolyzed guar gum (PHGG) in 188 adult IBS patients (139 women and 49 men) for 12 weeks and compared it to a wheat bran diet. After four weeks, patients were allowed to switch group, depending on their subjective evaluation of their symptoms. Significantly more patients switched from fiber to PHGG (49.9%) than from PHGG to fiber (10.9%) at four weeks. Per protocol analysis showed that both fiber and PHGG were effective in improving pain and bowel habits, but no difference was found between the two groups.

Naloxone

Hawkes and cols assessed the efficacy and safety of an oral formulation of naloxone, an opioid antagonist, in irritable bowel syndrome patients with constipation. A randomized, double-blind, placebo-controlled trial was performed in 28 patients who entered the study, which was completed by 25. Whilst the differences were not significant, improvements in severity gradings and mean symptom scores for pain, bloating, straining and urgency to defecate were greater with naloxone than placebo for all parameters. In addition, quality of life assessments improved to a greater extent in patients taking naloxone. They concluded that naloxone is well tolerated and beneficial in patients with irritable bowel syndrome and constipation.

Carbonade water

Cuomo and cols performed this study to assess the effect of carbonated water intake in patients with functional dyspepsia and constipation. Twenty-one patients with

dyspepsia and secondary constipation were randomized into two groups in a double-blind fashion. One group (n=10) drank carbonated water and the other (n=11) tap water for almost 15 days. Patients were evaluated for dyspepsia and constipation scores, and underwent a satiety test by a liquid meal, radionuclide gastric emptying, sonographic gallbladder emptying and colonic transit time, using radio-opaque markers. The dyspepsia score was significantly reduced with carbonated water and remained unmodified after tap water. The constipation score also decreased significantly after carbonated water and was not significantly different with tap water. Satiety was significantly reduced with carbonated water. Gallbladder emptying was significantly improved only with carbonated water. They concluded that in patients complaining of functional dyspepsia and constipation, carbonated water decreases satiety and improves dyspepsia, constipation and gallbladder emptying.

Efficacy of laxatives

Jones and cols conducted a meta-analysis study to quantitatively evaluate the published evidence on the efficacy of laxatives in constipation. Of 250 articles, 35 met the inclusion criteria but only 11 yielded usable data (N = 375 patients on laxatives, 174 on placebo). There was an effect of laxatives on stool frequency and stool weight but this was not clearly distinguishable from that of placebo therapies in studies up to 4 weeks in duration. They concluded that these results cannot definitively rule out laxatives as an effective treatment, due to the poor published evidence, but better evidence is required to justify the continued expenditure of funds on laxatives by both patients and formularies.

Hemorrhoids

Stapled hemorrhoidectomy

Ravo and cols reviewed 1,107 patients treated with stapled hemorrhoidectomy from twelve Italian coloproctological centers and found a 15% complication rate. Immediate complications (first week) were severe pain (5%), bleeding (4.2%), thrombosis (2.3%), urinary retention (1.5%), anastomotic dehiscence (0.5%), fissure (0.2%), perineal intramural hematoma (0.1%), and submucosal abscess (0.1%). Bleeding was treated surgically in 24%. And was the most common complication in the first 25 cases of the surgeon's experience (48%). The authors concluded that even though stapled hemorrhoidectomy appears to be promising, a multicenter randomized study with a long-term follow-up is necessary before recommending the procedure.

Correa-Rovelo and cols undertook a randomized trial to compare the safety and clinical outcome between stapled rectal mucosectomy and closed hemorrhoidectomy. Eighty-four patients with Grade III and IV hemorrhoidal disease were randomly assigned to stapled rectal mucosectomy group (n = 42) or closed hemorrhoidectomy group (n = 42). Follow-up was six months. Eighty-two patients, were assessed. Length of surgery and disability, postoperative pain, and use of analgesics were significantly less for patients in the stapled rectal mucosectomy group. In the closed

hemorrhoidectomy group early complications were more frequent but not statistically significant, and there were no statistically significant differences regarding the frequency of late complications. No serious complications were reported in either group. Closed hemorrhoidectomy proved to be superior for bleeding control (95.1 percent closed hemorrhoidectomy 80.5 percent stapled rectal mucosectomy; $P = 0.04$). Patient satisfaction was similar in the two groups, but stapled rectal mucosectomy patients were more willing to undergo the same procedure ($P = 0.02$). They concluded that both stapled rectal mucosectomy and closed hemorrhoidectomy are safe procedures. Closed hemorrhoidectomy was superior for bleeding control, but more painful and disabling than stapled rectal mucosectomy.

Harmonic scalpel hemorrhoidectomy

[Ramadan and cols](#) evaluated the efficacy of harmonic scalpel hemorrhoidectomy 54 consecutive patients who were prospectively randomized for harmonic scalpel hemorrhoidectomy (HS) ($n=29$) or Milligan-Morgan procedure (MM) ($n=25$). Duration of surgery, postoperative hospitalization and pain degree was significantly higher in the MM group, but no significant difference was noted in the overall amount of analgesics used in the two groups at week 1, although it was significantly higher in the MM group 2 and 3 weeks after the operation. Early complication occurred more frequently in the MM group but overall the difference was not statistically

Post-operative complications

Pain: role of metronidazol

[Balfour and cols](#) performed a study to evaluate the effect of metronidazole after closed hemorrhoidectomy in 38 patients undergoing closed hemorrhoidectomy who were randomly allocated to receive metronidazole ($n = 18$) or placebo ($n = 20$). Both groups of patients experienced less pain than expected. Patients in the metronidazole group required fewer additional analgesics postoperatively (6.3 vs. 26.3 percent), and satisfaction scores in the placebo group were higher at one week (0.5 vs. 2.5), although these differences were not statistically significant. There were no differences in pain actually experienced, time to first bowel movement, return to normal activity, or complications between the two groups. They concluded that the use of postoperative metronidazole did not reduce postoperative pain.

Hemorrhage

[Chen and cols](#) studied 4,880 patients who underwent an elective closed hemorrhoidectomy. Among these, 45 (0.9 percent) developed posthemorrhoidectomy secondary hemorrhage. Multivariate analysis revealed that patient's gender and individual surgeons were both independently associated with risk of hemorrhage. They concluded that male patients are more likely to develop posthemorrhoidectomy hemorrhage than female patients and that intersurgeon variability is highly correlated with this risk.

Diverticular disease

A risk factor for adenomas ?

Morini and cols evaluate a possible association between diverticular disease and both adenomas and colorectal cancer in patients undergoing total colonoscopy. From an overall group of 630 consecutive patients, 291 (47%) had diverticular disease. No significant difference was found in the number of adenomas between those with and without diverticular disease. The prevalence of adenomas located in the sigmoid colon was significantly higher in patients with diverticula than in controls (64.1% vs 41.8%; $p < 0.05$). Similarly, the detection of advanced adenomas located in the sigmoid colon was more likely in patients with diverticula than in controls (59.6% vs 37.5%; $p < 0.05$). Colorectal cancer prevalence was similar in patients with and without diverticula. They concluded that patients with diverticular disease have a higher risk of harbouring adenomas and advanced adenomas in the sigmoid colon.

Lower GI bleeding

Bannura and cols reported their experience in the management of 20 patients with massive lower gastrointestinal bleeding. Nine patients were operated on after the bleeding stopped and 11 were operated while still bleeding. In ten, the cause of bleeding was diverticular disease or angiodysplasia. In four, the bleeding originated in the small bowel and in 7 it was of vascular origin. Two patients with a torrential bleeding, were operated on without prior study. Colonoscopy, done in 18 patients, identified the bleeding site in 66% of cases. A partial intestinal resection was performed in 15 patients and a total colectomy in five without operative mortality. In this series, the main causes of massive lower gastrointestinal bleeding were diverticulosis and angiodysplasia. In a high percentage of patients, the bleeding originated in the small bowel.

Laparoscopic resection

Dwivedi and cols compared laparoscopic sigmoid colectomy (n=66) to open sigmoid colectomy (88) for simple sigmoid diverticular disease. Mean estimated blood loss, time until a liquid diet was started and hospital length of stay were all significantly less in laparoscopic sigmoid colectomy patients. Mean operative time for laparoscopic sigmoid colectomy was 212 minutes as compared with 143 minutes for open sigmoid colectomy (< 0.05). Conversion rate was 19.7%. Although the mean operating room charges were greater in the laparoscopic sigmoid colectomy patients the mean hospital charges (\$13,953 \$14,863) were less. They concluded that laparoscopic sigmoid colectomy seems to be a reliable, safe and efficacious treatment modality with better outcomes for diverticular disease of the sigmoid colon.

Bouillot and cols undertook a retrospective multicenter study of elective laparoscopic sigmoidectomy for diverticulitis including 10 surgical units with 154 cases. Mean operation time was 223 min. There was no mortality and 23 complications (14.9%).

Mean postoperative ileus lasted 2.5 days, oral intake after 3.3 days and postoperative stay was 9.3 days. Conversion was necessary in 25 cases (13.9%). As the previous study, they also concluded that elective laparoscopic sigmoidectomy for diverticulitis is feasible and is safe.

Colorectal trauma

Time x primary repair

Kamwendo and cols undertook a prospective study was to determine whether primary suture of a penetrating colonic injury in the presence of delayed presentation, shock, peritoneal contamination or associated injuries leads to increased morbidity and mortality rates. Two hundred and forty patients were randomized to primary closure or colostomy. Postoperative complications were similar in the two groups and they concluded that delay from time of penetrating colonic injury is not a contraindication to primary repair.

Wound management

Velmahos and cols entered 48 patients into a randomized controlled trial (RCT) to have their skin wound primarily closed (CLOSED-RCT) or left open (OPEN-RCT). At the same time patients not included in the RCT were followed prospectively. At the discretion of the surgeon their skin wounds were managed by primary closure (CLOSED-nonRCT) or were left open (OPEN-nonRCT). Wound infection developed in 65% CLOSED-RCT and 36% of OPEN-RCT patients ($P = 0.04$) and wound dehiscence in 31% and 14% respectively ($P = 0.18$). No remarkable differences were noted in any other variable including length of hospital stay. Wound infection developed in 29% of CLOSED-nonRCT and 15% of OPEN-nonRCT patients ($P = 0.46$). There were three independent risk factors of wound infection: primary wound closure, colectomy and intraabdominal infection. Primary closure of the wound almost doubles the rate of wound infection compared with leaving the wound open in operations for colon injuries. They concluded that primary wound closure is a risk factor for wound infection and wound infection is a risk factor for wound dehiscence or necrotizing soft tissue infection.

Retroperitoneal laparostomy ?

Losanoff and cols reported their experience with four consecutive cases of high-velocity gunshot wounds to the abdomen, colonic injury, and retroperitoneal fecal spillage who underwent repeat exploration of the abdomen and retroperitoneum through ventral and retroperitoneal laparostomies. All patients survived. The cavities of the posterior laparostomies were in gravitationally favorable positions, facilitating thorough debridement and drainage. Closure of the posterior abdominal wall using prosthetic materials was achieved in all patients. They concluded that retroperitoneal laparostomy is a useful adjunct in management of gunshot trauma to the abdomen with retroperitoneal fecal contamination.