

T1423**Impact of Endoscopic Argon Plasma Coagulation (APC) Therapy for the Prevention of Recurrence of Acute Gastrointestinal Hemorrhage from Angiodysplasia**

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 Recurrent bleeding from GI angiodysplasia often remains a therapeutic challenge. Endoscopic therapy effectively arrests acute bleeding and is generally the first line of treatment for the acute control of hemorrhage. However, some studies have reported high rebleeding rates and its impact on long-term outcome has not been fully evaluated. Moreover, in a great majority of patients bleeding stops spontaneously and whether further therapy is necessary remains uncertain. Aims: 1) To compare management outcomes with endoscopic argon plasma coagulation (APC) and without APC, on the long term risk of recurrence of acute hemorrhage from GI angiodysplasia, and 2) to identify risk factors for recurrence. Patients and Methods: Unicenter cohort study (June 2002 - November 2006) of all patients admitted for acute hemorrhage from GI angiodysplasia that underwent conservative management with or without endoscopic argon plasma coagulation (APC) therapy. The primary end point was the percentage of recurrent bleeding, defined as any episode of overt bleeding requiring hospital admission, transfusion, or surgery, after hospital discharge. Univariate, multivariate and survival analysis were performed. Results: During the study period a total of 62 patients (38 men and 19 women; mean age, 74 ± 2 years) were admitted for acute overt GI bleeding from angiodysplasia. Of the original cohort, 3 patients died during hospitalization (4.8%), 2 were lost to follow-up and 57 were followed-up after hospital discharge. Thirty-four of the 57 (60%) patients had been treated with endoscopic APC, whereas 23 (40%) patients without endoscopic therapy were followed as a control group. The overall incidence of rebleeding after hospital discharge was 30% (17 of 57 patients). Bleeding recurred in 10 of 23 (43.5%) in the untreated control group and in 7 of 34 (21%) patients treated by endoscopic APC (RR: 0.47, 95% CI: 0.21-1.06, p = 0.06) after a mean follow-up of 24 and 23.9 months, respectively. The actuarial probability of remaining free of rebleeding at 1 and 2 years follow-up was 87% and 74% in the treated group and 73% and 52% in the untreated group (log-rank, p = 0.06). On Cox analysis, age (HR: 1.17, 95% CI: 1.01-1.36, p = 0.02), average bleeding history (HR: 1.05, 95% CI: 1.01-1.09, p = 0.002), overanticoagulation (HR: 64.3, 95% CI: 3.22-1284.6, p = 0.006) and single lesion (HR: 0.04, 95% CI: 0.00-0.61, p = 0.02) were independent predictors of recurrence. Conclusion: Endoscopic APC therapy of accessible angiodysplasias have a positive therapeutic impact, reducing by 50% the long term risk of recurrence of acute gastrointestinal bleeding.

T1424**Argon Plasma Coagulation Versus Application of 4 Percent Formalin for the Treatment of Radiation Induced Hemorrhagic Proctitis**

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 Background: Radiation proctitis is a common complication of radiotherapy for pelvic malignancy. In more severe form, it leads to intractable or massive hemorrhage, which may require repeated hospital admissions and blood transfusions. Medical therapy in patients with radiation proctitis is usually ineffective, whereas surgery is associated with a high morbidity and mortality. Objectives: to compare the therapeutic results of the Argon Plasma Coagulator (APC) (ERBE USA, Inc., Marietta, GA, USA) application in patients with radiation proctitis-induced hemorrhage versus a historic cohort treated with 4% formalin irrigation. Methods: APC was performed, applying the no-touch spotting technique at an electrical power of 50-60 Watt and an argon gas flow of 2.0 l/min. Pulse duration was less than 0.5 s. Treatment sessions were carried out at intervals of 2-4 weeks. With formalin patients were treated by a single operator using 20 mL of a 4% solution of formalin instilled into the rectum via a flexible colonoscope for 5 minutes. The technique used ensured minimal contact with formalin. Results: The two groups were comparable in terms of age, gender, and diagnosis. Twenty six patients (24 females) with hemorrhagic radiation proctitis were treated with endoluminal formalin and 21 with APC (18 females). Patients with formalin were treated with radiotherapy at a median time of 14 months (range, 7-28 months) previously and 9 months (range, 6-18) in APC therapy. The median duration of time of symptomatic rectal hemorrhage before formalin therapy was 7 months (range, 4-14 months) and 5, 5 months (range, 3-11 months). The median number of units of blood transfused previously per patient was 2, 6 (range, 1-6) and 1, 8. Three patients required repeat formalin application and four in APC group. There was not more bleed with any of the groups of treatment, nor was any blood transfusion needed, at follow-up mean of 20 months (range, 3-35 months). Conclusions: Formalin therapy is a simple, inexpensive, and effective treatment for hemorrhagic radiation proctitis and could be compared with argon plasma treatment.

T1425**Clinical Impact of Endoscopic Submucosal Dissection (ESD) of Large Laterally Spreading Tumors (LSTs) in the Colorectum**

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Background: Surgical resection is generally required for large colorectal tumors because en bloc resection facilitates enhanced curability and accurate histological assessment. Endoscopic submucosal dissection (ESD), a new procedure in therapeutic endoscopy, has been developed to resect early stage gastrointestinal tumors en bloc. We conducted a prospective clinical study of the ESD technique for large flat-elevated colorectal tumors known as laterally spreading tumors (LSTs). Materials and Methods: Inclusion criteria were colorectal LSTs ≥ 30 mm because such lesions are technically more difficult to resect en bloc by standard endoscopic mucosal resection (EMR) procedures. A total of 14 consecutive patients with 15 lesions were enrolled in this study between March and November 2006. ESD procedures were performed under carbon dioxide insufflation. After submucosal injection of glycerol, a circumferential incision in the mucosa was made using a bipolar current needle knife (B-knife™). Sodium hyaluronate solution was then injected into the submucosal layer to lift the lesion and the thickened submucosal layer was cut using a B-knife™, insulation-tipped knife and Mucosectom®. Outcome data were evaluated including en bloc resection rate, procedure times, associated complications and hospitalization stays. Results: Four lesions (27%) were located in the right colon, 1 (7%) in the left colon and 10 (67%) in the rectum. Based on macroscopic type, 13 lesions (87%) were LST granular (LST-G) and 2 (13%) were LST non-granular (LST-NG). Mean lesion size was 52.7 mm [range: 30-105 mm] and median procedure time was 110 minutes. All tumors were resected en bloc allowing precise histopathological assessment which confirmed 3 tubular adenomas, 10 intramucosal cancers and 2 submucosal (sm) invasive cancers. As for associated complications, a perforation occurred during ESD of a rectal LST-G with severe fibrosis, but was successfully managed by endoscopic clipping without surgery. There were no cases of postoperative bleeding. Two patients with sm invasive cancer, one with deep sm invasion and one with slight sm invasion and vascular invasion, underwent surgery due to higher risks of lymph-node (LN) metastasis. Mean hospitalization stay was 5.8 days. Conclusion: ESD was shown to be a safe and effective technique regardless of tumor size, therefore, it can be expected to replace surgical resection for colorectal tumors with a low risk of LN metastasis. Longer operation time and the need for a higher level of endoscopic skill are ESD-related issues to be addressed in the future.

T1426**Risk Factors Associated with Advanced Colorectal Adenoma Or Cancer Occurrence During Surveillance Colonoscopy: The KASID Multi-Center Study**

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Aim: Despite the benefits of colonoscopy, interval cancers and advanced adenomas are detected in patients with resected colorectal tumor. This study prospectively attempted to identify the risk variables associated with advanced colorectal neoplasia (ACN; size > 1 cm, villous architecture, or high grade dysplasia) or cancer occurrence during surveillance colonoscopy. Methods: The study population was composed of 1,413 patients with resected colorectal adenomas or cancer at 15 university hospitals. At both baseline and follow-up colonoscopic examinations, the characteristics of patients and tumors as well as procedure related variables were analyzed as potential risk factors for ACN or cancer occurrence during the surveillance colonoscopy. Results: The average age of the patients was 60 yrs (range; 40-86), and 68% (681) were men. Of 1,413 patients followed in the study (mean 23 mo, range 11-153 mo), 6 cancers (0.4%) and 57 ACNs (4.0%) were detected over 2,708 person years of observation (PYO). These represent ACN and cancer occurrence in 2.2 and 20 cases/1000 PYO, respectively. These ACNs and cancers were located in order of the rectosigmoid (40.6%), the ascending (23.2%), the transverse (15.9%), the descending (10.1%), the hepatic flexure (7.2%) and the splenic flexure (2.9%); 49.3% were proximal. The numbers of lifetime cumulative CN and those detected by the last colonoscopy were higher in patients with ACN or cancer occurrence at surveillance than patients without (5.1 vs. 3.8; p < 0.005 and 2.3 vs. 0.9; p < 0.001). Also, the ACN or cancer occurrence was more prevalent in patients with ACN or cancer at baseline (8.8% vs. 3.3%; p < 0.001). In particular, follow up colonoscopies indicated by warning symptoms (bloody stool or weight loss) or iron deficiency anemia had found more ACN or cancer than scheduled test (20.6% vs. 3.4%; p < 0.001). Furthermore, ACN or cancer occurrence on surveillance was higher in patients who were examined by unskillful endoscopist at baseline (staff; 3.8% vs. fellow; 7.1%; p < 0.005). However, age, gender, ASA physical status, diabetes, alcohol or smoking history, distribution of CN at baseline and the degree of bowel preparation showed no association with the risk for ACN or cancer occurrence during follow-up. Conclusions: Because advanced histology at baseline, higher numbers of lifetime cumulative CN as well as of CN detected at the last test, follow up colonoscopy indicated by warning symptoms, and baseline colonoscopy performed by unskillful endoscopist can be important indicators for new occurrence of ACN or cancer, these factors should be considered to enhance the quality and the outcome of surveillance colonoscopy.