

## Carcinoid tumors of gastrointestinal tract: Outcomes according to treatment modality

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**Background:** With the advance of gastrointestinal diagnostic modalities, epidemiology and clinical course of gastrointestinal neuroendocrine tumors (GI-NETs) have been changed from that of previous century. We aimed to define the characteristic of gastrointestinal carcinoid tumors in our institute for recent 5 years and compared the efficacy and safety of endoscopic treatment to operation. **Methods:** By analysing medical records in single tertiary academic hospital between 2007 and 2011, 91 lesions of GI-NETs were found. 66 patients with rectal carcinoid tumors underwent endoscopic mucosal resection (EMR, n=29), endoscopic submucosal dissection (EMR, n=23) or transanal endoscopic microsurgery (TEM, n=14). **Results:** NETs was most commonly found at rectum (76.9%), followed by stomach and duodenum (20.7%). The NETs of stomach and duodenum showed higher patient age and larger tumor size (stomach: 70.1±8.8 years, 14.5±8.2 mm; duodenum: 62.5±14.0 years, 10.3±5.4 mm) than those of rectum (49.2±11.4 years, 6.7±2.4 mm;  $p<0.01$ ). For rectal NETs, local resection was performed in 66 out of 70 lesions. Histologically complete resection rate was significantly higher in ESD, TEM group (82.6%, 100%) than EMR group (65.5%). The complication rate was significantly higher in ESD, EMR group (47.8%, 18.5%) than TEM group (0%;  $p=0.003$ ). However, most of complications were minor bleeding that could be managed immediately. TEM had disadvantage of significantly longer running time (TEM: 40.7±14.2 min, ESD: 18.0±13.2 min;  $p<0.01$ ) and hospitalization (TEM: 5.3±1.1 day, ESD: 3.8±0.8 day;  $p<0.01$ ), and also had a potential risk of anesthesia. No recurrence has been observed in all of 3 groups during a median follow-up of 24.1 months. **Conclusions:** The clinical course of GI-NETs depends on the respectability of primary lesion. Local resection for small GI-NETs results in comparable outcomes among the modalities. Although TEM had shown higher efficacy, endoscopic treatment seems to be more convenient than TEM for small rectal carcinoid tumors. ESD showed superior efficacy to EMR. ESD seems acceptable for small rectal and gastric carcinoid tumors.

## Usefulness of fecal calprotectin in assessing inflammatory bowel disease activity

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**Background:** Mucosal healing is reported to be associated with sustained remission and reduced risk of surgery in inflammatory bowel disease (IBD). Fecal calprotectin (FC) is known to correlate with disease activity and can be used as a predictor for relapse or treatment response in IBD. We aimed to assess the usefulness of the FC as a marker of disease activity and mucosal healing (MH) in patients with IBD. In addition, we compared a quantitative rapid) with established ELISA method. **Methods:** Seventy nine patients with IBD were enrolled, of which 49 were Ulcerative colitis (UC) and 30 were Crohn's disease (CD). FC levels were analyzed by both ELISA and quantitative rapid test. Patients' medical records were reviewed for clinical, laboratory and endoscopic data. In UC, MH was defined as a Mayo endoscopic g/g in UC and was subscore of 0. **Results:** The mean FC level was 998.1±1610.1 g/g in CD, respectively. There was a strong correlation between 1167.3±1317.3 FC level and clinical activity indices (Mayo score and CDAI) ( $p<0.001$ ). FC levels showed good correlations with WBC count and C-reactive protein levels. There were no differences in FC levels according to disease location and extension both in UC and CD. FC level was significantly lower in patients with g/g, MH compared to those without MH in UC (81.0±59.5 vs. 1039.7±1598.1,  $p=0.021$ ). The results from a quantitative rapid test corresponded well to those from ELISA. **Conclusions:** FC test is a simple and useful method for investigating IBD activity. In particular, FC is a good surrogate marker for MH. The quantitative rapid test, which is more rapid and easier to use, can be used as a reliable alternative to the time consuming ELISA. Thus, FC has the potential to replace colonoscopy for assessment of mucosal inflammation in clinical practice.