association with serum IL-32 titer and clinical manifestation of patients with CD, and identify whether serum IL-32 test is helpful in the differential diagnosis between CD and intestinal tuberculosis (ITB).

**Methods:** Serum samples from 48 patients with CD, 46 patients with ITB and 20 normal control were collected. Serum IL-32 gamma (most active isoform of IL-32) titer was measured by IL-32 gamma specific sandwich ELISA.

**Results:** Serum IL-32 gamma titer in patients with CD was significantly elevated compared with patients with ITB and normal control (p<0.01). Between patients with ITB and normal control, serum IL-32 gamma titer was not significantly different. In patients with CD, serum IL-32 gamma titer tended to be increased patients with clinical symptoms such as weight loss, abdominal pain and hematochezia, and patients with lesion involved small bowel and anorectal area (p>0.05). In patients with CD, serum IL-32 gamma titer of normal CRP group was higher than elevated CRP group, but there was no significant difference between two groups (p=0.068).

The sensitivity, specificity, positive predictive value and negative predictive value of serum IL-32 gamma titer for diagnosis of CD were 64.6%, 73.9%, 45.7% and 54.3%, respectively.

**Conclusions:** Serum IL-32gamma titer can represent CD activity and be helpful in the differential diagnosis between CD and ITB. However, prospective large studies are needed to verify the clinical usefulness of serum IL-32gamma titer in diagnosis and monitoring of CD.

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Clinical usefulness of fecal calprotectin measurement in predicting intestinal involvement of Behçet's disease: preliminary results

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**Background:** Fecal calprotectin (FC) concentration directly represents the degree of intestinal inflammation. It is established that FC level predicts the clinical course of inflammatory bowel disease. However, little is known about the impact of FC in patients with intestinal Behçet's disease (BD).

**Methods:** Fifteen consecutive patients with systemic BD who undertook colonoscopy for evaluation of gastrointestinal symptoms were prospectively enrolled between November, 2012 and March, 2013 in Severance hospital, Seoul, Korea. Fecal specimens from the patients were obtained one day before starting bowel preparation. FC level was compared with colonoscopic outcomes, disease activity index for intestinal BD (DAIBD), and laboratory markers.

**Results:** Median age of the patients was 43 (31-68) and nine (60%) were male. Of them, 11 (73.3%) showed intestinal ulcers (five typical and six atypical ulcers). Terminal ileum was the most frequent location (81.8%). Three definite intestinal BD (27.3%) and eight probable intestinal BD (72.7%) were diagnosed from the established criteria. Median FC level in patients who had typical intestinal ulcers was significantly higher than in those with atypical ulcers or without ulcers (567.83 μg/g [327.12–1604.39], 51.75 μg/g [20.14–95.18] and 58.36 μg/g [6.04–103.53], respectively; P=0.004 and 0.016, respectively). However, serum CRP level and DAIBD in patients with typical ulcers were not significantly different from those in patients with atypical ulcers or without ulcers.

**Conclusions:** High FC level was clearly correlated with typical intestinal BD ulcers. FC level might have a significant role as a non-invasive surrogate marker of intestinal involvement of BD.

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Clinical outcome of perianal Crohn's disease: Natural history and impact of medical and surgical strategies over time

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**Background:** Perianal Crohn's disease (pCD) is associated with complications leading to recurrent surgery and tissue damage. Immunosuppressive drugs (IS) including anti-TNF have changed the management of pCD. Our aim was to describe the management and the natural history of a cohort of patients with active pCD and to identify predictive factors of poor evolution.

**Methods:** A retrospective study of pCD patients registered in the database of the university hospital of Liege, Belgium. Perianal lesions included abscess, fistulae, anal fissure, anal strictures. pCD treatments included antibiotics, surgical drainage (with or without seton), stoma. Medical treatments including IS and anti-TNF were recorded at pCD diagnosis and over follow-up. pCD relapse was defined as antibiotic therapy for recurrent abscess, the need for surgical drainage or stoma. The subgroups of patients followed before (old cohort) and after (young cohort) the year 2000 were compared in a subanalysis.

**Results:** 181 patients with pCD were included. Mean follow-up was 7.9 years. Mean time between CD and pCD diagnosis was 6.3 years. Lesions at pCD diagnosis were abscess in 93/181 (51%), fistula in 91/181 (50%; 77/93 of complex fistulae), anal fissure in 28/181 (15%), anal stricture in 18/181 (10%). At diagnosis abscess drainage was performed in 31/181 (17%), drainage + seton in 44/181 (24%), stoma in 18/181 (10%), 132/181 (74%) and 83/181 (47%) had IS and anti-TNF respectively at pCD diagnosis. Relapse rate was 51% within a mean time of 33 months. During follow-up 15% required a stoma. Predictive factors of relapse were perianal abscess (p<0.0001, HR=4.4), fistula (p<0.0001, HR=4.5) or surgical drainage at diagnosis (p<0.0001, HR=4.5), young age at pCD diagnosis (28 versus 31 yo, p=0.02), short time between CD and pCD diagnosis (5.7 versus 7 years, p=0.01), IS (p=0.04, HR=1.8) and anti-TNF (p=0.01, HR=1.5) at pCD diagnosis. Anti-TNF during follow-up, time to introduce them and duration of anti-TNF treatment were not predictive of relapse. The young and old cohort had the same characteristics at pCD diagnosis except a higher use of IS (87% vs 48%, p<0.0001) and anti-TNF (3% vs 68%, p<0.0001) in the young cohort. Clinical outcome including the time to relapse, type of relapse, need for surgery and stoma was similar in both cohorts.

**Conclusions:** In our cohort of pCD patients half of them had a perianal relapse over the time requiring surgery in more than 2/3 of them. At pCD diagnosis perianal abscess, fistula, surgical drainage, young age, treatment with IS or anti-TNF were associated with a higher risk of relapse. Although higher prescription of anti-TNF and IS in the last years new treatment strategies have not impacted the outcome of pCD.

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Clinical impact of magnifying chromoendoscopy on assessment of mucosal healing and prediction of disease relapse in quiescent ulcerative colitis

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**Background:** Mucosal healing (MH) has emerged as an important treatment goal in ulcerative colitis (UC). Several previous studies showed that achievement of mucosal healing is associated with medium- and long-term clinical outcome. However, there is no validated definition of MH. The aim of this study is to examine the usefulness of magnifying colonoscopy for evaluation of MH in UC.
Methods: We reviewed magnifying colonoscopic findings in 30 patients with quiescent UC who achieved complete MH (Endoscopic subscore of Mayo 0) by conventional colonoscopy. All patients performed magnifying observation using spraying with 0.1% indigo carmine dye solution after conventional colonoscopy. According to the fine network and crypt pit patterns of colonic mucosa, we classified magnifying colonoscopic findings into four types (magnifying subscore 0–3); 0, the surface structures similar to normal colonic mucosa; 1, the disarray of fine network or crypt pit patterns were observed; 2, the abnormal surface structures, such as fusion or disruption of fine network patterns and loss of crypt pit patterns were observed; 3, the fine network or crypt pit patterns were completely disappeared. We examined: (1) the proportion of patients without clinical relapse (magnifying subscore 0 or 1 group vs subscore 2 or 3 group); (2) the patients' characteristics (age, gender, disease phenotype, extent disease, and medications) between our magnifying colonoscopic classifications. Disease activity was evaluated using a clinical activity index of Rachmilewitz (CAI), and clinical remission was defined as CAI score of 4 or more.

Results: The distribution of magnifying colonoscopic findings was as follows; 10 (subscore 0), 9 (subscore 1), 8 (subscore 2) and 3 (subscore 3). The proportion of patients with relapse-free in magnifying subscore 0 or 1 group was significantly higher than that in magnifying subscore 2 or 3 group (89.5% vs 36.4% at 12 months after magnifying chromoendoscopy, log-rank test p < 0.01). The patients in magnifying subscore 2 or 3 group significantly received more cumulative dose of prednisolone compared with those in magnifying subscore 0 or 1 group (485.0±104.9 vs 77.6±47.4 mg/month), however, there was no significant correlation between magnifying subscore and other clinical parameters.

Conclusions: Magnifying colonoscopy can provide additional benefits for evaluation of MH by conventional colonoscopy in quiescent UC.

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Clinical features and prognosis of fistulizing perianal Crohn's disease in Korea
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Background: Differences in genetic susceptibility and clinical characteristics have been reported between Asian and Caucasian patients with Crohn’s disease (CD). However, the disease course and risk factors of poor prognosis in Asian CD patients has not been fully determined. Moreover, the clinical features and long-term prognosis of CD in patients with fistulizing perianal CD remain unclear. The aim of this study is to assess the clinical characteristics and long-term outcome of CD patients according to presence of perianal fistula in a Korean population.

Methods: This retrospective multicenter cohort study included patients diagnosed with CD between July 1982 and December 2008 from 29 hospitals in Korea. Those who had a follow-up period shorter than 12 months were excluded. The primary endpoints were CD-related complications including non- perianal fistula, stricture, and intra-abdominal abscess.

Results: A total of 1,026 CD patients were enrolled. The mean follow-up period was 8.46 years (range, 1.0–26.4). Three hundred ninety-nine (38.9%) CD patients experienced perianal fistula. Among them, perianal fistula was detected before and after diagnosis of CD in 274 (68.7%) and 125 (31.3%), respectively. Fistulizing perianal CD was significantly associated with younger age (40 years old or less), diagnosis of CD at primary or secondary care clinics, and ileocolonic involvement (L3 according to the Montreal classification). In addition, complications of non-perianal fistula (p = 0.025) and intra- abdominal abscess (p = 0.003) were significantly more common in patients with fistulizing perianal CD than in those without fistulizing perianal CD. In contrast, complication of stricture was not associated with fistulizing perianal CD (p = 0.106).

Conclusions: In Korean CD patients, perianal fistula is an independent predictor for complications of non-perianal fistula and intra-abdominal abscess. Therefore, patients with fistulizing perianal CD should be carefully monitored for development of non-perianal fistula and intra-abdominal abscess.

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Clinical characteristics and oncologic outcomes in patients with colorectal cancer complicating ulcerative colitis: a single-institution experience
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Background: Ulcerative colitis is a significant risk factor for development of colorectal cancer. The prognosis for this group of colorectal cancer patients is worse than sporadic colorectal cancer. The aim of colonoscopic surveillance in this group is to detect colorectal cancer at the earliest time. Our study aims to describe our experience in the diagnosis, management and outcomes in these patients.

Methods: This is a retrospective review of all patients who underwent surgery for colorectal cancer complicating ulcerative colitis between 1999 and 2012. Clinicopathological parameters, management and outcomes were analysed.

Results: Forty-three patients were studied. The male:female ratio was 33:10 and the mean age at colorectal cancer diagnosis was 58.2 years. The mean interval time between the diagnosis of ulcerative diagnosis and the presentation of colorectal cancer was 16.8 years. 23.2% of patients developed colorectal cancer in the first decade from the diagnosis of UC. The mean interval time from last colonoscopy to colorectal cancer diagnosis was 4.5 years. 77% of patients had regular surveillance colonoscopies every 1, 2, 3, 4 or 5 years.

51.2% had stage III or IV disease. 69.7% of the lesions were T3 or T4. Nodal metastasis was identified at presentation in 55.8% of the patients. Only 4 of the patients had distant metastases (M1). 66% had left colon cancer. Mucinous differentiation was present in 27.9% of lesions.

The most common operation performed was panproctocolectomy with end ileostomy (n = 23) followed by subtotal colectomy and end ileostomy (n = 8). IPAA was performed only in 3 patients. R0 resection was established in 88.4% of the patients. 30 day mortality was 0.