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Evaluation of the use of fecal calprotectin as a diagnostic aid for IBD in an Irish population

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Background: Serological Inflammatory markers can be used for assisting in the diagnoses of inflammatory bowel disease but are neither particularly sensitive nor specific.
Aim of this study is to investigate the role of fecal Calprotectin in the diagnosis of inflammatory bowel disease along with the serological markers ESR, CRP and endoscopic and radiological means.
Methods: Retrospective data of Fecal Calprotectin was collected from the online portal of Kings College Pathology Laboratory London, along with blood and colonoscopy reports from the iLab and Unisoft software of the Mid Western Regional Hospital Limerick respectively over period of 18 months. Statistical analysis was performed using Chi square and Student's T test on SPSS. A P-value of 0.05 was taken as significant.
Results: In the 18 months 97 patients had their faecal Calprotectin checked. Fifty-two (53.6%) of them subsequently had the diagnosis of inflammatory bowel disease made on the basis of colonoscopy, CT scan abdomen or small bowel follow through. We divided patients into 2 groups on the basis of faecal Calprotectin values. Patients in group 1 faecal Calprotectin values less than 60 (n = 27) group 2 had values above 60 to 2009 (70). Of those with normal faecal Calprotectin 21 did not have a diagnosis of IBD, whilst 6 had, of those with elevated faecal Calprotectin 23 did not have a diagnosis of IBD, whilst 47 did (Chi square test, p = 0.001). Six (22%) of group 1 had colitis while nineteen (27%) of group 2 were normal. Mean ESR in group 1 was 11.38 VS 17.65 in group 2 (P = 0.159 Student T Test) while mean CRP in group 1 was 10.6 VS 6.4 in group 2 (P = 0.226 Student T test). Those patients with subsequent diagnosis of IBD (52) had a mean faecal Calprotectin of 335.89 VS non IBD patients (45) mean faecal Calprotectin value was 138 (P = 0.0059 Student T test).
Conclusions: This study shows that the use of faecal Calprotectin is a reliable indicator of IBD in the Irish population studied. It also shows that ESR and CRP levels do not correlate with or assist in the diagnosis of IBD in this population.

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Early measurement of fecal calprotectin after intestinal resection is useful to predict postoperative recurrence in patients with Crohn's disease

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Background: Endoscopic recurrence is common after intestinal resection in Crohn's disease (CD) and its detection is predictive of further clinical recurrence. Fecal calprotectin (fCal) concentrations that have been extensively reported to strongly correlate with CD activity may be valuable to predict postoperative recurrence in patients who undergo an intestinal resection. AIMS: To determine the usufulness of fCal measured (as early as 3 months post-surgery) to identify CD patients at high risk of post-operative recurrence within one-year post-resection.
Methods: Twenty-two consecutive CD patients (15F, median age 32 yrs) who underwent a curative ileo-colonic resection were prospectively followed during one year post-surgery by recording every 3 months the clinical disease activity index (Harvey–Bradshaw) and by performing at 6 months (and also at 12 months post-surgery in the absence of endoscopic recurrence at 6 months) an ileo-colonoscopy. A stool sample was collected 3 months post-surgery and fCal concentrations were measured by ELISA assay (Bühlmann, Schönenbuch, Switzerland). Clinical and endoscopic recurrences were defined as a HBI >4 points and a Rutgeerts severity score $\geqslant$i2, respectively. Statistical analysis included comparisons of fCal concentrations using a Mann–Whitney test, Spearman correlations and the construction of a ROC curve.
Results: None of the patients experienced a clinical recurrence within one-year post-surgery. Cumulative rates of postoperative endoscopic recurrence at 6 and 12 months post-resection were 46% and 73%, respectively. A moderate (Rutgeerts i2) and a severe (Rutgeerts $\geqslant$i3) endoscopic recurrence were identified in 9 and 7 patients, respectively. Fecal calprotectin levels measured at 3 months post-surgery were significantly higher in patients who further experienced a postoperative endoscopic recurrence when compared with those in patients who stay in remission (mean$\pm$SD 1028$\pm$2481 g/kg vs 92$\pm$19 g/kg; $p < 0.05$). The area under the ROC curve (AUC) for fCal levels measured at 3 months post-surgery to discriminate patients at high risk of endoscopic recurrence from those in remission within one year was 0.80. Using the best cutoff point for fCal levels of 140 g/kg determined by the ROC curve, sensitivity, specificity, positive and negative predictive values as well as overall accuracy were 100%, 55%, 67%, 100% and 76%, respectively.
Conclusions: Measurement of fCal concentrations, as early as 3 months post-surgery, may be useful for identifying CD patients at high risk of endoscopic recurrence within one-year post-surgery and subsequently may help clinicians to manage therapy in the postoperative setting.

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Double balloon endoscopy and Crohn's disease: Does it still work?

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Background: There are some characteristic small bowel lesions observed with balloon assisted endoscopy (BAE) in Crohn's disease like aphthoid ulcers, round ulcers, irregular ulcers and longitudinal ulcers. These ulcers generally tend to be located on the mesenteric side of the small bowel. Since BAE can determine the location (mesenteric or antimesenteric side) of the ulceration, it is useful in distinguishing Crohn's disease from other diseases that have ulcers in the small bowel. We aimed to investigate the impact of double-balloon endoscopy (DBE) in the diagnosis of Crohn's disease (CD).
Methods: This study is a retrospective analysis of 593 consecutive patients for investigation of small bowel disease that had been suspected by both clinical symptoms and imaging tests. The final management was guided by the results of DBE. Demographic, clinical, procedural and outcome data were collected for analysis.
Results: Among the 593 patients, lesions were found in 380 (64.1%). The main indication for DBE in our series was obscure gastrointestinal bleeding (35.4%) (Table 1).

Table 1. Kocaeli University Gastroenterology Department DBE series

Indication	No. of patients	No. of procedures	Diagnosis rate (%)
Obscure GI bleeding	210	250	70.2
Crohn's disease	52	82	68.6
ERCP-Alterne GI tract	45	50	88.5
Total	593	796	64.1

Suspected CD was 8.76%. The detection rate of CD was significantly higher with DBE (68.6%) than with ileocolonoscopy

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(39.4%, P < 0.05), and DBE provides much more detailed descriptions of specific endoscopic features such as segmental distribution and lumen changes. Forty patients were diagnosed as new CD thanks DBE (Table 2).

Table 2. Different indications and information of detecting CD

Aim of procedure	No. of patients	No. of procedures	Results
Suspecting CD	30	52	21 new CD
Evaluate of known CD	22	30	9 new stricture, 11 expansion of involvement
Mid GI bleeding	210	250	12 new CD
SB obstruction	26	36	4 new CD
Suspicious GI malignancy	20	39	3 New CD

Conclusions: DBE significantly improve the diagnostic efficiency, giving priority to offer a guide and raise suspected diagnosis for CD.

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Does liver transplantation affect the risk for colorectal neoplasia in PSC-IBD patients?

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Background: In IBD, primary sclerosing cholangitis (PSC) confers an increased risk of colorectal neoplasia (CRN). The aim of this study was to evaluate the effect of liver transplantation (LT) on development of CRN in patients with PSC and IBD.
Methods: From our LT cohort (n = 275, period 1992–2011), 21 patients were identified with PSC and IBD and a follow-up post LT >6 months (PSC+LT). We further identified 39 patients with PSC and IBD without LT (PSC). In these patients with PSC and IBD, we performed a Cox regression analysis with LT as a time-dependent covariate.
We additionally compared development of CRN after LT between patients with PSC and IBD and the non-PSC LT population. To this end, we compared PSC+LT to a group of LT patients without PSC or IBD that was matched for sex, age and duration of post LT follow up (LT).
Results: In patients with PSC, LT increased the risk of CRN in PSC patients with IBD in the univariate analysis; this effect was no longer present in the multivariate analysis. Cumulative incidence of CRN was 29% in the PSC+LT group vs. 10% in the PSC group (ns).
CRN-free survival did not differ between PSC+LT and LT groups. Cumulative incidence of CRN for the groups was similar (resp. 29% vs. 32%, ns).
Conclusions: Liver transplantation did not increase the rate of CRN in patients with both PSC and IBD. Furthermore, the rate of development of CRN did not differ between PSC+LT patients and the general LT population.

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Disease severity after 3 years of treating newly diagnosed pediatric Crohn's disease patients (the BELCRO cohort)

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Background: The BELCRO cohort was initiated in 5/2008 to prospectively study newly diagnosed pediatric Crohn's disease patients. We here report on disease outcome at 3 y follow up.
Methods: Data from the BELCRO database were evaluated at diagnosis (M0), after 24 (M24) and 36 months (M36). Cross sectional analysis at M36 and longitudinal analysis from M0 to M36 were performed on the outcome data obtained. Hypothesis were tested at 5% significance.
Results: At M 36, consecutive data were available on 84 patients. From the initial 65%, 56% remained under pediatric care at M36 with an unchanged proportion (70%) at tertiary care hospitals. Between time point M0 and M36, disease severity evolved from 5% inactive to 70%, from 19% mild disease to 24% and from 76% moderate to severe disease to 6%. No positive associations were found with disease severity as outcome. Especially none of the following variables were associated with disease severity as outcome at M36: cumulative treatment, disease location at diagnosis, sex nor age. Over time, adult physicians followed active patients (p-value = 0.03 moderate–severe vs inactive; p = 0.007 mild vs inactive). There were no deaths or cancers reported. Treatment changed as follows: immunomodulator (IM) monotherapy from 49 to 29%, steroids from 78 to 6%, combination therapy (IM+biologicals) from 1 to 17% and biologicals monotherapy from 0 to 43%. The median disease duration before initiating biologicals was 5 m (range 5 d to 2.3 y) and 60% of patients had biological as part of their treatment. Six % never received IM or biologicals and 6% had no therapy at M36. Disease related surgery was performed in 13%. In 91% of patients, BMI z-scores and in 97% height z-score were >–2SD and <2SD.
Conclusions: In the BELCRO cohort disease activity appears very well controlled at M36 with the current treatment strategies. The majority of patients received biologicals as part of their treatment and are followed in tertiary care hospitals. Further follow-up is planned and will be crucial to confirm this favourable outcome.

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Differential diagnosis between intestinal tuberculosis and Crohn's disease – A prospective multicenter study from China

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Background: To identify the independent predictors for the differential diagnosis between ITB and ileocolic CD, and to establish a prediction model to instruct clinical work.
Methods: ITB and ileocolic CD patients from six medical centers were recruited from Aug, 2011 to Mar, 2013. Data of clinical manifestation, laboratory examination, colonoscopy with biopsy, CTE were collected from all recruited patients. First a univariate analysis was performed to identify factors with significant differences between ITB and ileocolic CD groups. Then a multivariate analysis was performed further to identify independent factors which could differentiate ITB for ileocolic CD. Finally a prediction model was established using these independent factors by using logistic regression analysis.
Results:
1. One hundred and twenty-four CD and ITB cases were enrolled in our study.
2. Univariate analysis showed that 8 variants of clinical manifestation, 7 variants of laboratory examination, 12

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