collected using retrospective chart review. FC was determined using the Quantitative Lateral Flow Assay (Buehlmann, Schönenbuch, Switzerland). Initially the 30–300 µg/gr range assay was used and, when initial test was >300 µg/gr, then the 100-1800 range test was used. Endoscopic grading of inflammation were measured using the endoscopic Mayo score for inflammation severity (1= mild, 2=moderate, 3=severe) and the Montreal classification for inflammation location (L1=proctitis, L2=left colitis, L3=proximal colitis). For correlation assessment FC results were grouped to 3 groups: <300, 300-1800, >1800. Correlation was analyzed using the Spearman Correlation index (SPSS). Linear regression model using the PMS, rectal bleeding score and continuous FC results measures was constructed to improve correlations. Results: 40 patients with endoscopy assessment and FC results were included. Of the patients 45% were females, mean age at diagnosis was 37 years, topical therapy alone or in combination was used in 10 (38%) of patients and 25.5%, 10% and 15% received corticosteroids, thiopurines and biologics, respectively. The PMS was 0-3, 4-6 and 7-9 in 18 (45%), 11 27.5%) and 11 (27.5%) of patients, respectively. Low (0-300, moderate (300-1800) and high FC (>1800) was measured in 22 (55%), 7 (17.5%) and 11 (27.5%) patients, respectively. Good correlation was seen with inflammation location (ρ=0.518, p=0.001 Fig.1A) but not with the endoscopic severity score (ρ=0.238, p=0.104 Fig.1B). Linear regression model modeling disease location and calprotectin score as continuous variables and incorporating rectal bleeding score and Mayo partial clinical score improved location prediction even further with R^2=0.68. Conclusion: FC is reasonably accurate in predicting active disease location. This may be improved by adding clinical markers such as rectal bleeding and PMS. Pending larger study validation, FC may be useful to direct topical vs systemic therapy in UC.

Tul1972
The Use of Fecal Calprotectin to Understand the Expanded Utility of IBD Clinical Disease Activity and Quality of Life Assessments in Crohn's Disease and Ulcerative Colitis

IBD is characterized by waxing and waning intestinal inflammation. Patient surveys are important in IBD management and research to monitor disease activity. However, a challenge in the development of such tools is the difficulty in comparing survey results with objective markers of disease activity, such as endoscopic or histologic inflammation. This limits understanding of the utility of these surveys or survey components across multiple IBD subpopulations. Herein, we use fecal calprotectin, a non-invasive, quantitative biomarker of gut inflammation, to evaluate the performance of common indices of IBD activity and patient quality of life. Serial stool samples were collected from IBD patients undergoing induction biologic therapy and from Crohn’s disease (CD) patients being monitored for disease recurrence following limited ileorectal anastomosis. Fecal calprotectin levels were determined by Eagle Biosciences’ ELISA kit. With each sample, patients and/or physicians completed the short IBD questionnaire (sIBDQ), the Harvey-Bradshaw Index (HBI) which was developed for CD, and the non-invasive components of the Mayo score (8- and 9-point Mayo scores and Physician Global Assessment [PGA]) developed for UC. Since calprotectin values are skewed, we took the log-transformation of values. To determine correlations between log calprotectin and survey scores, we used the linear mixed-effects model for our repeated-measures data. Sensitivity analyses were conducted within rurient cohorts and IBD subtypes. Procedure MIXED in SAS 9.3 was used for the analyses. Overall, 45 subjects contributed 155 stool samples. For IBD samples (CD and UC), there was positive correlation between log fecal calprotectin and the HBI, 6- and 9-point Mayo, and PGA, and negative correlation with sIBDQ (all p<0.05). When analyzing IBD subtypes separately, CD samples correlated with 6- and 9-point Mayo and PGA, and negatively with sIBDQ. Again, in separate analyses, UC samples correlated in the expected direction in all categories, whereas CD samples correlated only with 6- and 9-point Mayo. Post-absorptive samples did not significantly correlate with any indices. Our results indicate that multiple surveys perform well in detecting severity of UC inflammation, even including indices developed for CD. In contrast, few indices accurately reflect calprotectin level in CD, likely due to its more varied phenotypes. The survey results that correlated best with calprotectin in CD were components of the Mayo score, which was designed to evaluate UC. These data suggest the potential expanded use of current IBD surveys and the need for improved assessments, particularly for CD.

Tul1973
Segmental Endoscopic Scoring Improves Outcome Prediction in Patients With Acute Severe Colitis
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BACKGROUND AND AIMS: Up to 25% of patients with Ulcerative Colitis will be admitted with acute severe colitis (ASC). Although the majority will respond to intravenous steroids, a third will require rescue therapy or surgery. Endoscopy is mandatory in ASC, but its role in predicting important outcomes has seldom been evaluated. METHODS: The electronic records of patients admitted to our center between January 2005 and October 2015 with ASC according to the Truelove & Wong criteria were reviewed. For each patient, the endoscopic Mayo (Mayo) and Ulcerative colitis endoscopic index of severity (UCEIS) were determined. In addition, we produced a segmental Mayo (sMayo) and UCEIS (sUCEIS) score by adding the values of the rectum and sigmoid evaluation. The area under the receiver operating characteristics curve (AUC) was used to assess the accuracy of each scoring system in predicting intensive care unit (ICU) admission, need for rescue therapy, colectomy and death. RESULTS: 108 patients, 60 (55.5%) men, mean age 37.6±11.2 years were enrolled in this study. All patients received intravenous steroids: 44 patients (40.7%) were admitted in the ICU and 4 patients (3.7%) died. 35 patients (32.1%) required rescue therapy (26 with infliximab and 9 with 5-aminosalicylates) and 38 patients (35.3%) underwent colectomy during the index admission or during the first year of follow-up. Median (range) endoscopic scores were: Mayo 3 (1-3), sMayo 8 (1-6), UCEIS 5 (2-8), and sUCEIS 10 (4-13). The UCEIS and sUCEIS both accurately predicted ICU admission (AUC 0.678 and 0.664, p=0.004) and the need for colectomy (AUC 0.719 and 0.744, p=0.001). The sUCEIS was the only predictor of the need for rescue therapy or surgery (AUC 0.645, p=0.004) and of any adverse outcome (AUC 0.638, p=0.021). Patients requiring colectomy had significantly higher UCEIS [5 (4-8) versus 4 (2-8) and sUCEIS scores; 11 (7-15) versus 8 (4-14), p<0.001]. In logistic regression analysis, the UCEIS (OR 2.0 [95% CI 1.3-2.9]) and the sUCEIS (OR 1.5 [95% CI 1.1-2.1]) were both independent predictors of colectomy. A cut-off of UCEIS: 7 or sUCEIS: 12 identified 79.3% and 72.2% of patients requiring rescue therapy or colectomy (p=0.001). DISCUSSION: Endoscopic severity can predict worse outcome in patients with ASC. The UCEIS score outperformed the Mayo score in all important outcomes. Segmental endoscopic scoring can improve outcome prediction, especially surgery, in patients with ASC.

Tul1974
Symptom Correlation With Sleep Disturbance in Inflammatory Bowel Disease
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A prospective observational cohort study was performed to assess the correlation of sleep disturbances and disease activity in IBD. We used the Pittsburg Sleep Quality Index (PSQI) to evaluate the impact of sleep disturbances and disease activity and relapse in IBD. Therefore, the relevance of sleep disturbances and disease activity was investigated to understand the connection of sleep disturbances with the symptoms of IBD.

The use of the PSQI allowed us to evaluate the sleep disturbances and disease activity correlation in a cohort of IBD patients. The results showed a significant correlation between sleep disturbances and disease activity in IBD patients. The study concluded that sleep disturbances are associated with increased disease activity in IBD patients. Therefore, it is important to consider sleep disturbances in the management of IBD patients.