Background

- Ulcerative colitis and Crohn’s disease are inflammatory bowel diseases (IBD) that affect the gastrointestinal tract.
- Patients with IBD are at an increased risk for colorectal cancer (3).
- Abnormal cell characteristics (dysplasia) have been associated with pre-cancerous lesions for colorectal cancer.
- Visible dysplasia can be seen with the naked eye during colonoscopy.
- Invisible dysplasia cannot be seen with the naked eye during colonoscopy.
- Random biopsies are collected, with consent, during colonoscopies in order to look for invisible dysplasia.
- We propose that white light endoscopy and chromoendoscopy techniques enhance identification of dysplasia during colonoscopy procedures (2).

Results

- Frequency of inactive disease was higher in endoscopic scoring than histological scoring.
- Frequency of severe inflammation was higher in endoscopy than histology.
- Frequency of moderate inflammation was comparable in both endoscopy and histology.
- Frequency of mild inflammation was higher in histology than endoscopy.
- The odds of detecting random dysplasia significantly increased as the degree of histological inflammation increased and as the degree of endoscopic inflammation increased.

Table 1. Crosstabulation of concordance between endoscopic and histologic inflammation scoring.

Table 2. Logistic regression model assessing the association between odds of dysplasia in random biopsies and degree of endoscopic and histologic inflammation.

References


Methods

| Study Cohort | Polyps, n=965 | IBD patients, n=728 | Surveillance procedures, n=945 |

| Record of Patient Characteristics | Age at index procedure | Gender | Smoking history | Family history of colorectal cancer | Primary Sclerosing Cholangitis (PSC) diagnosis and date of diagnosis | History of random prior to index procedure | Date of IBD diagnosis |

| Polyp Characterization | Polyp size | Location | Pathology type | Number of polyps per patient | Prevalence of dysplasia in polyps | Degree of inflammation in endoscopy | Degree of inflammation in biopsies |

| Record of Polyp Extraction Protocols | Bowel preparation condition | Random biopsy collection | Polyp level procedure method | Chromoendoscopy | White light endoscopy |

| Data Analysis | Statistical analysis was performed by Ryan J. Lennon, Principal Biostatistician, Mayo Clinic Rochester, MN |

Conclusion

- Marked variability in degree of inflammation between histology and endoscopy evaluation for IBD patients who have undergone a colonoscopy with biopsies.
- Increased endoscopic and histological inflammation correlate strongly with detecting dysplasia in random biopsies.