Methods: Seven hundred fifty-three individual tissue cross sections derived longitudinally approximately every 10 cm from 94 consecutive UC colectomy specimen were stained for hematoxylin and eosin. Sections underwent gastrointestinal pathologist assessment for presence and degree of inflammation (as measured by the Geboes score), degree of fibrosis and morphometric measurements of all layers of the intestinal wall. Clinical data (gender, race, age and disease duration, reason for colectomy, disease extent, medications prior to and at time of colectomy, smoking) were collected in a prospective database. Appropriate statistical tests were used.

Results: The median disease duration at time of colectomy was 64.3 months. 89.4% of the colectomies were performed due to refractory disease and 94.7% had extensive colitis. 53.2% of patients were female and 33.4% were remote or current smokers. Submucosal fibrosis was detected in 100% of UC colectomy specimens and was only present in areas of the colon affected by inflammation. Inflammation was also associated with a thickening of the colonic wall, due to increased diameter of the lamina propria and muscularis mucosae, but not the other tissue layers, including the submucosa ($P < 0.001$). Submucosal fibrosis was associated with chronic, but not active inflammatory histopathologic changes. The degree of inflammation was linked to the degree of submucosal fibrosis (Spearman correlations rho (95% confidence interval): 0.58 (0.41–0.75); $P < 0.001$). Male gender, refractory disease, steroids or 5-aminosalicylic acid (5-ASA) at the time of colectomy were associated with increased fibrotic burden ($P = 0.022 - 0.007$). There was no link between disease duration, disease extent or smoking with the degree of fibrosis. The use of 5-ASA and patient age at the time of colectomy were associated with an increased thickness of the muscularis mucosa ($P = 0.043 - 0.005$).

Conclusions: Chronic but not active inflammation is linked with submucosal fibrosis and increased wall thickness in UC. The increase in wall thickness occurs due to increased diameter of the lamina propria and muscularis mucosa, but not the submucosa. Male gender, refractory disease as well as steroids or 5-ASA use at the time of colectomy are associated with the degree of fibrotic burden and 5-ASA and patient age with the thickness of the muscularis mucosa. UC should be considered a progressive disease with a significant degree of submucosal fibrosis and wall thickening.

P-031

YI

Segmental and Total Abdominal Colectomies are Safe Management Strategies for Colitis-Associated Neoplasia

Noa Krugliak Cleveland[*], Ruben Colman[*], Dylan Rodriquez[†], Ayal Hirsch[*], Russell Cohen[‡], Stephen Hanauer[§], Roger Hurst[*], John Hart[‖], David Rubin[*]

[*]University of Chicago Medicine Inflammatory Bowel Disease Center, Chicago, Illinois, [†]University of Chicago Inflammatory Bowel Disease Center, Chicago, Illinois, [‡]University of Chicago, Chicago, Illinois, [§]Northwestern University, Chicago, Illinois; and, [‖]Department of Pathology, The University of Chicago Pritzker School of Medicine, Chicago, Illinois.

Background: The historical approach to dysplasia or adenocarcinoma in the setting of chronic colitis was to perform a total proctocolectomy due to concern of synchronous and metachronous neoplasia. However, advances in optical technology and dysplasia detection have enabled consideration of a modified approach to the management of patients after dysplasia is detected. We report our experience with segmental and total abdominal colectomies with surveillance follow-up in patients with Crohn's disease (CD) and ulcerative colitis (UC) who had pre-operative colonic neoplasia.

Methods: This is a retrospective review from our tertiary IBD center of all patients who were found to have colitis-associated neoplasia on screening or surveillance colonoscopy and subsequently underwent segmental or total abdominal colectomy for this indication. Demographics and disease related information were collected. Pre-operative and surgical diagnoses of neoplasia were confirmed by expert gastrointestinal pathologists. Additionally, all surgical reports, as well as pre- and post-operative endoscopic reports were reviewed. Follow up was defined from the time of surgery (in months) until the last recorded endoscopic exam. Grade of neoplasia found during follow up was recorded. Simple statistical analysis was performed.

Results: We identified 17 IBD patients who underwent segmental or total abdominal colectomy due to confirmed neoplasia (11 CD and 6 UC). The median age was 64 (range 40–78 years) with median disease duration of 20.5 years (range 5–46 years). The indications for surgery were low-grade dysplasia (LGD) in 11 patients (6 CD, 5 UC), high-grade dysplasia in 3 patients (2 CD, 1 UC) and adenocarcinoma in 3 patients (all CD). 5 patients (all UC) underwent total abdominal colectomy with ileo-rectal anastomosis and 12 underwent segmental colectomy (11 CD, 1 UC). The patients were followed for median of 17 months (range 3–228) with a median of 2 follow up endoscopic exams (range 1–8), most with high definition endoscopic equipment. In follow up, 4 patients (all CD) were found to have LGD; no cancers were identified during surveillance.

Conclusions: We demonstrate the safety of segmental or total abdominal colectomy in patients with IBD undergoing surgery for neoplasia. In this series of patients, active surveillance of the retained large bowel using modern optical technology appears to be an effective management strategy. It is of interest that the only patients who had metachronous dysplasia were CD patients with larger segments of retained colon. We believe that segmental or subtotal colectomies can offer an improved quality of life without compromising cancer prevention strategies.

P-032

Vitamin D in African Americans with Inflammatory Bowel Disease

Jasmine Barrow[*], Berkeley Limketkai[†], Jason Hou[‡], Kimberly Isaacs[§], Jay Kuemmerle[‖], Steven Brant[†]

[*]Johns Hopkins Hospital, Baltimore, Maryland, [†]Johns Hopkins University School of Medicine, Baltimore, Maryland, [‡]Baylor College of Medicine, Houston, Texas, [§]University of North Carolina Chapel Hill, Chapel Hill, North Carolina; and, [‖]Medical College of Virginia, Virginia Commonwealth University, Richmond, Virginia.

Background: Lower vitamin D levels, in the form of 25(OH)D have been established as associated with inflammatory bowel disease (IBD) in Caucasian populations. Vitamin D is thought to play an immunoregulatory role in (IBD). We conducted a case-control study to compare vitamin 25(OH)D levels in African Americans with IBD to matched African American controls.

Methods: Sera was obtained from patients with confirmed IBD and their spouse or friend controls recruited by the IBD Centers of the Multicenter Atlantic African-American Inflammatory Bowel Disease Study (MAAAIS), coordinated by the Johns Hopkins Genetics Research Center of the NIDDK IBD Genetics Consortium (IBDGC). Diagnoses of Crohn's disease, ulcerative colitis or IBDU were confirmed by review of medical records, and phenotypes of disease site and behavior were per the IBDGC phenotyping manual. All participants were self reported African Americans. Data was analyzed using the paired *t*-test, and the McNemar test. Crohn's disease cases were analysed with logistical regression to obtain odds ratios (OR).

Results: Ninety cases and 90 matched controls were evaluated. One case with 25 (OH)D >100 ng/mL was excluded, leaving 89 matched pairs for analyses. Cases and controls had similar mean age (42.4 ± 15.3 and 42.9 ± 15.9 years), but differed by sex. There were 26 male cases and 44 males controls, which was significant ($P = 0.027$). Most cases (n = 51) and controls (n = 56) were vitamin D deficient (25(OH)D <20 ng/mL), with no significant difference between the groups ($P = 0.46$). Furthermore, there were no significant differences in mean 25(OH)D levels between cases (19.19 ± 9.73 ng/mL) and controls (18.6 ± 8.40 ng/mL) ($P = 0.627$). Within Crohn's disease, 25(OH)D levels did not show significant differences by ileal disease site (OR 0.71of 25(OH)D >20 ng/mL, 95% CI 0.20–2.58, $P = 0.608$. There was a very small trend is seen toward lower 25(OH)D levels in Crohns cases with stricturing (B2) and penetrating (B3) disease compared to non-stricturing, non-penetrating disease (change in 25(OH)D −1.7 ng/mL for B2, −3.6 ng/mL for B3) however, again this was not statistically significant ($P = 0.624$, $P = 0.342$).

Conclusions: Recent studies have shown that IBD patients have lower levels of vitamin D, suggesting that vitamin D plays a role in IBD, or the development of IBD may affect vitamin D levels. African Americans have also been shown to have low vitamin D levels. This study shows that while African Americans with IBD have low vitamin D levels, so do their spouses and close friends, who are also African American, with no statistically significant differences by IBD disease status. Lack of difference may be secondary to environmental effects on vitamin D levels in this highly matched cohort. Furthermore, disease location and behavior does not appear to correlate with vitamin D levels in African-American CD patients. Additional analysis in a higher-powered study is warranted.

P-033

YI

Efficacy and Safety of Vedolizumab for Inflammatory Bowel Disease in Clinical Practice

Khadija Chaudrey[*], Amy Lightner[*], Siddharth Singh[†], William Faubion[‡], William Tremaine[‡], David Bruining[‡], Konstantinos Papadakis[‡], John Kisiel[‡], Nayantara CoelhoPrabhu[‡], Laura Raffals[‡], Sunanda Kane[‡], Edward Loftus Jr,[‡]

[*]Mayo Clinic Rochester, Rochester, Minnesota, [†]UCSD Medical Center, San Diego, California; and, [‡]Mayo Clinic, Rochester, Minnesota.

Background: Vedolizumab (VDZ) (Entyvio, Takeda Pharmaceuticals, Deerfield, IL) is a humanized monoclonal antibody to $\alpha 4\beta 7$ integrin, resulting in gut-selective inhibition of lymphocyte trafficking. VDZ is approved for moderate to severely active ulcerative colitis (UC) and Crohn's disease (CD). The strict inclusion criteria and other constraints utilized in randomized control trials may limit the generalizability of efficacy and safety data in the GEMINI trials to "the real world." We sought to quantify the treatment effect and safety of VDZ in clinical practice at our institution.

Methods: Institutional review board approval was obtained. UC and CD patients evaluated at Mayo Clinic, Rochester, Minnesota were included if they had: moderate to severely active UC or CD on baseline endoscopy within 4 weeks of starting VDZ