BACKGROUND: Crohn’s Disease (CD) is a debilitating chronic inflammatory process of the gastrointestinal tract which primarily affects children, teens, and young adults, causing severe pain, diarrhea, and other intestinal issues. Crohn’s affects nearly 1.4 million individuals in the United States, and is characterized by deep ulcerations, skin lesions, transmural inflammation, fistula and granuloma formation, and an erosive process that changes in severity. The presence of microorganisms living in the gut may play a role in CD. Dysbiosis of the enteric microbiota has been demonstrated in CD patients, and it is speculated that this dysbiosis may contribute to the intestinal inflammation observed in these patients. This study sought to identify characteristics of dysbiosis in patients with CD in order to ascertain whether microbiome manipulation is a potential treatment avenue to pursue.

METHODS: Microbiome sequencing results from a subset of 8 CD subjects from a larger microbiome study were analyzed in comparison to a first-degree relative (parent, child, or sibling). To obtain a microbiome profile, DNA was extracted from the fecal samples. DNA was then quantitated and normalized for downstream library fabrication utilizing shotgun methodologies. Prepared and indexed libraries were then pooled and sequenced on the Illumina NextSeq 500 System. Sample FASTQ files were analyzed with a computational tool profiling the microbial communities from metagenomic sequencing data with species level resolution. Finally, individual microbiome profiles were analyzed for Alpha Diversity and relative abundance.

RESULTS: While dysbiosis was found in every subject studied, each had a unique presentation. Analysis revealed that Subject 1 had a Shannon Diversity Index of 2.2, compared with the subject’s mother at 3.6. genus Bacteroides was overrepresented in this subject, representing 74.5% of total reads. Conversely, Akkermansia, associated with inflammation, was not surprisingly elevated (6.7% vs 0.026% of total reads). Contrast this to Subject 4, with a Shannon Diversity Index of 0.6, compared with his mother at 1.7. The subject and his mother had a distinct overgrowth of Enterococcus faecium, which represented 84.95% of the relative abundance. While greater similarity was seen between first-degree relatives than the group of CD subjects, the Shannon Diversity Index was a mean of 2.6 in the CD group and 3.65 in the healthy family members.

CONCLUSION: There are multiple studies that have found potential etiologic strains for Crohn’s disease, thought to be a beneficial constituent of the microbiome, was markedly decreased (0.0889 vs 1.5 total reads). Conversely, Akkermansia, associated with inflammation, was not surprisingly elevated (6.7% vs 0.026% of total reads). This contrast to Subject 4, with a Shannon Diversity Index of 0.6, compared with his mother at 1.7. The subject and his mother had a distinct overgrowth of Enterococcus faecium, which represented 84.95% of the relative abundance. However, these results vary widely from study to study, and this lack of reproducibility calls into question. While most authors agree that reduced species diversity and richness can be found in Crohn’s patients, the exact nature of this dysbiosis changes from person to person. As there is not one causative factor for Crohn’s disease, the treatment must truly fit the individual. There is no silver bullet. Rather, the treatment of Crohn’s disease must be guided by next-generation sequencing of the microbiome, to ascertain the nature of the dysbiosis therein.

P076

IBD Patients Treated for Depression and Anxiety May Be More Compliant With Surveillance Colonoscopies than Those Who Are Untreated

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Objective: To assess surveillance colonoscopy compliance among IBD patients treated for depression and anxiety.

Methods: A retrospective chart review of all IBD patients treated for depression and anxiety at our tertiary care IBD center in a 3-year period was conducted. Patients were divided into 1 of 2 groups based on their medical history: those who had a diagnosis of depression and/or anxiety, and those who did not. The primary outcome was the percentage of patients with depression and/or anxiety who were ever referred for surveillance colonoscopy. The secondary outcome was the proportion of patients who were ever referred for surveillance colonoscopy who completed the colonoscopy.

Results: 306 IBD patients were included in this study. Thirty-two patients (10.5%) were diagnosed with depression and/or anxiety. The proportion of patients with depression and/or anxiety who were ever referred for surveillance colonoscopy was 54.2% vs 70.8% in the non-depression and/or anxiety group (p = 0.041). The proportion of patients with depression and/or anxiety who completed the colonoscopy was 48.0% vs 72.0% in the non-depression and/or anxiety group (p = 0.004). Conclusion: In contrast to previous studies demonstrating no difference in compliance between patients treated for depression and anxiety vs those who were not, our study suggests that depression and anxiety may significantly increase the likelihood of patients completing their surveillance colonoscopies. Further research into the role of depression and anxiety in surveillance colonoscopy adherence is warranted.

P084

E-Messaging and Telemedicine Visits by IBD Patients During the COVID Pandemic

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BACKGROUND: The impact of SARS-CoV-2 infection upon patients with inflammatory bowel disease (IBD) is incompletely understood. Diagnostic testing for SARS-CoV-2 is increasingly incorporated into medical practices for early identification of infection and contact tracing. There have also been concerns raised about SARS-CoV-2 risk and complications in IBD. However, there are few studies that have assessed the influence of the COVID pandemic upon IBD. This study evaluated reasons for SARS-CoV-2 testing in IBD patients and the frequency of IBD exacerbations during the pandemic.

METHODS: A retrospective chart review of all IBD patients at an urban academic medical center seen in the past 3 years was performed. There were no exclusions criteria. Patient gender, age, race, subtype, medication regimen, episodes of exacerbations and exacerbations were obtained. A confidential database was created using Microsoft Excel. Statistical analysis was performed using Fisher’s exact test with significance set at P < 0.05. The study was IIB approved.

RESULTS: We evaluated 291 medical records of consecutive IBD patients. There were 126 (43.8%) males, 165 (56.4%) females. On one-hundred fifty two patients were white, 85 African-American, 24 and 22 with their race not documented. Severity 4 (25.4%) had Crohn’s disease, 206 (70.8%) had ulcerative colitis, 6 (2.1%) had microscopic colitis, and 5 (1.7%) had indeterminate colitis. 41 (14.1%) of the IBD patients were tested for SARS-CoV-2 by a provider at the university. There was no difference in SARS-CoV-2 testing based upon race (P = 1.000), disease subtype (P = 0.489) or medication regimen (P = 0.987). The most common reasons for testing included coloscopy requirement (34.1%), asymptomatic testing request (17.1%), possible SARS-CoV-2 symptoms (14.6%), urgent inpatient procedure (12.2%) and elective procedure (7.3%). 40 (97.6%) patients tested negative and 1 (2.4%) patient tested positive. Twenty six (89.9%) patients had exacerbations with 8 requiring hospitalization. There was a significant difference in the rate of exacerbation based upon subtype (17.6% Crohn’s vs 6.7% ulcerative colitis, P = 0.0091).

CONCLUSION: It is important to recognize that >30% of IBD patients were tested due to SARS-CoV-2 infection concerns, with only 1 patient testing positive. Few patients had exacerbations during the SARS-CoV-2 pandemic, with exacerbations occurring more often in patients with Crohn’s disease. While this study is limited due to single institutional design and size, it offers a foundation for further research to determine if IBD patients have greater apprehension or worse outcomes due to SARS-CoV-2 infection compared to others with chronic illness.

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METHODS: A retrospective chart review was conducted of all IBD patients seen during the past 3 years in a university gastroenterology clinic. There were no exclusion criteria. Patient gender, age, ethnicity, IBD subtype, medications were obtained. E-messaging and content via FollowMyHealth portal application during March – August 2020 of the COVID pandemic were evaluated. A confidential database was created using Microsoft Excel with statistical analysis set at <0.05. This study was IRB approved.

RESULTS: We evaluated 295 medical records of IBD patients. There were 130 (43.7%) males and 165 (56.3%) females, with a mean age of 45.7 years. 76 (25.8%) had Crohn’s disease (CD) and 208 (70.3%) had ulcerative colitis (UC). There were 155 (52.5%) White, 83 (28.1%) African American (AA), 24 (8.1%) Hispanic, 10 (3.4%) Asian, and 22 (7.46%) ethically un-identified patients. 53 (18.0%) IBD patients engaged in secure e-communication. There was a significant difference in the rate of e-messaging based on gender (56.6% males vs 43.4% females; P = 0.0478), race (Whites 71.7% vs AA 17.0%, P = 0.0109) and medication regimen (biologic 54.7% vs non-biologic 45.3%; P < 0.001). There was no difference in the use of e-messaging based on age (66% in patients <50 years vs 54% in patients >50; P = 1.00) or IBD subtype (79.3% in UC vs 15.1% in CD; P = 0.0774). The most common messages included concerns regarding SARS-CoV-2 risk with immunosuppressive medications (18.9%), home infusion arrangements to avoid potential exposure (15.1%), and refill requests (18.9%). There was no significant difference in the rate of COVID inquiries based on gender (P = 0.7186), race (P = 0.6631), or biologic use (P = 0.7297). Males (19.0%) had a telemedicine visit during the pandemic. There was no significant difference in the rate of telemedicine visits based upon gender (53.6% males vs 46.4% females; P = 0.1349), race (50.0% vs 55.7%; AA,P = 0.3099), age (64.3% < 50 vs 35.7% > 50; P = 0.8765), IBD subtype (67.9% UC vs 28.6% CD, P = 0.6106), or medication regimen (41.1% on biologic therapy vs 58.9% on non-biologic therapy; P = 0.0512).

CONCLUSION: Although virtual platforms have been increasingly used for IBD management during the COVID pandemic, this study reveals disparities in the utilization of electronic communication. Males, whites and those on biologic medications more frequently used portal messaging. While this study revealed differences in e-messaging use, disparities in televisits based upon gender, age and medication regimen were not apparent for telemedicine visits. Further research is warranted to evaluate the use and benefit of virtual clinical engagement.

P079
Men, Medications, Insurance and Age at Diagnosis Are Associated With Inconsistent Adherence to Surveillance Colonoscopies in IBD

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BACKGROUND: Surveillance colonoscopy (SC) is a fundamental component of inflammatory bowel disease (IBD) care. This study, consistent with other reports, revealed that IBD patients have suboptimal SC rate. In many institutions, SC was performed in the past. Even though with no new guidelines, SC practice was still performed in some institutions. This study aimed to identify factors associated with poor SC adherence in IBD patients.

METHODS: A retrospective chart review of all IBD patients managed at an academic gastroenterology practice for the past 3 years was performed. All patients with a diagnosis of UC or Crohn’s disease for ≥4 years were included. There were no exclusion factors. Patient gender, race, IBD subtype, current age, age at diagnosis, medication regimen, insurance status (private, public, Medicare and Medicaid) and the date of the most recent colonoscopy were obtained. Patients were deemed compliant with surveillance colonoscopy guidelines if they had a colonoscopy every 8 years after initial diagnosis or within 3 years of the previous 1. A confidential database was created using Microsoft Excel. Statistical analysis was performed using Fisher’s exact test with significance set at P < 0.05. The study was IRB approved.

RESULTS: We evaluated 171 patients. 131 (76.6%) had a diagnosis of UC, 38 (22.2%) had Crohn’s disease, and 2 (1.2%) had indeterminate colitis. 103 (60.2%) were female and 68 (39.8%) were male. The mean age was 47.8 years (range 22–83). 94 (53.9%) were White, 48 (28.1%) African American, 8 (3.5%) Asian, 1 (0.6%) Hawaiian/Pacific Islander, and 22 (12.9%) declined identification. There were 106 patients (62.0%) who had surveillance colonoscopies within the recommended timeframe, and 65 patients (38.0%) were not compliant with recommendations. There was no significant difference in the rate at which surveillance colonoscopies were performed based upon patient’s current age (67.3% ≤ 50 years vs 54.3% > 50 years, P = 0.109), race (56.4% White vs 70.8% African American, P = 0.1046), 56.4% White vs 66.7% Asian, P = 0.6971, other racial group comparisons P = 1.00) or disease subtype (65.6% UC vs 50% CD, P = 0.0899). There was a significant difference in the rate at which colonoscopies were performed based upon gender (P = 0.0103), age at diagnosis (67.6% ≤ 50 years vs 51.7% > 50 years, P = 0.0483), medication regimen (54% biologic/immunologic vs 71% other medications; P = 0.023) and insurance status (66.2% private vs 47.5% public, P = 0.0412).

CONCLUSION: Surveillance colonoscopies to decrease colon cancer risk are an important aspect of IBD care. This study, consistent with other reports, revealed that IBD patients have suboptimal compliance with colon cancer surveillance. Overall, only 62% of patients had their colonoscopies at the recommended time. Men and individuals diagnosed > 30, on biologic/immunologic therapy or on public insurance were less often adherent to colonoscopy guidelines. While this study is limited due to small size and retrospective design, it can serve as a foundation for further research. It is crucial that factors effecting adherence to colon cancer surveillance are identified.