Results: Reported weight loss and malnutrition were present in 72.9% and 40.5% respectively of children diagnosed with Crohn’s disease (Table 1). Following diagnosis at 6 months, BMI z-score improved significantly such that only 13.2% remained malnourished and the rate of moderate/severe malnutrition declined from 17.6% to 2.2% (Figure 1). Failure to improve BMI z-score from 6 months was associated with increased risk of surgery (22% vs. 9%, P < 0.05) and B2/B3 phenotype (18% vs. 12%, P < 0.05) but not hospitalization (13% vs 28%, P > 0.05) at 3 years. The rate of overall malnutrition improved at 6 months but then remained stable until 3 years (range 13.9-15.9%, P > 0.05) and the association with increased rates of surgery and B2/B3 disease remained significant.

Conclusion: Weight loss and malnutrition at diagnosis are common following diagnosis of CD in children. Failure to improve BMI z-score at 6 months and beyond correlates with increasing risk of surgery and complicated disease phenotype. We speculate that aggressive pharmacologic and nutritional management may improve reversal in this narrow phenotype, and prospective studies are warranted to prove this concept.

INTRODUCTION:
Ulcerative colitis is an immune-mediated disorder characterized by chronic inflammation of the gastrointestinal tract. In the setting of hospitalization and presentation with acute severe ulcerative colitis (ASUC), the risk of colectomy approaches 30-40%. In an effort to improve medical therapies, identifying early predictors for colectomy has the potential to reduce the risk of surgery in ASUC.

Methods: We designed a retrospective study including all patients >18 years of age with an admission for ASUC at the University of Chicago Medical Center between the 1/1/2013 and 4/1/2018. Cases of were identified using the ICD-9 code 556.X and ICD-10 code K51.3 and separately reviewed based on clinical, radiographic, histologic and endoscopic information. Additional electronic variables of interest were extracted from the electronic data warehouse. Data were analyzed using Wilcoxon rank-sum test for continuous variables and Fischer’s exact test for categorical variables. Multivaric factor logistic regression was performed to identify independent factors predictive of inpatient colectomy.

Results: We identified 261 unique patient encounters admitted for ASUC, of which 59 (22.7%) underwent inpatient colectomy. Risk factors identified in this cohort are demonstrated in Table 1. Among individuals requiring colectomy in univariate analysis, a prior history of DVT/PE, prior admission for intravenous steroids or recent hospitalization were predictive of colectomy. Presenting endoscopic Mayo score, number of prior biologic therapy exposures, and laboratory values suggestive of active inflammation were predictive of colectomy. In a final multivaric model, risk factors of inpatient colectomy included: number of prior biologic exposure (OR: 2.27, 95% CI 1.5-3.4), transfer from an outside hospital (OR: 5.03, 95% CI 1.97-12.86) and platelet count on admission (OR: 1.01, 95% CI 1.01-1.02).

Conclusion: Early identification of potentially medically refractory disease has the potential to reduce need for colectomy in ASUC. Number of prior exposures to biologic therapies, transfer from an outside institution and platelet count are independently associated with risk of colectomy. Additional studies are required to improve the medical therapies offered to high-risk patients in order to reduce colectomy risk.

790 Presidential Poster Award

Real World Safety of Vedolizumab and Anti-TNF Therapies in Biologic-Naive Ulcerative Colitis and Crohn’s Disease Patients: Results From the EVOLVE Study

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Introduction: The GEMINI phase III clinical trials showed a favorable safety profile for vedolizumab (VDZ) in treating patients (pts) with moderate-to-severe active ulcerative colitis (UC) and Crohn’s disease (CD). Real-world studies are needed comparing the safety of VDZ to anti-tumor necrosis factors (anti-TNF) agents in biologic-naive pts. Methods: This was a multi-center, multi-country study including bio-naïve pts (≥18 years old) with ≥6 months follow-up, initiating treatment (Tx) with VDZ or an anti-TNF (adalimumab, infliximab, golimumab, certolizumab pegol) as standard of care between May 2014-March 2018. Data were collected from Tx initiation to early death, chart abstraction date or 6 months post-Tx discontinuation (Canada only). Serious adverse events (SAEs) and serious infections (SIs) [defined as either life threatening, requiring hospital admission, resulting in significant disability/incapacity, or recorded in the chart as an important medical event) occurring from Tx initiation up to five half-lives post-Tx discontinuation were assessed. Incidence rates (per 100 person-years [PYs]) of SAEs and SIs were estimated. Cox proportional hazards model adjusted for baseline characteristics was used to compare incidence rates between Tx cohorts. Adjusted hazard ratios (HR) with 95% confidence intervals (CI) are reported.

Results: This study included 1,095 pts (VDZ: 598 [UC: 380; CD: 218]; anti-TNF: 497 [UC: 224; CD: 273]) from 42 sites. Compared to anti-TNF pts, the VDZ cohort were older (mean age [year]: VDZ: 47.9 [17.4]; anti-TNF: 39.6 [15.2] [P = 0.01]), were proportionately more male (VDZ: 56.9%; anti-TNF: 49.9% [P = 0.02]) and had a longer disease duration (median [range: min-max] disease duration [years]: VDZ: 5.0 [0.04–54.0]; anti-TNF: 2.0 [0.0–49.4] [P < 0.01]). Median (range: min-max) follow-up (months) was: VDZ: 15.3 (6.0–47.6); anti-TNF: 16.3 (5.3–51.0). Incidence rates of first occurrence of SAEs and SIs (Table 1) were significantly lower in VDZ versus anti-TNF pts (adjusted HR: SAE: 0.42 [0.27–0.66]; SI: 0.33 [0.19–0.56]). Similar trends were shown when data were stratified by UC and CD, separately (Table 1).

Conclusion: Bio-naïve pts treated with VDZ were significantly less likely to experience SAEs and SIs than those treated with anti-TNF therapies. These data support a favourable safety profile of VDZ versus anti-TNF in bio-naïve inflammatory bowel disease pts in real-world clinical practice.
Effect of Disease Location on Endoscopic and Radiographic Outcomes in Patients With Moderate to Severe Crohn’s Disease Initiated on Vedolizumab

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INTRODUCTION: Vedolizumab (VDZ), an integrin antagonist, is approved to treat moderate to severe Crohn’s disease (CD). We aimed to investigate how CD location affected the endoscopic and radiographic outcomes of VDZ.

METHODS: This is a retrospective study from a tertiary care center, in patients (pts) with CD initiated on VDZ between July 2014 and January 2018. Pts had endoscopic or radiographic evaluation before (index examination) and 3 months after (follow-up examination) VDZ initiation. Endoscopic remission/response was defined as resolution (remission) or significant improvement (response) of CD features with respect to the index examination. Endoscopic remission/response rate was compared between ileal and colonic CD. Improvement in radiographic features of small bowel (jejunum/ileum) CD was evaluated on magnetic resonance imaging or computed tomography scan.

RESULTS: 140 pts were evaluated with a median follow-up 18 months (range: 3-55) (Table 1). 90% of the pts (n = 126) had prior anti-TNFa failure. 128 pts had endoscopic evaluation with a median follow up 27 months (3-55) (Table 2). Endoscopic remission/response rates between pts with ileal CD (62% [47/76]) and pts with colonic CD (49% [34/69]) were not statistically different (P = 0.13). Endoscopic remission/response rates in pts with isolated ileal CD (n = 59) and isolated colonic CD (n = 52) were similar (59% vs. 46% respectively; P = 0.17). Among pts with both ileal and colonic disease (n = 17), endoscopic remission/response rates were similar in ileal and colonic CD (71% vs. 59% respectively; P = 0.47). Endoscopic remission/response rate in the ileal disease in pts with prior ileocolic resection (ICR; n = 38) was lower than in pts with an intact anatomy (n = 22) (55.3% vs. 77.3% respectively; P = 0.05). Follow-up imaging was available in 30 pts with radiographic evidence of small bowel CD (median follow up 11 months [3-28]). Radiographic improvement was observed in 26.7% of pts.

CONCLUSION: In this cohort of pts with CD, majority of pts had improvement in endoscopic features of CD on VDZ, regardless of CD location. Ileal disease in pts with prior ICR appears to be less responsive to VDZ as compared to in pts with an intact anatomy. Radiographic features of small bowel CD showed a low rate of improvement on VDZ. Further understanding of the impact of VDZ on small bowel CD is warranted.

High Thiopurine Methyltransferase Activity Does Not Affect Concentration of Azathioprine Metabolite 6-Thioguanine Nucleotide in Inflammatory Bowel Disease

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INTRODUCTION: Azathioprine (AZA) is commonly used to treat inflammatory bowel disease (IBD). Thiopurine methyltransferase (TPMT) converts AZA to key active metabolite 6-thioguanine nucleotide (6-TGN). Low TPMT activity is associated with high 6-TGN levels and side effects. Conversely, high 6-TGN is associated with lack of clinical response and has been associated with high TPMT activity. This study aimed to identify the independent effect of normal to high TPMT activity on small bowel CD. The study found no significant difference in 6-TGN concentrations in an IBD population.