2020 Advances in Inflammatory Bowel Diseases: Vision for the Next Decade

Chairs: Stephen B. Hanauer, MD, FACG, Millie D. Long, MD, MPH, FACG, Miguel D. Regueiro, MD, FACG

P001
North-South Gradient in the Incidence of Pediatric Inflammatory Bowel Disease Along the Atlantic Coast


1University of Central Florida, Orlando, United States; 2 Nemours Children’s Hospital, Orlando, United States.

BACKGROUND: Inflammatory bowel disease (IBD) represents a group of intestinal disorders, including Crohn’s disease (CD) and ulcerative colitis (UC), that involve chronic inflammation of the digestive tract. Pediatric IBD is defined when onset of symptoms and diagnosis occurs in patients 18 years or less. East-West and North-South gradients have been reported in Canada and Europe. We aimed to evaluate whether a similar gradient exists in the US among the pediatric population.

METHODS: We conducted a retrospective cohort study from January 1, 2000 to December 31, 2018 using electronic health records from one national children’s hospital that participates in the PediNet research network. We extracted information on patient demographics, encounters with healthcare providers, diagnoses recorded, and procedures performed during these encounters from patient’s electronic health records. The outcomes of interest include geographic location (North vs South), gender, race/ethnicity, age at diagnosis, tobacco use, socioeconomic status, and need for surgery.

RESULTS: A total of 2,499 patients 18 years of age or less met the eligibility criteria of the study; 3818 (75.3%) non-Hispanic White, 320 (13.3%) non-Hispanic Black, 198 (8.2%), Hispanic, 60 (2.5%) Asian, and 13 (0.5%) “other.” There was no difference in the male predominance in all groups between the North and the South (55.3% vs 54.3%, P = 0.62). The incidence of IBD among the non-Hispanic Whites was greater in North (78.5% vs 72.2%, P = 0.0002). The incidence of IBD among the Hispanics was greater in the South (5.3% vs 11.4%, P = 0.001). There was no difference in incidence of CD between the North and South (68.8% vs 69%, P = 0.92); however, UC was more prevalent in the South (23.2% vs 27.3%, P = 0.02). Further breakdown of CD and UC with respect to ethnicity revealed the incidence of CD and UC in the Hispanic population is greater in the South (5% vs 10.3%, P < 0.0001; 6.2% vs 14%, P = 0.001, respectively). There was no difference seen in non-Hispanic Whites, non-Hispanic Blacks, Asians, and “others” with respect to CD, UC or IUC.

CONCLUSION: We demonstrate a North-South gradient in the pediatric non-Hispanic and Hispanic population with IBD. There is a higher incidence of UC in the pedestal population in the South. Furthermore, there is a higher incidence of CD and UC in the Hispanic population in the South compared to the North. Further epidemiologic studies are needed to assess the racial/ethnic differences that contribute to this North-South gradient.

P002
Frequency and Causes of Prolongation of the Induction Course of Tofacitinib in Patients with Ulcerative Colitis

Kenyaz Oleg1, Kryaglyanova Ann1, Liakhinchenya Ali1, Shkarot Tatjana1, Zvyaglova Mariya1, Kazakov Dmitriy1, Demchenko Alexandra1.

1Moscow Clinical Scientific Center Named After A.S. Logunov, Moscow, Russia; 2Research Institute of Health Organization and Medical Management, Moscow, Russia.

BACKGROUND: Tofacitinib is a selective immunosuppressant, the first representative of the Janus kinase family inhibitors, which has a high selectivity against other kinases of the human genome. According to the results of the study, tofacitinib inhibits JAK-1, JAK-2 and in high concentrations-JAK-3 and tyrosine kinase-2. The drug is registered in Russia for the treatment of patients with ulcerative colitis. According to the instructions for medical use, in patients with incomplete response to the induction course, it is possible to conduct an additional 8 weeks of therapy at an induction dose of 10 mg 2 times a day. Aim: to identify the frequency and reasons for the need to prolong the induction course of tofacitinib in patients with ulcerative colitis.

METHODS: 35 patients with ulcerative colitis (UC) who received tofacitinib were observed in the Department of inflammatory bowel diseases. Patients were divided into two groups. Group 1 (n = 10) of patients were bio naive. The second group of patients (n = 25) had previous experience of treatment with one or more anti-TNF-α drugs. The necessity of prolongation up to 16 weeks of induction course of tofacitinib was assessed in patients with insufficient clinical response at week 8 of therapy (reduction of partial index of Mayo less than 30%) and lack of normalization of laboratory parameters (CRP, hemoglobin, FCP).

The comparative analysis was carried out by the method of four-field tables using non-parametric statistical criteria.

RESULTS: In the follow-up period among group 1 UC patients (n = 10) who had not previously received anti-TNF-α drugs, the need for a prolonged induction course of tofacitinib was not required in any patient (0%). In the 2nd group of patients (n = 25), previously treated with anti-TNF-α drugs, a prolonged induction course of tofacitinib was required in 9 (36%) patients (x2 = 4.484, P = 0.032).

CONCLUSION: The need for prolongation up to 16 weeks of the induction course of tofacitinib in patients with ulcerative colitis B is significantly higher in patients who have previously received one or more anti-TNF-α drugs.

P003
Frequency of Hereditary and Acquired Thromboembolic Complications in Patients With Inflammatory Bowel Diseases in Moscow

Lizhichnikaya Alina1, Kryaglyanova Anna1, Li Irina1, Kazakov Dmitriy1, Fadeeva Natalia1, Demchenko Alexandra1.

1Moscow Clinical Scientific Center Named After A. S. Logunov, Moscow, Russia.

BACKGROUND: Thromboembolic complications (TC), which are one of the characteristic manifestations of inflammatory bowel diseases (IBD), contribute to the development of TC in patients with IBD.

OBJECTIVE: To identify the frequency of inherited and acquired hypercoagulation factors that contribute to the development of TC in patients with IBD.

METHODS: The clinical status of 1288 IBD patients undergoing treatment in 2019 was evaluated in the Department of IBD. 748 patients with ulcerative colitis (UC) and 490 patients with Crohn’s disease (CD) in 112 patients with UC (9.0%), clinically significant TC (venous thrombosis of the lower extremities, upper extremities and others) was detected. In patients with clinically significant fea

nts of inflammation, DNA isolated from peripheral blood lymphocytes was examined to identify molecular genetic mutations that lead to hypercoagulation.

RESULTS: Of the 112 patients with TC, 76 (67.8%) patients had UC, and 36 (32.2%) patients had Crohn’s disease. Of 112 IBD patients with clinically significant TC, 45 (40.2%) had genetic mutations that increase affinity for fibrinogen, increase platelet aggregation, disrupt follic acid metabolism, and reduce the activity of the methylentetrahydrofolate reductase enzyme, which may be manifested by a moderate increase in homocysteine levels. 67 patients with IBD (59.8%) did not have genetic mutations that lead to hypercoagulation. Of the 45 IBD patients with clinically significant TC, 67 patients with IBD (59.8%) did not have genetic mutations that lead to hypercoagulation. Of the 45 IBD patients with clinically significant TC, 67 patients with IBD (59.8%) did not have genetic mutations that lead to hypercoagulation. Of the 45 IBD patients with clinically significant TC, 67 patients with IBD (59.8%) did not have genetic mutations that lead to hypercoagulation.

CONCLUSION: Clinically significant TC were found in 90% of IBD patients. More than 40% of patients with clinically significant TC did not have hereditary factors that contribute to the development of TC. About 60% of IBD patients with clinically significant TC did not have hypercoagulation factors that lead to the development of TC.

P004
Combined Biological Therapy of Perianal Crohn’s Disease

Fadeeva Natalia1, The American College of Gastroenterology

1Medical Research Center Named After A. S. Logunov, Moscow, Russia; 2Medical Research Center Named After A. F. Tsyb, Obninsk, Russia.

BACKGROUND: Fistulas are common types of fistulas in Crohn’s disease (CD). Mesenchymal stromal cells (MSC), which have immunomodulatory properties and high regenerative potential, are currently also used for the treatment of fistula CD. Perianal fistulas are common types of fistulas in Crohn’s disease (CD). Mesenchymal stromal cells (MSC), which have immunomodulatory properties and high regenerative potential, are currently also used for the treatment of fistula CD. The purpose of this study was to compare the effectiveness of combined therapy (local and systemic) mesenchymal stromal cells (MSC) of bone marrow, in the effectiveness of combination therapy MSC (local administration) and infliximab (IFX), as therapy the IFX with immunomodulators on the healing of simple perianal fistulas in Crohn’s disease (CD).

METHODS: Seventy-five patients with CD with perianal lesions were divided into three groups depending on the method of therapy. The first group of CD patients aged 19 to 59 years (Me-29) (n = 25) received MSC systemically and locally, as well as anti-tumor therapy with IFX. The dynamics evaluated the complete closure of the external opening of the fistula. Into the rectosigmoidoscopie was performed 2 and 12 months after the start of therapy. The comparative analysis was performed using four-field tables using non-parametric statistical criteria.

RESULTS: After 2 months in the first group of patients, healing of simple fistulas was observed in 15/25 (60%), in the third group-22/25 patients (88%) (HR 1.467; 95% CI - 1.032–2.084; x2 = 3.742; P = 0.02948). After 2 months in the second group, healing of simple fistulas was observed in 16/25 (64%) (HR 1.37; 95% CI 0.95–1.98; x2 = 4.091; P = 0.03984). After 12 months in the first group of patients, healing of simple fistulas was observed in 17/25 (68%), in the third group-24/25 (96%) patients (HR 1.412, 95% CI 1.066–1.869; x2 = 7.399; P = 0.0124). After 12 months in the second group, healing of simple fistulas occurred in 18/25 (72%) (HR = 0.759, 95% CI 0.580–0.970; x2 = 8.048; P = 0.004).

CONCLUSION: Combined cellular and anti-cytokine therapy of CD with perianal lesions contributes to more frequent and prolonged closure of simple fistulas, compared with MSC monotherapy and IFX monotherapy.