INTRODUCTION: Perianal fistulas (PF) in patients with Crohn’s disease (CD) are associated with morbidity and impaired quality of life. Limited data is available on the risk of PF among patients with CD and long-term PAF relapse rates.

METHODS: A retrospective cohort study on US adult patients with CD identified in an US administrative claims database (2001-2018) was conducted. Patients with PF were identified using diagnosis or procedure codes in medical claims. A PAF episode, starting from the first PAF occurrence, was defined as consecutive PAF-related codes ≤120 days of each other. PAF recurrence was defined as a new PAF-related code occurring after a PAF-free period of ≥180 days (proxy for remission) following the end of the first PAF episode. Time from the 180-day PAF-free period to PAF recurrence was estimated using KM analyses. A similar analysis was conducted in CD patients with a PAF-free period of ≥360 days.

RESULTS: 5,482 patients with a PAF-free period of ≥180 days after their first PAF episode were included (CD-PAF cohort; mean age 43.3 years and proportion of males 51.8%). Over a mean follow-up duration of 2.6 years, 28.8% had a PAF recurrence. Estimated rates of PAF recurrence in the CD-PAF cohort were 23.7%, 33.0%, 42.1% and 47.8% at 1, 2, 5, and 10 years, respectively (Table 1). In the 12 months before first PAF occurrence, 70.8% of CD-PAF patients received non-biologic therapies: corticosteroids (46.5%), antibiotics (44.4%), amphotericin B (5.5%) and immunomodulators (IMD; immunosuppressants (Ida) 21.8%; 25.3% used ≥1 biologic therapy; and 19.5% had ≥1 CD-related surgery. In the 4 months after first PAF occurrence, 66.3% of CD-PAF patients received non-biologic therapies: antibiotics (39.4%), corticosteroids (10.8%), 5-ASA (27.4%) and IMDs/IMSA suppressors (Ims) (21.8%; 31.8% used ≥1 biologic therapy; and 47.2% had ≥1 CD-related surgery. In patients with a longer PAF-free period of ≥360 days (CD-PAF360 cohort), a numerically lower proportion had a PAF recurrence (20.5%) and estimated rates of recurrence were numerically lower at every time point (32.6% at 5 years and 39.4% at 10 years) vs the CD-PAF cohort.

CONCLUSION: In this retrospective US claim database analysis, the 5-year and 10-year rates of PAF recurrence in CD patients with a PAF-free period of ≥360 days (CD-PAF360 cohort) were numerically lower than in those with shorter PAF-free periods (CD-PAF cohort).

Table 1. Kaplan-Meier rates of reoccurrence of perianal fistulas among patients with Crohn disease

<table>
<thead>
<tr>
<th>Cohort (N)</th>
<th>Duration of fistula-free period (d)</th>
<th>Patients at risk</th>
<th>Cumulative rate (%)</th>
<th>KM analyses</th>
<th>2 months</th>
<th>4 months</th>
<th>1 year</th>
<th>2 years</th>
<th>5 years</th>
<th>10 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>CD-PAF</td>
<td>180 days</td>
<td>5,482</td>
<td>5,482/5,482</td>
<td>100.00</td>
<td>81.9</td>
<td>70.8</td>
<td>64.3</td>
<td>52.8</td>
<td>42.1</td>
<td>39.2</td>
</tr>
<tr>
<td>CD-PAF360</td>
<td>360 days</td>
<td>2,072</td>
<td>2,072/2,072</td>
<td>100.00</td>
<td>84.0</td>
<td>75.4</td>
<td>69.5</td>
<td>59.9</td>
<td>49.0</td>
<td>42.2</td>
</tr>
</tbody>
</table>

Note: KM = Kaplan-Meier, PAF = perianal fistulas.
didactic lectures. The pathophysiology, diagnosis and treatment of diseases are explored in textbooks. However, the effect of disease on patients’ lives and the difficulty of managing chronic conditions are often not conveyed. Preclinical students would benefit from more patient interaction as patient care is the essence of being a physician. In this patient-centered educational panel, we focus on Inflammatory Bowel Disease (IBD).

LEARNING OBJECTIVES:
1. Understand how IBD impacts patients’ lives
2. Expose students to the challenges of living with IBD from patient and caregiver perspective
3. Recognize how the Crohn’s & Colitis Foundation supports IBD patients
4. Review the role of a multidisciplinary approach in treating IBD patients and the potential role of complementary medicine

METHODS: In 2017 and 2018, Albany Medical College incorporated an IBD patient panel into the preclinical gastrointestinal curriculum. Students (n = 140), having already been lectured on IBD, attended an interactive 2-hour panel in which patients, caregivers, physicians and the Crohn’s & Colitis Foundation shared their experiences. Students then completed a Qualtrics survey.

RESULTS: Student responses indicated that 96% strongly agreed/agreed that learning from patients helped to understand the complexity of managing a chronic disease, 89% strongly agreed/agreed that the patient panel supported traditional IBD lectures well and 94% strongly agreed/agreed that future students would benefit from a similar panel (Figure 1). Additionally, 73% strongly agreed/agreed that there is a role for complementary medicine (Figure 2). Student narratives suggested that the panel enriched their medical education (Figure 3).

CONCLUSION: This panel showcased the challenges of diagnosing, managing and living with IBD. Learning about chronic disease from a patient encouraged future physicians to consider how the disease affects many aspects of one’s life. The panel challenged students to consider a role for complementary medicine in IBD. Survey responses found that the panel enhanced students’ understanding of IBD beyond what could be learned from traditional lectures and textbooks.

[$\text{Figure 1.}$](top) Shows concentration of anti-α4β7 integrin antibody (DATK32) (μg/mL) in plasma of IP (25 mg/kg) and IC (25 mg/kg and 5 mg/kg) treatment groups, given daily (QD) or every third day (Q3D). (middle left) Shows mean concentrations of DATK32 (μg/mL) in colon contents and (middle right) colon tissues of IP (25 mg/kg) and IC (25 mg/kg and 5 mg/kg) treatment groups given daily (QD) or every third day (Q3D) where IP is compared to IC. (bottom left) Concentration of DATK32 (μg/mL) in colon contents (right) and (bottom right) colon tissue of IP (25 mg/kg) and IC (25 mg/kg) treatment groups given daily (QD) over time (1, 2, 4, 24, and 48 hours) where IP is compared to IC. Pair-wise comparisons by two-tailed Mann-Whitney U-Test for treatment effects; *P* < 0.05, **P** < 0.01, and *P* < 0.001**.*
Use of Day Care and Infectious Complications in Children Born to Mothers With Inflammatory Bowel Disease: A Nested Prospective Cohort in the PIANO Registry

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INTRODUCTION: Children attending day care have an increased risk of infection. It is unknown whether day care attendance among children of mothers with inflammatory bowel disease (IBD) is associated with an increased risk of infection and whether maternal exposure to biologics potentiates this risk.

METHODS: The Pregnancy in IBD and Neonatal Outcomes (PIANO) registry is a prospective cohort of over 1500 pregnant women with IBD and their children. Data are collected at each trimester, delivery and at 4, 9 and 12 months postpartum. A sub-set of this cohort completed data on day care exposure. Outcomes of interest included any infection or serious infection (infection requiring hospitalization) in the first year of life. Bivariate analyses were used to compare various clinical characteristics and infectious outcomes by day care use. Logistic regression models were used 1) to determine whether day care independently increased the risk of infections and 2) to determine whether biologic or immunosuppressive medications independently increased the risk of infections among those attending day care.

RESULTS: A total of 310 pregnant women with IBD and their children were included. Of these, 39% of children attended day care in the first year of life. Clinical characteristics were similar in those that attended day care vs. not, including maternal medication use. Slightly greater numbers of children of non-smokers attended day care (P = 0.007) (Table 1). Children attending day care had a higher rate of any infection in the first year of life than those not attending day care (68% vs. 54%, P = 0.05). However, there were no differences in serious infection rates (8% vs. 8%, P = 0.65) (Table 2). Use of day care was not significantly associated with any infection after controlling for vaccine use, breastfeeding and preterm birth (OR 1.2; 95% CI 0.71-2.05). Among those attending day care, neither biologic (OR 0.47; 95% CI 0.05-4.86), immunomodulator (OR 0.76; 95% CI 0.04-16.42), nor combination therapy use (OR 0.78; 95% CI 0.06-9.34) was significantly associated with any infection.

CONCLUSION: Approximately 1/3 of children born to women with IBD in this cohort attended day care in the first year of life. Day care was associated with higher overall infection rates, but not differences in serious infections. There was no further increased risk of infection among children in day care whose mothers were exposed to biologic medications, suggesting that childcare options should not be limited by in utero medication exposure.

Figure 2. Shows number of Th memory cells (mean ± SEM) in Blood (A) Payer’s Patches (PP) (B) and mesenteric lymph nodes (mLN) (C) measured by FACS analysis, for groups treated with anti-mouse α4β7 integrin mAb (DATK32) daily (QD) or every third day (Q3D) IP (25 mg/kg) and IC (25 mg/kg and 5 mg/kg) compared to vehicle control (Vehicle). Pair-wise comparisons by two-tailed Mann-Whitney U-Test for treatment effects; *P < 0.05; **P < 0.01 and ***P < 0.001.

Figure 1. Student responses to survey questions: “Do you think learning from patients helps you understand the complex nature of caring for a chronic disease?” (red), “Do you think patient panels supplement traditional lectures well?” (yellow), and “Do you think future classes should have patient panels similar to this one?” (blue) (n = 78).