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Sa1064

IMPACT OF COVID-19 PANDEMIC ON PATIENTS WITH INFLAMMATORY BOWEL DISEASE: A LOCAL REPORT

Evangelos Tsoporis, Rezvanna Chowdhury, Sharon Dudley-Brown, Mark Lazarev, Joanna Melia, Alyssa Paran, Florin M. Selaru, Huimin Yu, Brindusa Truta

The COVID-19 pandemic impacted the life of people worldwide. We used a cross-sectional survey to evaluate the effects of pandemic on inflammatory bowel disease patients registered with Johns Hopkins. We assessed the methods used to minimize the risk of infection, coping mechanisms, changes in disease activity and management in the first 6 months of pandemic. Of the 405 patients who completed the questionnaire, 240 (58.8%) had Crohn's disease, 132 (32.6%) ulcerative colitis and 35 (8.6%) unclassified IBD. The median (IQR) age was 49 (28, 71). Two hundred seventy-three (67.4%) received biologics including patients on hospital-based (4.2%) infusions, outpatient-based infusions (28.7%) and home infusion (22.2%). Majority had other comorbidities, either heart (42/151%) or lung disease (19/ 4.7%), diabetes (22/5.4%), hypertension (77/19%), or obesity (13/3.2%). Most patients were at low risk for infection as they lived in a non-metropolitan area (291 patients, 71.8%), did not report close contact with a confirmed COVID-19 individual (373, 92/15%), did not travel to an area with high rates of COVID-19 (381, 94.1%) and did not use public transportation (379, 93.6%). All but 2 were taking protective measures such as use of N-95 mask, (90, 22.2%), commercially (27, 66.9%) or homemade mask (20, 51.4%), sanitize (36, 83.6%) or gloves (23, 57.3%). Additionally, patients used dietary/herbal supplements (35, 13.6%), dietary modifications (94, 22.4%) to support immunity (36, 8.6%), prevent an IBD flare (28, 6.9%) or minimize medications (41, 11.9%). The most common supplement used was Vitamin C (28, 50.9%), and D (42, 76.4%). Most (344, 84.7%) had no adjustments to their medications during pandemic, 31 (7.7%) discontinued their medication and 31 (7.7%) had to add a medication. Pandemic had, reportedly, no effect to the lives of 44 (20.9%) patients but 28 (13.3%) felt depressed, 70 (33.2%) anxious, 9 (4.3%) lost their income and 60 (28.4%) had other non-specified effects. The most common stress reduction techniques used were exercise (261, 64.4%), yoga (76, 18.8%), art therapy (23, 5.7%), music therapy (40, 9.9%), journaling (28, 6.9%), and guided imagery (18, 4.4%). Fifty-eight (14.3%) used stress reduction medications. Eight (2%) reported SARS-CoV-2 infection. Median (IQR) age was 59 years (22,50) (Table 1). The majority had CD (6.7%) and the infection was treated at home (6.7%). One required admission to ICU. Infection led to worsening of the disease in 2 (5%). One (12.5%) discontinued IBD treatment. Our data suggest that most IBD patients followed low risk activities and were adherent to personal protective equipment and used stress reduction techniques and dietary supplements to cope with pandemic and avoid flares. Infection rates were low and the majority did not require admission to the hospital. In the majority infection did not cause an IBD exacerbation.

Sa1063

COVID AND COVID VACCINATION AMONG OUTPATIENTS WITH FUNCTIONAL GI AND GI MOTILITY DISORDERS; EFFECTS ON GI SYMPTOMS.

Paul Silver, Michael Coles, Henry P Parkman

Introduction: The ongoing COVID pandemic from SARS-CoV-2 infection has posed healthcare challenges. COVID and even COVID vaccines have been reported to have effects on underlying GI conditions. Several efficacious vaccines with infrequent side effects are available. However, many eligible recipients are not getting vaccinated. Aims: The aims of this study were threefold: 1) Determine the prevalence of prior COVID infection and COVID vaccination in patients within a GI practice seeing primarily functional GI and GI motility disorders; 2) Inquire as to why patients do not get vaccinated; and 3) Assess if COVID-19 vaccination in patients within a GI practice seeing primarily functional GI and GI motility disorders; 2) Inquire as to why patients do not get vaccinated; and 3) Assess if COVID-19 (V<2%) occurred following administration of COVID vaccine.

Methods: Patients followed low risk activities and were adherent to personal protective equipment (93.4%). All but 2 were taking protective measures such as use of N-95 mask (90, 22.2%), commercially (27, 66.9%) or homemade mask (20, 51.4%), sanitize (36, 83.6%) or gloves (23, 57.3%). Additionally, patients used dietary/herbal supplements (35, 13.6%), dietary modifications (94, 22.4%) to support immunity (36, 8.6%), prevent an IBD flare (28, 6.9%) or minimize medications (41, 11.9%). The most common supplement used was Vitamin C (28, 50.9%), and D (42, 76.4%). Most (344, 84.7%) had no adjustments to their medications during pandemic, 31 (7.7%) discontinued their medication and 31 (7.7%) had to add a medication. Pandemic had, reportedly, no effect to the lives of 44 (20.9%) patients but 28 (13.3%) felt depressed, 70 (33.2%) anxious, 9 (4.3%) lost their income and 60 (28.4%) had other non-specified effects. The most common stress reduction techniques used were exercise (261, 64.4%), yoga (76, 18.8%), art therapy (23, 5.7%), music therapy (40, 9.9%), journaling (28, 6.9%), and guided imagery (18, 4.4%). Fifty-eight (14.3%) used stress reduction medications. Eight (2%) reported SARS-CoV-2 infection. Median (IQR) age was 59 years (22,50) (Table 1). The majority had CD (6.7%) and the infection was treated at home (6.7%). One required admission to ICU. Infection led to worsening of the disease in 2 (5%). One (12.5%) discontinued IBD treatment. Our data suggest that most IBD patients followed low risk activities and were adherent to personal protective equipment and used stress reduction techniques and dietary supplements to cope with pandemic and avoid flares. Infection rates were low and the majority did not require admission to the hospital. In the majority infection did not cause an IBD exacerbation.

Table 1. Number of cases with disorders of Gut-Brain Interaction (DBI) before and after COVID-19.

| Disorder                  | Pre-COVID | Post-COVID |
|---------------------------|-----------|-----------|
| Acute functional disorders| 12        | 20        |
| Functional bowel syndrome | 10        | 15        |
| Functional dyspepsia      | 8         | 12        |
| Functional dyspepsia      | 10        | 15        |
| Cholelithiasis            | 5         | 8         |
| Cyclic vomiting syndrome  | 7         | 10        |
| Irritable bowel syndrome  | 8         | 12        |
| Functional constipation   | 9         | 14        |
| Functional diarrhea       | 12        | 20        |
| Functional anorectal pain | 1         | 2         |
| Functional delirium       | 0         | 1         |

Some patients may have had multiple DBIs.
free (GF) products, and emotional wellbeing. Patient details were collected from our database. Phone calls were made and data was collected after obtaining verbal consent from patients and caregivers. Results: 50 telephone questionnaires were completed with patients (or patients of the patient) with diagnosed coeliac disease. The patients interviewed were between 3 years to 16 years. Our standard follow-up practice for patients with confirmed diagnosis with CD clinic is an annual review with specialist gastroenterology nurse and dietitian and this takes place for 72% (36/50) of patients (both virtual and face to face clinic reviews). 98% (49/50) of patients denied development or worsening of any GI symptoms during the lockdown. 96% (48/50) of patients reported normal development in growth and height since the lockdown. 98% of patients (49/50) were able to procure GF product during the lockdown. During the initial 3-4 weeks of lockdown, some families reported of limited options of GF products but were still able to procure them. Patients and their families reported being emotionally well. All families were made aware to contact MTW nursing team for advice. The primary online resource used by families for guidance was Coeliac UK website. 72% (29/40) of families using the service.

Conclusions: During SARS-CoV-2 pandemic, patients with coeliac disease managed CD-well despite the lockdown. We managed to see majority of our patients (virtual face to face clinics) There was no significant impact on procuring GF products and emotional well-being despite multiple challenges.

Sa1066

SURVEY OF NYC PEDIATRIC INSTITUTIONS SUGGESTS POSSIBLE INCREASE IN PEDIATRIC INFAMMATORY BOWEL DISEASE DIAGNOSIS ASSOCIATED WITH PREVALENCE OF COVID INFECTION

Kenny J. Castro Ochoa, Alexa Goldfarb, Faria Hasan, Vivian Tang, Guti Tomer, Janet E. Rosenbaum, Thomas Wallach

Background: One of the myriad issues COVID-19 has generated is a concern for increased capacity to generate autoimmune disease. (Saad et al, 2020; Ehrenfeld et al 2020) Recent case reports have potentially linked new onset UC associated with recent COVID infection (Aydin et al 2020), which raises concern for potential impact of COVID-19 infection rates on pediatric IBD diagnosis rates. As non-pharmaceutical interventions massively decreased the incidence of infectious illnesses in the first wave of the pandemic (Sullivan et al, 2020), IBD rates would likely be expected to stay stable or decrease. We have formed a consortium of New York City pediatric institutions aimed at characterizing this change, and here report findings from the Children’s Hospital of Montefiore, Maimonides Medical Center, SUNY Downstate, and New York University. Methods: New IBD diagnoses were identified between 2016-2019, as well as new diagnoses documented between 3/2020 and 3/2021. Data was examined using a direct comparison of new diagnostic rate 3/20-3/21 to mean diagnostic rate from 2016-2019. Results: an overall secular increase in IBD diagnostic rate of approximately 5% was noted, consistent with prior findings demonstrating increased incidence of IBD annually (Ye et al, 2020). Direct comparison with mean diagnostic rate over the preceding 4 years noted a substantial increase in diagnostic rate in the pandemic year relative to previous year average, with 109 new diagnoses in our consortium compared to an average of 79. Our data demonstrates this increase is driven by the institutions in the Brooklyn and the Bronx, with a 51% increase in diagnoses (78 compared to mean of 51.5, 95% CI 10.19). NYU diagnostic rate was 31 (previous mean of 27.5, 95% CI 5.29). This aligns well with published rates of COVID-19 in these regions, with the outer boroughs averaging 14.1/year/100k and Manhattan 10.5/year/100k. Discussion: Our results suggest a possible increase in IBD diagnostic rate in the outer boroughs of New York City, aligning with density of COVID-19 infections, despite surveillance data from NY DOH demonstrating almost nonexistent pediatric influenza-like-illness. There are many possible confounding factors in this initial work with substantial further evaluation needed, but this data is suggestive of a possible capacity for COVID19 to generate new onset IBD in excess of normal infections and normal rates of presentation. Next steps will include expanding data collection to additional NYC institutions, subgroup analysis by disease type, gender, age of presentation, more detailed analysis of biomarkers, and geospatial analysis given geographic variations in COVID19 infection density.

Sa1067

INTERNATIONAL SURVEY ON SEVERE ACUTE RESPIRATORY SYNDROME CORONAVIRUS 2 AND ACUTE PANCREATITIS CO-OCCURRENCE IN CHILDREN

Michael Wilschanski, Mordechai Slae, Maisam Abu-El-Haija, Elvi Sanjines, Zachary M. Sellers

Objectives: It is unknown to what extent coronavirus 2019 (COVID-19) may co-occur with acute pancreatitis (AP) in children and how their clinical course may differ from children with AP alone. Methods: An online survey was sent to pediatric gastroenterologists to report on COVID-19 and AP cases from December 11, 2020, to February 26, 2021. Results: From 72 respondents (20 countries, 5 continents), 22 cases of positive COVID-19 infection and AP were reported. Patients were predominantly White or Hispanic/Latinx (73%), female (68%), and adolescents (68%). For 86% of patients, this was their first episode of AP. Sixty-eight percent of positive COVID-19 tests were polymerase chain reaction based. There was a significantly higher risk for pancreatic necrosis, pediatric providers should have a high level of suspicion for AP in children with COVID-19 infection.

Sa1068

EARLY-ONSET GASTROINTESTINAL MALIGNANCIES IN PRIMARY IMMUNE DEFICIENCY: A SYSTEMATIC REVIEW

Beishi Zheng, Howard Chung, Bing Chen, Siming Sun, Anil Rusgi, Timothy C. Wang, Xiao-Fei Kong

Background/Aims: The immune system plays a pivotal role in cancer surveillance and the tumor microenvironment. People with primary immune deficiency diseases (PIDD) are prone to chronic and recurrent mucosal infections and inflammation, together with their potential intrinsic epithelium dysfunction due to meningeal defects, which might lead to an early-onset gastrointestinal malignancy requiring special attention for gastroenterologists and clinical immunologists. Methods: We systematically reviewed all the reported cases with the clinical diagnosis both of primary immune deficiency and gastrointestinal malignancies using three databases (PubMed, Scopus, EMBASE). With 68 manuscripts reviewed, we found a total of 149 PIDD cases meeting our inclusion criteria. SEER database was used to simulate the general population with gastrointestinal malignancy to compare with our cases. Results: With a total of 149 PIDD cases, 95 presented with gastric cancer, 13 with small bowel malignancy, 35 with colorectal cancer, 3 with esophagus malignancy and 3 patients without clear tumor position recorded. Gastric adenocarcinoma, small bowel lymphoma, and colon adenocarcinoma were the most common cancer types. The most common PIDD associated with gastrointestinal malignancy was common variable immune deficiency (CVID), comprising 59.1% of the patients. The age of gastrointestinal cancer diagnosis ranged from 3 to 82 years, with the median age of 40 years. Compared to population based epidemiological data, Individuals with PIDD appear to have an early onset of GI malignancy, 20 years to 33 years younger than the general population. We also observed a significant survival disadvantage when PIDD cases developed colorectal malignancies. However, the molecular genetic diagnostic rate is only about 12%, with the following genes are most frequently reported, including ATM, RBL1/PR/ARHML-2, CTLA-4 Conclusion: Patients with primary immune deficiency develop gastrointestinal malignancy at an earlier age than that of the general population. Surveillance programs to identify malignancies at an early stage and genetic studies are required to delineate the immunogenic contribution and identify screening tools to early-onset gastrointestinal malignancy.

a. Flow diagram for literature search and filter. b. The distribution of gender and age of all GI malignancies. c. Clinical or molecular diagnosis of PID cases with GI malignancy. d. The age distribution of GI malignancies at different positions.