Received: 23 February 2023 | Revised: 5 June 2023 | Accepted: 19 June 2023

DOI: 10.1111/apa.16882

ACTA PÆDIATRICA NURTURING THE CHILD WILEY

BRIEF REPORT

Severe upper gastrointestinal involvement in paediatric ulcerative colitis

The historical view that ulcerative colitis (UC) is a superficial inflammatory disease confined to the colon has proven simplistic in the paediatric onset UC, and atypical phenotypes variants should be recognised. Based on this evidence, the revised Porto criteria and more recently the Paediatric Inflammatory Bowel Disease (IBD) Classes Criteria have identified several atypical UC paediatric phenotypes, including upper gastrointestinal (UGI) involvement.[1,2] As a matter of fact, UGI tract involvement is no longer used to distinguish Crohn's Disease (CD) from UC as can be seen in both entities. In 2013, data from the EUROKIDS registry showed that UGI findings occurred in 11 of 260 (4.2%) UC children.[3] Later in 2018, our group found that 20.5% of a large cohort of paediatric UC presented UGI involvement, making it the most frequent atypical UC phenotype.[4] The typical clinical manifestations include epigastric and abdominal pain, nausea, vomiting, and weight loss. However, a subset of patients with UGI tract involvement appeared to be asymptomatic at diagnosis. We, hereby, describe two cases of severe UGI findings within the course of paediatric UC.

We report the case of a 12-year-old boy, referred to our paediatric IBD centre, diagnosed with UC 2 years earlier in another hospital and on maintenance treatment with azathioprine (2.5 mg/kg/day). At presentation, his Pediatric Ulcerative Colitis Activity Index (PUCAI) score was 50. In view of his first clinical relapse associated with UGI symptoms, we decided to perform an endoscopic evaluation, including an esophagogastroduodenoscopy (EGD), not performed at diagnosis. The procedure suggested severe pancolitis (Figure 1A,B), confirming the previous diagnosis of UC (E4, S0, according to Paris classification) associated with a severe erosive gastritis (Figure 1C,D). The first course of corticosteroids (1 mg/Kg/day) was started but, after 1-month of follow-up, the patient still had active disease and a PUCAI score of 40. Therefore, he started therapy with infliximab and methotrexate with subsequent clinical improvement, confirmed by a follow-up ileocolonoscopy and EGD demonstrating an endoscopic and histological remission (Figure 1E,F).

The second case is a 17-year-old boy, diagnosed with UC 4 months earlier in another peripheral general hospital, admitted to our ward with a clinical relapse and a PUCAI score > 65. Upper and lower endoscopy revealed the presence of severe active pancolitis, consistent with a diagnosis of UC, E4-S1, based on the Paris classification and severe erosive gastritis, confirmed by histological examination. Therapy with corticosteroids was started, but, after 1 week, due to the persistence of severe disease, we started biologic therapy with infliximab, with slow clinical response. Despite biologic therapy, due to the severity of the clinical conditions and the persistent macroscopic and microscopic findings of severe disease, the patient subsequently underwent surgery.

This brief report describes the clinical features and disease course of two adolescents with pancolitis and severe gastritis.

In both reported cases, the endoscopic and histological findings of the UGI were characterised by severe active gastritis with a macroscopic appearance mimicking UC colitis inflammation, and the histology showing a continuous marked inflammatory infiltrate with crypt abscesses, exudate, ulcerations and architectural glands atrophy/distortion in the absence of Helicobacter pylori infection (Warthin–Starry staining). Other causes of gastritis, including autoimmune or atrophic, eosinophilic, lymphocytic, collagenous and drug-induced gastritis, were ruled out, confirming a diagnosis of atypical UC.

To the best of our knowledge, few studies have characterised the long-term outcomes of UGI involvement in paediatric UC. Furthermore, current guidelines, while stating the importance of performing EGD in all cases at diagnosis, do not clearly define the need for follow-up.[1] In 2018, Ashton et al.[5] reported the 3-year follow-up from diagnosis of a cohort of patients with paediatric IBD and analysed the endoscopic and histological disease progression over this time period. At most recent follow-up endoscopy (mean time from diagnosis, 2.9 years), a significant proportion of UC patients remains with inflammatory gastritis (endoscopic 9.1%–27.3%). Overall, these findings may highlight the need that EGD should be repeated throughout the disease course. Our brief report supports this hypothesis, particularly in those children with severe colitis, because UGI endoscopic abnormalities seem to be predictors of severe disease. Indeed, in both cases the endoscopic and histological UGI findings reflected the severity of the lower gastrointestinal disease and influenced therapeutic strategy, leading to an optimisation of the treatment.

Abbreviations: CD, crohn's disease; EGD, esophagogastroduodenoscopy; IBD, inflammatory bowel disease; PUCAI, pediatric ulcerative colitis activity index; UC, ulcerative colitis; UGI, upper gastrointestinal.

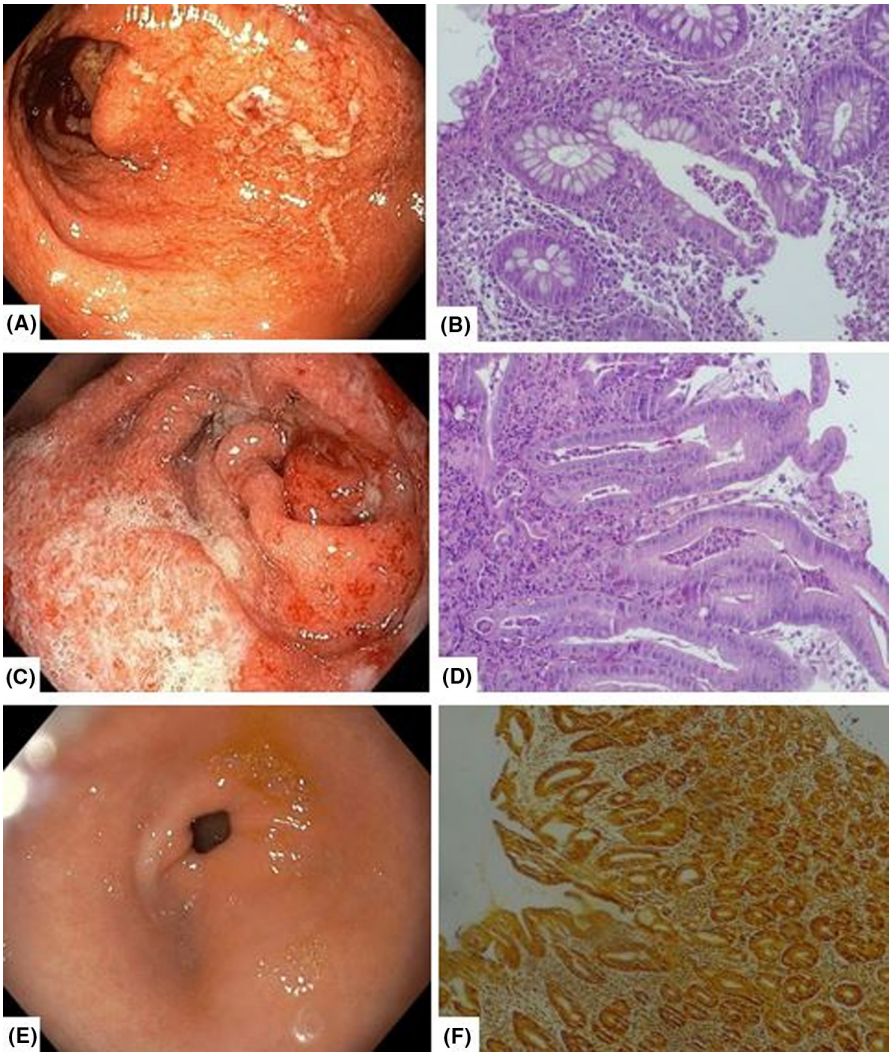

FIGURE 1 Endoscopic and histological severe pattern of a child with paediatric atypical ulcerative colitis. (A) Endoscopic image showing severe active pancolitis. (B) Microscopic view showing severe pancolitis findings characterised by crypt architectural distortion, an increased diffused marked interstitial lymphoplasmacytic inflammatory infiltrate with neutrophils, exudate, infiltrating the crypt epithelium and forming crypt abscess. (C) Endoscopic view showing severe erosive gastritis with mucosal oedema, crypt abscesses and reduced or absent gastric folds. (D) Histological findings of the first case of ulcerative colitis showing severe active gastritis in the absence of Helicobacter pylori infection (Warthin Starry negative staining) characterised by a marked continuous inflammatory infiltrate with crypt abscess, exudate formation, ulcerations and architectural glands atrophy/distortion. (E) Follow-up esophagogastroduodenoscopy showing macroscopic remission of severe erosive gastritis. (F) Follow-up esophagogastroduodenoscopy and histological mild inactive gastritis in the absence of Helicobacter pylori infection (Warthin Starry negative staining).

AUTHOR CONTRIBUTIONS

MTF, MM, CS, Annamaria Staiano and Erasmo Miele made substantial contribution to conception and design, analysis and interpretation of data, drafting the article and final approval of the version to be published. MD contributed to the critical review of case, expert opinion in pathology and took the histological images.

FUNDING INFORMATION

No financial or nonfinancial benefits have been received or will be received from any party related directly or indirectly to the subject of this article.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interest to disclose regarding this paper. Erasmo Miele received grant or research support from Nestle Italy and Nutricia Italy, served as a member of advisory board for Abbott and received payment/honorarium from Dicofarm, Ferring and Fresenius. Annamaria Staiano is a clinical investigator for Janssen Biologics B.V., Eli Lilly Cork Limited and Novalac; consultant for Aboca, Angelini e Novalac; speaker for Novartis, Bromatech, Sanofi, Vyvalife; and was clinical investigator for Aboca and PAREXEL International Srl.

DATA AVAILABILITY STATEMENT

The data underlying this article are available in the article.

CONSENT FOR PUBLICATION

The parents signed an informed consent for the publication of this brief report and any accompanying images.

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