Is adult-onset ulcerative colitis just confined to colon?

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To the Editor: Ulcerative colitis (UC) is traditionally known to be confined to the large bowel. The presence of upper gastrointestinal (GI) involvement has long been considered as a sign of Crohn disease (CD) rather than UC. However, involvement of the upper GI and small intestine has previously been reported in UC.[1,2] Importantly, both the symptoms and endoscopic features easily lead to a misdiagnosis of acute erosive or infectious gastroduodenitis. The present case highlights the need to consider upper GI involvement of UC as a differential diagnosis. This case may prompt physician to recognize the possibility of an adult-onset UC subtype involving the upper GI; to consider whether upper GI involvement should be classified as a special and rare type of UC like CD, suggesting that it may be a high-risk factor for active disease or poor prognosis; and to determine whether more aggressive treatment are needed for patients with this kind of condition.

A 24-year-old woman was diagnosed with UC with left-sided colonic involvement at the age of 22. Disease remission was achieved with oral mesalamine, which she elected to discontinue after 1 year because she felt well. Eleven months later, she experienced recurrent bloody diarrhea, together with abdominal pain and significant nausea and vomiting. On presentation to the emergency department, she was afebrile and not tachycardic; however, tenderness was noted on palpation of the epigastrium and left lower abdomen. Laboratory tests showed elevated inflammatory marker level (C-reactive protein 86 mg/dL), mild anemia (hemoglobin 10.6 g/dL) and hypoalbuminemia (albumin 29.2 g/L). A non-contrast computed tomography (CT) scan unexpectedly showed diffuse gastroduodenitis, in addition to continuous colitis [Figure 1A]. She had not taken any drugs, including non-steroidal anti-inflammatory drugs in the last 11 months. Infectious causes including *Clostridium difficile*, Epstein-Barr virus (EBV), and cytomegalovirus (CMV) were ruled out. She was treated with full-dose oral and topical mesalamine, intravenous proton pump inhibitor, and empiric antibiotics.

However, her nausea and vomiting worsened. Esophagogastroduodenoscopy revealed diffuse gastroduodenitis with multiple small fibrin-covered erosions in the stomach and duodenum [Figure 1B–D], which closely resembled the UC lesion on colonoscopy [Figure 1E–G]. The pathology of colon [Figure 1H–J] and upper GI tract [Figure 1K–M] were diagnosed with colonic UC and UC with upper GI involvement, respectively, as they showed negative staining for *Helicobacter pylori,* CMV and EBV; no evidence of granulomas which might suggest CD; and no features resembling erosive gastroduodenitis. The diagnosis of UC was further confirmed by serologic tests for perinuclear anti-neutrophil cytoplasmic antibody (p-ANCA) positive and anti-*Saccharomyces cerevisiae* antibody negative, as well as by capsule enteroscopy, which demonstrated normal ileal and jejunal mucosa.

Intravenous methylprednisolone 60 mg once daily was commenced, with complete resolution of all symptoms within 3 days. Abdominal CT was repeated after 5 days of treatment which showed that the gastroduodenal inflammation had considerably improved [Figure 1N]. The patient was discharged on a tapering course of oral corticosteroids and was maintained on mesalamine. Follow-up endoscopy after a course of steroid therapy showed histologic remission in the colon, with improvement of the inflammation in the gastroduodenum, although a chronic diffuse coarse granular appearance remained [Figure 1O–Q]. Pathologic re-examination of gastroduodenum [Figure 1R and 1S] showed gastroduodenal lesion of UC in remission. Remission was still maintained with mesalamine in the 20-month follow-up.

Our case is a rare occurrence that challenges the traditional Montreal classification of adult-onset UC, which does not

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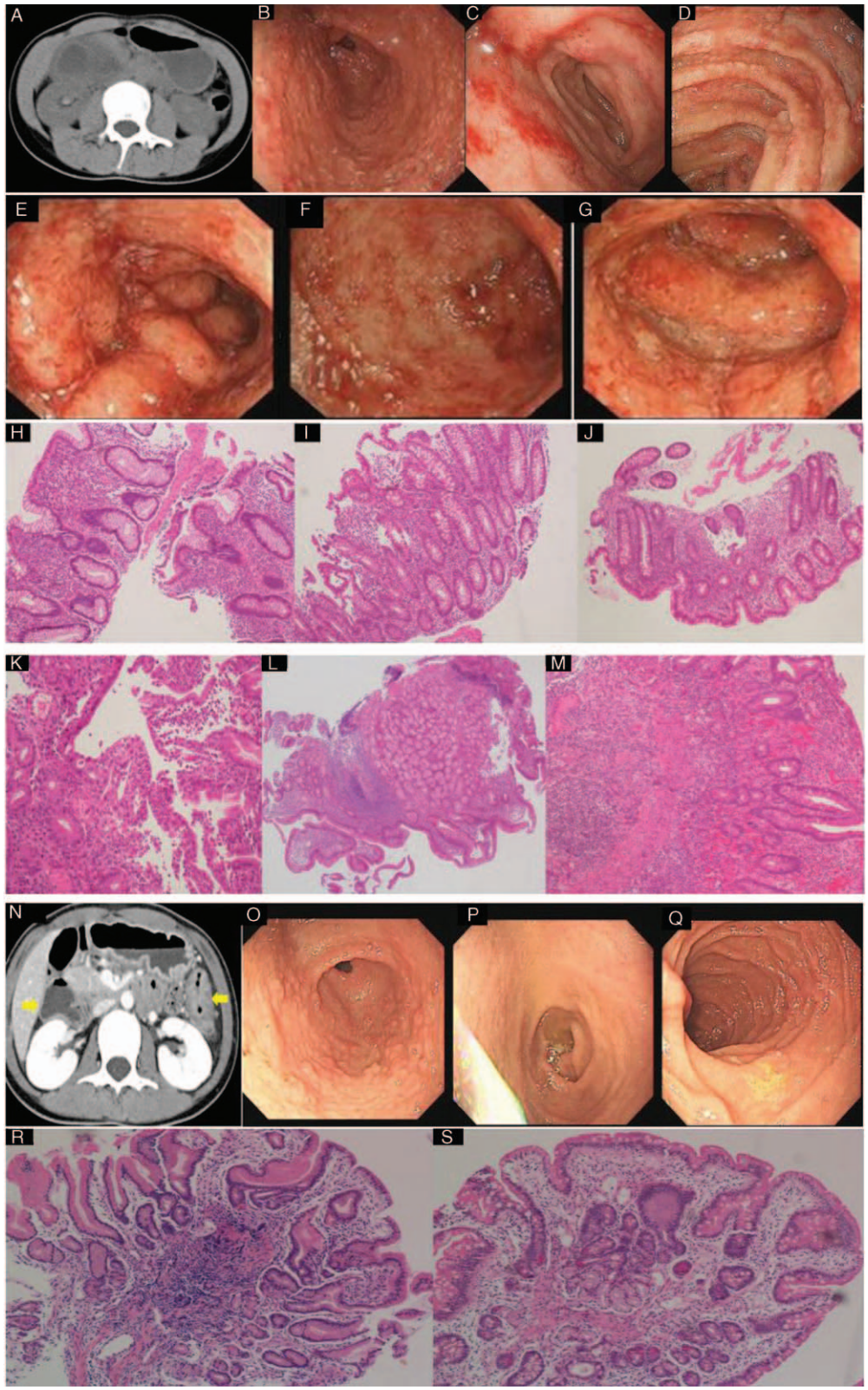

Figure 1: (A) Non-contrast CT showed gastroduodenitis and colitis. (B–D) EGD revealed diffuse gastroduodenitis with multiple small fibrin-covered erosions in the stomach and duodenum. (E–G) Colonoscopy showed continuous and confluent coarse granular appearance with erosions, mucosal friability, and complete loss of vascular pattern. (H–J) Pathologic examination showed crypt abscess, crypt abnormalities with distortion, mucosal atrophy, and plasma cell infiltrates in the lamina propria, which were diffuse in colon (original magnification, ×100). (K–M) Pathologic examination showed crypt abnormalities with distortion, mucosal atrophy, plasma cell infiltrates in the lamina propria, and clusters of neutrophils, which were diffuse in upper GI ([K and M] original magnification, ×200; [L] original magnification, ×100). (N) Abdominal CT scan taken after 5 days of steroid treatment showed that the gastroduodenal inflammation had considerably improved. (O–Q) EGD performed after a course of steroid treatment showed improvement of the inflammation, although the chronic diffuse coarse granular appearance remained. (R–S) Pathologic examination of gastroduodenum performed after a course of steroid treatment showed abnormal crypts with distortion, atrophic mucosa, and decreased plasma cell infiltration in the lamina propia (original magnification, ×200). CT: Computed tomography; EGD: Esophagogastroduodenoscopy.

include upper GI or small-bowel involvement. The present case might be a new phenotype of UC (i.e., UC with upper GI involvement) for several reasons: (1) The patient met the diagnostic criteria for colonic UC, with typical clinical manifestations, endoscopic and radiographic features and pathologic evidence (diffuse and continuous colitis), which ruled out CD, inflammatory bowel disease unclassified and indeterminate colitis; (2) the upper GI lesion in this patient was diagnosed with UC with upper GI involvement because of the good response to steroid therapy and its high similarity to colonic lesions in the endoscopic and macroscopic findings of the upper GI tract in the active inflammatory stage and especially in the remissive stage; (3) other common reasons for gastroduodenitis were excluded, including infectious and drug factors. The results of tests for serologic markers were positive for p-ANCA and were negative for ANCA, also suggested UC.

This raises the question of whether upper GI involvement should be classified as a special and rare type of UC. Involvement of the upper GI tract and small intestine has been reported in adult-onset UC.[1-3] A previous study has also demonstrated that patients with UC and upper GI involvement may be at a higher risk for both extraintestinal manifestations and post-operative pouchitis.[4] As we know, the classification of adult-onset UC generally does not change to CD over time. However, the Montreal classification of UC in adults lacks of the subtype of UC with upper GI involvement. In contrast, the revised Porto classification of UC in children and adolescents from the European Society for Paediatric Gastroenterology Hepatology and Nutrition defines two categories of UC (typical and atypical), in which the presence of upper GI/small-bowel involvement is classified as atypical UC.[5] Taking insights from categories of UC in children and adolescents, it is worth considering if UC with upper GI involvement in adults should be classified as a separate disease subtype with a different disease course.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given his consent for his images and other clinical information to be reported in the article. The patient understands that his name and initials will not be published and due efforts will be made to conceal the identity of the patient, although anonymity cannot be guaranteed.

Conflicts of interest

None.

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