Successful treatment with anti-tumor necrosis factor alpha for reactive small-bowel amyloidosis

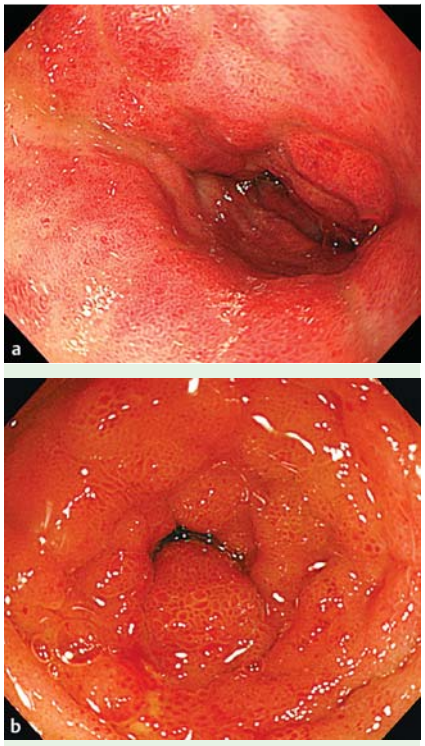

Fig. 1 Marked submucosal edema and multiple hemorrhagic erosions were seen in: **a** the deep part of the duodenum at esophagogastroduodenoscopy; and **b** the ileum at single-balloon enteroscopy.

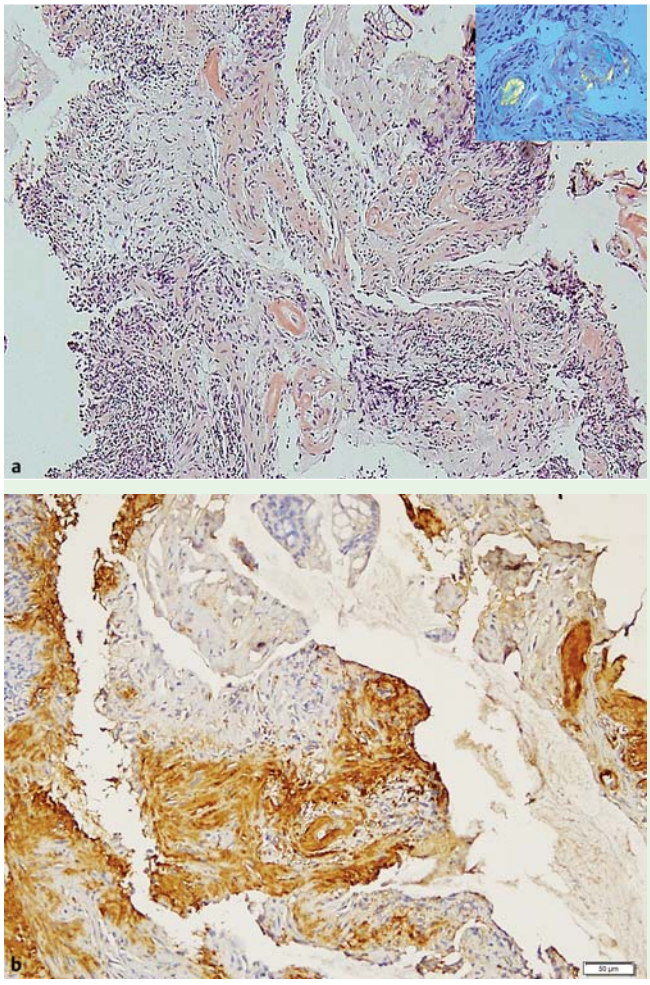

Fig. 2 Histopathological evaluation of the biopsy specimens showed: **a** diffuse, homogeneous Congo red-positive deposits in the submucosal layer (magnification × 100) and (inset) typical birefringence under polarizing microscopy (magnification × 400); **b** diffuse, strong positivity for amyloid A protein with immunohistochemical study using an anti-amyloid A protein antibody (magnification × 200).

A 62-year-old woman who was taking naproxen, methotrexate, and leflunomide for treatment of long-standing, poorly controlled rheumatoid arthritis was admitted because of a 4-week history of watery diarrhea and abdominal pain. Laboratory studies revealed the following results: leukocytes 16.5×10^9/L, hemoglobin 9.8 g/dL, platelets 899×10^9/L, total protein 62 g/L, albumin 29 g/L, and C-reactive protein 334 mg/L. Tests of renal function were normal. On the second hospital day, she developed fever and received broad-spectrum antibiotics, but she deteriorated clinically over the next three days. Multiple stool tests gave negative results for bacterial infection. Endoscopic examinations showed marked submucosal edema and hemorrhagic erosions in the deep part of the duodenum and ileum (**Fig. 1a**), and multiple biopsy specimens revealed amyloid A (AA) protein deposition. A diagnosis of small-bowel AA amyloidosis associated with rheumatoid arthritis was made (**Fig. 2**).

She was treated with anti-tumor necrosis factor-α (TNF-α) antibody (infliximab, 5 mg/kg) at weeks 0, 2, and 6. After the first dose of infliximab, results for the acute-phase reactants immediately normalized, and her symptoms largely resolved within 3 days. A follow-up endoscopy 8 weeks after treatment showed complete resolution of the intestinal lesions (**Fig. 3**), and the amyloid deposition had disappeared in the serial biopsy specimens. The patient has remained well without recurrence of her gastrointestinal symptoms during 12 months of follow-up.

Reactive amyloidosis is a critical complication with poor prognosis in patients with chronic inflammatory diseases, and usually affects the kidney [1–4]. We present herein a case of reactive small-bowel amyloidosis complicating rheumatoid arthritis, which was successfully treated with a novel therapeutic agent, anti-TNF-α antibody. This case highlights the fact that early comprehensive endoscopy and multiple endoscopic biopsies, especially for small-bowel disease, are important for immediate diagnosis and treatment in patients with rheumatoid arthritis and persistent gastrointestinal symptoms.

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Competing interests: None

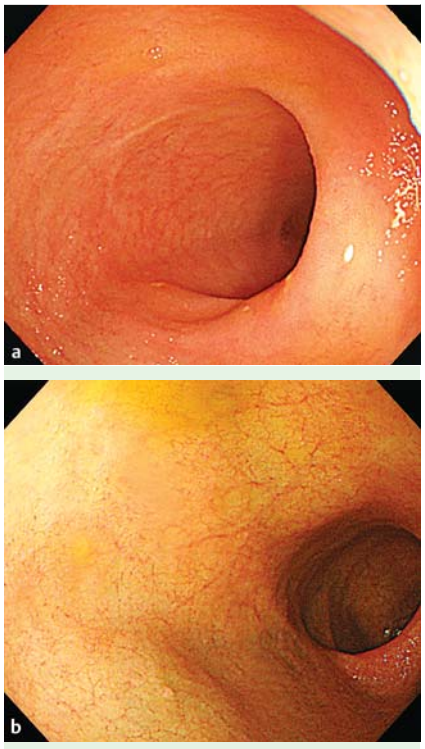

Fig. 3 Follow-up endoscopy 8 weeks after the first dose of infliximab revealed complete resolution of the intestinal lesions in: **a** the duodenum; and **b** the ileum.

C. K. Lee, J. Y. Park, J.-J. Shim, J. Y. Jang
Division of Gastroenterology, Department of Internal medicine, School of Medicine, Kyung Hee University, Seoul, Korea

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Corresponding author

C. K. Lee, MD, PhD
Department of Internal medicine
School of Medicine
Kyung Hee University
1 Hoegi-dong, Dongdaemun-gu
Seoul, 130-702
Korea
Fax: 82-2-9681848
cklee92@paran.com