

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

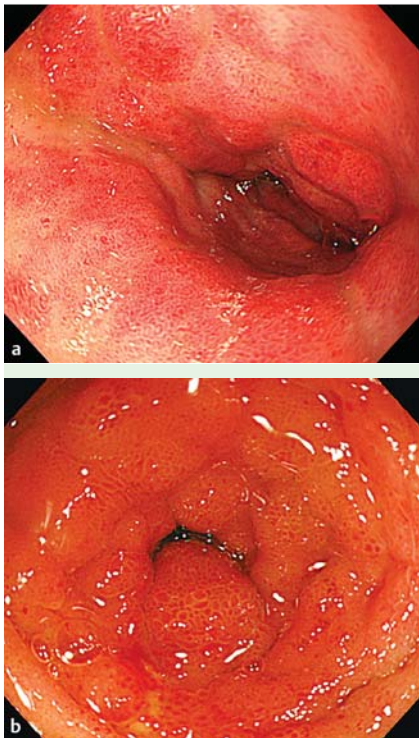


Fig. 1 Marked submucosal edema and multiple hemorrhagic erosions were seen in: **a** the deep part of the duodenum at esophagogastroduodenoscopy; and **b** the ileum at single-balloon enteroscopy.

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 $16.5 \times 10^9/L$, hemoglobin 9.8 g/dL, platelets $899 \times 10^9/L$, 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. 1 a**), and multiple biopsy specimens revealed amyloid A (AA) protein deposition. A diagnosis of small-bowel AA

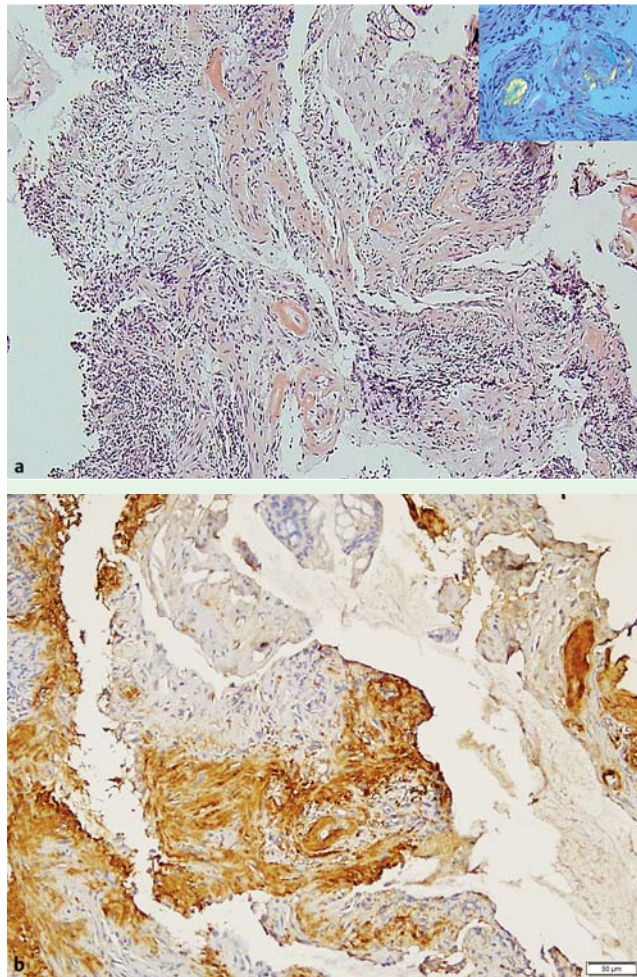


Fig. 2 Histopathological evaluation of the biopsy specimens showed: **a** diffuse, homogeneous Congo red-positive deposits in the submucosal layer (magnification $\times 100$) and (inset) typical birefringence under polarizing microscopy (magnification $\times 400$); **b** diffuse, strong positivity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

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.

Endoscopy_UCTN_Code_CCL_1AC_2AH

Competing interests: None

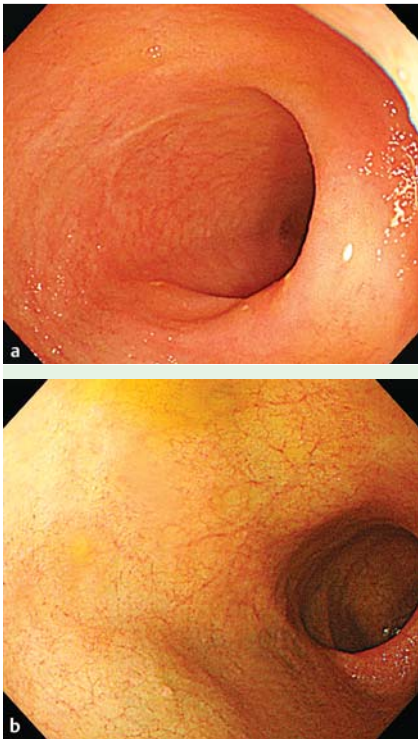


Fig. 3 Follow-up endoscopy 8 weeks after the first dose of infliximab revealed complete resolution of the intestinal lesions in: **a** the duodenum; and **b** the ileum.

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Bibliography

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