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## CASE REPORT

# Severe, recurrent lupus enteritis as the initial and only presentation of systemic lupus erythematosus in a middle-aged woman

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### KEYWORDS

Hypocomplementemia;  
Ischemic enteritis;  
Lupus enteritis

We describe a previously unreported condition of severe, recurrent lupus enteritis accompanied with severe hypocomplementemia as the initial and only presentation of systemic lupus erythematosus. Systemic lupus erythematosus should be suspected in any patient with computed tomography findings of enteral vasculitis or ischemic enteritis, even without lupus-related symptoms or signs; C3/C4 levels may be helpful in the differential diagnosis. If the symptoms do not improve after medical treatment, such as using steroid or cyclophosphamide pulse therapy, or necrosis and perforation of the intestines are highly suspected, surgical intervention should be considered.

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## Introduction

Gastrointestinal (GI) manifestations in patients with systemic lupus erythematosus (SLE) are common; and anorexia, nausea, and vomiting are the most frequent

symptoms seen in around 50% of these patients.<sup>1</sup> These GI symptoms may be because of the lupus itself as a result of bowel ischemia secondary to mesenteric vasculitis or serositis, a side effect of medication used for SLE treatment, or the coincidence of solely GI manifestations, such as gastritis, cholecystitis, pancreatitis, appendicitis, colitis, and so on. It is a challenge for clinicians to immediately determine the cause of GI symptoms in lupus patients, and early treatment is also important for long-term survival and prognosis.<sup>2</sup> The most serious GI manifestation of SLE is ischemia secondary to vasculitis. The reported incidence of

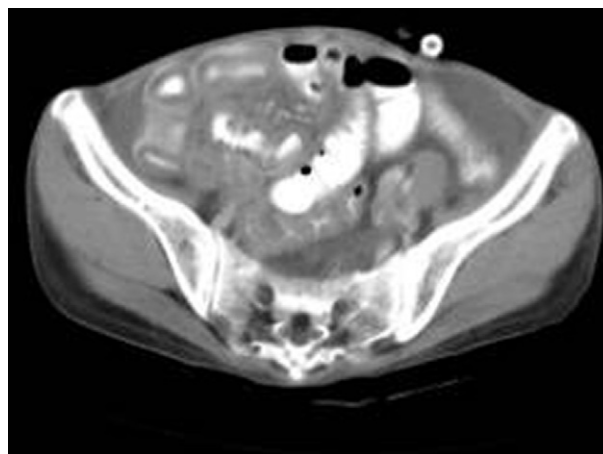
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lupus enteritis or mesenteric vasculitis ranged from 0.2% to 53%<sup>1,3</sup> and was correlated with a mortality rate as high as 53% if complicated with hemorrhage, ulceration, infarction, or perforation, or if treatment or diagnosis is delayed.<sup>4</sup> Lupus patients may present with recurrent mesenteric vasculopathy producing repeated episodes, with each exacerbation similar in character and quality.<sup>2</sup> Some of these episodes were accompanied with significant hypocomplementemia.<sup>5</sup> Table 1 summarizes the related literatures, which focus on recurrent lupus enteritis. Here, we describe a previously unreported condition of severe, recurrent lupus enteritis accompanied with severe hypocomplementemia as the initial and only presentation of SLE.

## Case report

A 49-year-old healthy woman was admitted to our GI ward because of nausea, vomiting, and mild right upper quadrant pain and fullness sensation with poor intake for 1 week. Physical examination only revealed mild tenderness in the right upper quadrant without muscle guarding or rebounding pain. Laboratory examination revealed the following: white blood cell: 7,130/cumm; seg/lym: 76.8%/16.8%; hemoglobin: 11.4 mg/dL; hematocrit: 34.2%; platelet count: 257,000/cumm. Erythrocyte sedimentation rate was 47 mm/hr. Biochemistry results were as follows: aspartate aminotransferase: 21 U/L; alanine aminotransferase: 5 U/L; alkaline phosphatase: 123 U/L; C-reactive protein: 0.2 mg/dL; blood urea nitrogen/creatinine: 20/0.7 mg/dL; serum sodium level: 134 meq/L; potassium level: 4.1 meq/L. Upper GI endoscopy examination revealed hyperemia in the antrum with distended stomach, but no ulceration or other abnormalities were found. Colonoscopy revealed colitis throughout the colon, without ulceration or diverticulum. Urinalysis revealed no abnormalities. Abdominal sonography revealed negative findings except for moderate ascites. Computed tomography (CT) examination revealed intestinal wall swelling of the small and large bowel and rectum with massive ascites (Fig. 1). Ischemic enteritis was suspected initially, and the patient's symptoms improved gradually after no oral alimentation with bowel rest only. She was discharged with no abdominal discomfort after oral intake on hospital day 11 without any surgical intervention. After excluding other causes of ischemic enteritis, the patient's autoimmune profile was checked 1 day before discharge because of suspicion of lupus enteritis based on CT image findings. Laboratory data



**Figure 1.** Systemic lupus erythematosus with mesenteric vasculitis in a 49-year-old woman. Oral contrast material axial computed tomography scan at a lower level shows diffuse circumferential bowel wall thickening in the small intestine and rectosigmoid colon and massive ascites.

revealed a low serum complement level (C3/C4: 48.2/7.9 mg/dL, normal range: 90–180/10–40 mg/dL), positive antinuclear antibody (homogenous: 1:80, speckle pattern: 1:320), and anti-ds-DNA antibodies: 1:10 $\times$  (immunofluorescence assay) 1 day after discharge. Lupus enteritis was diagnosed and prednisolone treatment with an initial dosage of 30 mg/day was prescribed 2 weeks later at the outpatient department although no abdominal symptoms were mentioned. The prednisolone dosage was tapered to 20 mg/day 1 week later and finally to 5 mg/day the next week (about 2 months after discharge). However, because of poor drug compliance, the patient was readmitted to our ward 4 months after discharge with progressive abdominal pain, nausea, vomiting just after intake, and total intestinal obstruction with no stool passage for 1 week. Physical examination revealed abdominal fullness with whole abdominal tenderness, but no obvious rebounding pain or muscle guarding was noted. Laboratory analyses revealed white blood cell: 27,170/cumm; seg/lym: 88%/5%; band forms 3%; hemoglobin: 17.2 g/dL; hematocrit: 49.6%; platelet count: 426,000/cumm; and C-reactive protein: 0.8 mg/dL. Prothrombin time and activated partial thromboplastin time were within normal range. Biochemistry analyses revealed blood urea nitrogen/creatinine: 29/2.4 mg/dL; aspartate aminotransferase/alanine aminotransferase: 110/60 U/L; alkaline phosphate: 388 U/L;

**Table 1** Summary of the related literature regarding recurrent lupus enteritis

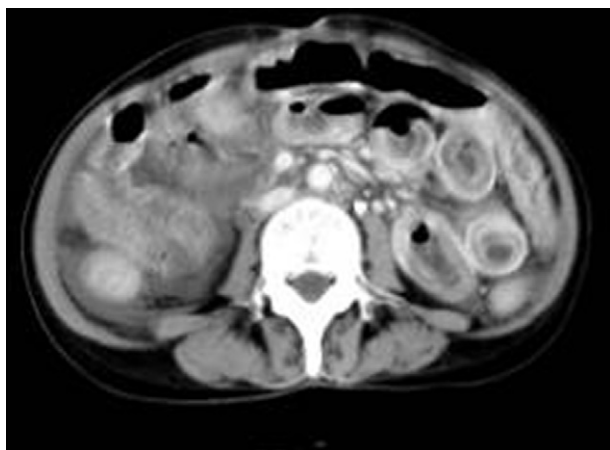
Author(s)	Findings related to researches
Lian et al. <sup>2</sup>	Patients treated with cyclophosphamide had less recurrent GI disease.
Kishimoto et al. <sup>5</sup>	Patients with recurrent lupus enterocolitis manifest as reversible intestinal wall edema accompanied by significant hypocomplementemia. The institution of mycophenolate mofetil was associated with a cessation of the flares in one patient.
Kwok et al. <sup>8</sup>	SLE patients with preexisting APS had a tendency to recur more frequently.
Kim et al. <sup>9</sup>	In patients with nonrecurrent lupus enteritis, the cumulative dose of prednisolone and duration of treatment with prednisolone was significantly higher than in patients with recurrent lupus enteritis.

APS = antiphospholipid syndrome; GI = gastrointestinal; SLE = systemic lupus erythematosus.

total bilirubin: 0.6 mg/dL; sodium/potassium: 135/4.3 meq/L; amylase/lipase: 57/50 U/L. Venereal Disease Research Laboratory test was negative. Urinalysis revealed negative findings. Abdominal sonography revealed a great deal of ascites, with dilated intestine without peristalsis. CT scan revealed diffuse intestinal wall swelling of the small and large bowel and the rectum with fluid accumulation in the distal esophagus, stomach, and small and large intestinal lumen accompanied with massive ascites (Fig. 2). A low complement level was noted again, with C3/C4: 37.6/11.7 mg/dL without any other symptoms of lupus erythematosus. The autoimmune profile was positive for anti-ds-DNA antibodies and classical antineutrophil cytoplasmic antibodies (c-ANCA) but negative for anti-smooth muscle antibody, anti-cardiolipin antibodies, anti-mitochondrial antibodies, anti-smooth muscle antibodies, and perinuclear ANCA. Severe dehydration complicated with hypovolemic shock and acute renal failure developed within 8 hours after admission; intravenous methylprednisolone (MTP) 40 mg Q12H was given initially but with a poor response. Because of acute renal failure with oliguria, emergent hemodialysis was performed, and MTP was tapered to 40 mg QD because of an unstable condition and suspected sepsis. Her general condition improved a little after intravenous administration of metronidazole and ceftriaxone, but total intestinal obstruction without any stool passage persisted and was later complicated with obstructive jaundice, which was highly suspected because of obstruction of ampulla of Vater caused by severe duodenal wall swelling and edema. Because of a poor response to steroid therapy, high-dose MTP pulse therapy was begun at 500 mg/day for 3 consecutive days 10 days after readmission. She died of sepsis 3 days after starting MTP pulse therapy.

## Discussion

Correctly evaluating and treating lupus patients with GI symptoms is challenging, and it is even more difficult to promptly diagnose and treat middle-aged women



**Figure 2.** Axial computed tomography scan obtained after administration of intravenous and oral contrast material show the dilated, fluid-filled small bowel loops with ascites.

presenting only with GI symptoms and without a history of SLE or its correlated symptoms. Zizic et al.<sup>4</sup> reported that in patients with SLE, abdominal vascular syndromes are highly correlated with the presence of peripheral vasculitis, central or peripheral nervous system involvement, thrombocytopenia, and circulating rheumatoid factor. Lian et al.<sup>2</sup> reported that lupus enteritis occurs when patients have laboratory markers of active disease and a raised SLE disease activity index (SLEDAI) score. Buck et al.<sup>6</sup> reported that only those patients with a SLEDAI score of more than eight developed vasculitis and suggested the routine use of CT to diagnose vasculitis only in patients with a SLEDAI score more than eight and subacute abdominal pain. Medina et al.<sup>3</sup> reported that a SLEDAI score below 5 was a strong indicator that the abdominal complication was not because of SLE. However, Lee et al.<sup>7</sup> demonstrated that the SLEDAI score was similar at the time of acute abdominal pain in both patients with mesenteric vasculitis and those with other causes of acute abdominal pain. They also showed that the SLEDAI score calculated at the time of acute abdominal pain was lower than that at diagnosis of SLE in patients with mesenteric vasculitis. Because GI symptoms are not weighted in the SLEDAI score, and hypocomplementemia was found in most reported cases<sup>1,2,4,5,7-10</sup> and in our patient, the serum C3/C4 level rather than the SLEDAI score may be able to predict whether the GI symptoms in lupus patients are related to SLE itself or other nonlupus causes.

Lupus enteritis may be recurrent, and the jejunum and the ileum are the most common sites of GI involvement.<sup>8,11</sup> The recurrence rate of lupus enteritis is correlated with a lower cumulative dosage of prednisolone and a shorter duration of treatment.<sup>9</sup> Although necrosis and perforation have been considered possible end results of lupus enteritis, suggesting the need for early surgical intervention to improve outcome,<sup>3,4</sup> the finding that early medical management, such as steroid pulse therapy, had a good response in severe cases<sup>10</sup> and that cyclophosphamide pulse therapy may be effective if high-dose steroid treatment failures have indicated that early medical therapy may be effective.<sup>12</sup> In steroid-resistant recurrent cases, oral mycophenolate mofetil may be another choice.<sup>5</sup> Our patient's death was related to poor drug compliance and delay in seeking treatment; and in addition to severe dehydration, her acute renal failure may be related to the presence of c-ANCA, which correlated to the crescentic lupus nephritis. Surgery was not considered because of diffuse alimentary tract involvement from esophagus to the colon and her critical condition. Because sepsis developed after starting high-MTP pulse therapy, cyclophosphamide treatment could not be given. Early cyclophosphamide treatment thus might have prevented the death of this patient.

Byun et al.<sup>11</sup> suggested that ischemic bowel disease because of vasculitis should be highly suspected if at least three of the following signs are noted on the abdominal CT scan of a lupus patient with acute abdominal pain: bowel wall thickening, target sign, dilatation of intestinal segments, engorgement of mesenteric vessels, and increased attenuation of mesenteric fat. Although our patient's presentation only fulfilled three items of the revised diagnostic criteria for the classification of SLE

(positive of antinuclear antibody, anti-ds-DNA antibodies, and lymphopenia), her CT findings, laboratory data, including c-ANCA(+) and low C3/C4, and improved condition with oral steroid treatment at the outpatient department indicate that the differential diagnosis could only be focused on lupus enteritis (lupus vasculitis or lupus serositis). The pathologic changes of lupus enteritis caused by vasculitis are seen in small vessels in the bowel wall rather than in the medium-sized muscular arteries of the mesentery; thus, angiography and CT scan are usually not helpful in the diagnosis.<sup>4</sup> In our patient, although no mesenteric vessel engorgement was found in the CT scan and no pathology tissue sample was available, no clinical symptoms related to c-ANCA(+) vasculitis (Churg-Strauss vasculitis, Wegener's granulomatosis, and microscopic polyangiitis) were found, and no other clinical manifestations of vasculitis that were not related to SLE (polyarteritis nodosa, giant cell arteritis, Takayasu's arteritis, Buerger's disease, and Henoch-Schonlein purpura) were identified. Therefore, the diffuse small artery vasculitis in the alimentary track or the diffuse intestinal serositis related to SLE may have been the cause of this complication.

In conclusion, recurrent lupus enteritis may be the initial and only presentation of SLE; early diagnosis and treatment with high-dose steroid or even pulse cyclophosphamide infusion may lead to a good response. SLE should be suspected in any patient with CT findings of enteral vasculitis or ischemic enteritis, even without lupus-related symptoms or signs, and C3/C4 levels maybe helpful in the differential diagnosis. If symptoms do not improve after medical treatment, or necrosis and perforation of the intestines are highly suspected, surgical intervention should be considered.

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