



Recurrent bowel infarction in a patient with systemic lupus erythematosus

Sarah White and Arend Merrie

Bowel infarction is an unusual but important surgical complication of systemic lupus erythematosus (SLE). Almost half of SLE patients experience abdominal pain,¹ but only 5% develop gastrointestinal vasculitis.² Acute abdominal pain in SLE is more often due to surgical than rheumatological pathology, and mortality is high.^{3,4} We present a patient with mesenteric vasculitis and recurrent bowel infarction, with past history suggesting the same process in other organs. This case reiterates the importance of considering vasculitis and supports the use of diagnostic laparoscopy.

Case report

A 32-year-old woman with a five-year history of SLE, on prednisone, presented with a one-week history of abdominal and joint pain associated with loose bowel motions, nausea and vomiting. Initially central and colicky, on presentation the pain was right-sided and constant.

The patient had recently undergone acute laparoscopic cholecystectomy for acalculus cholecystitis with gangrenous gall bladder. Pre-operative CT had revealed an old splenic infarct. She had suffered a deep vein thrombosis three years earlier, but continued to smoke.

On examination, the patient was febrile (38.2 °C) with guarding in the right iliac fossa and percussion tenderness. PR exam confirmed pain in the right adnexa. White count was 17×10^9 , neutrophils 16×10^9 . Abdominal X-ray showed a few central air-fluid levels.

With a provisional diagnosis of acute appendicitis she proceeded to theatre for diagnostic laparoscopy, where a necrotic caecum was found. Laparotomy was performed with ileocolic resection and primary anastomosis. Histology revealed multiple mesenteric thrombosis.

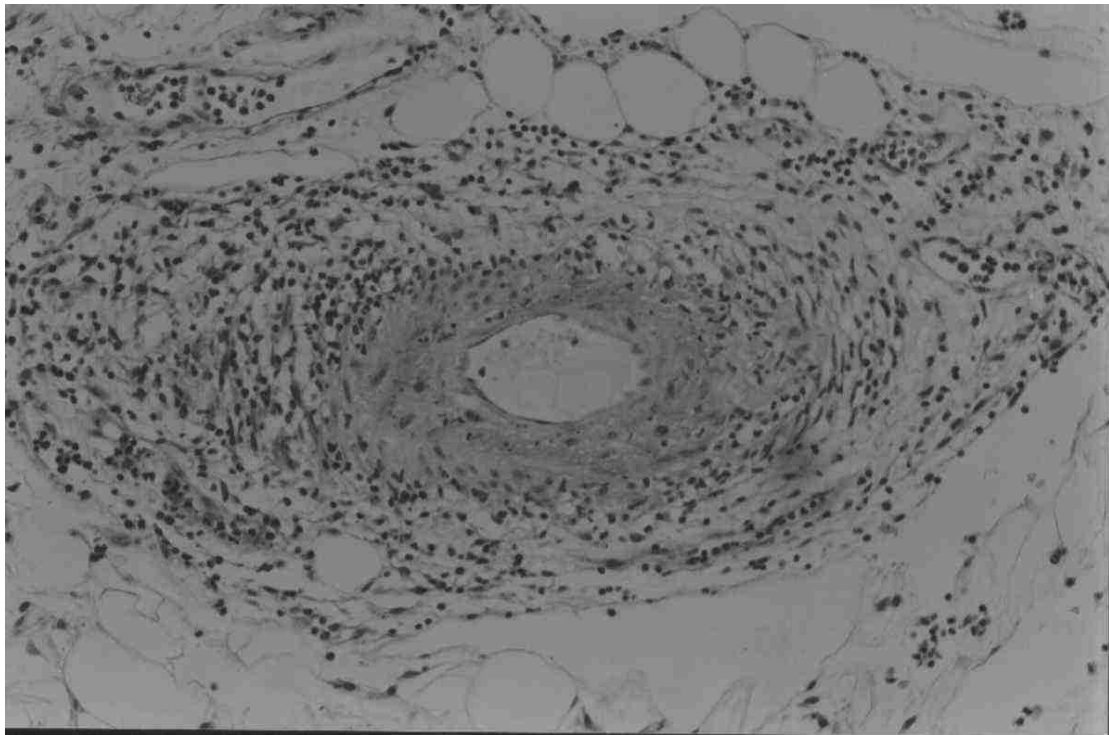
On Day 4 post-operation the patient had abdominal pain and generalised peritonism. Repeat laparotomy revealed multiple ileal infarcts and anastomotic breakdown. The diseased ileum was resected and the patient commenced on heparin. Echocardiography excluded an embolus of cardiac origin.

A planned re-look laparotomy on Day 5 found all remaining bowel healthy. End ileostomy and mucus fistula were formed. Anti-nuclear antibodies and anti-dsDNA were elevated. Histology showed vasculitis (Figure 1) and the patient was commenced on warfarin.

Day 6 post-operation she had a recurrence of abdominal pain. Mesenteric angiography revealed a 50% narrowing in the superior mesenteric artery, with lesser narrowing in distal branches.

After three weeks of bowel rest with total parenteral nutrition and high-dose immunosuppressives, the patient was discharged on Day 36. She remains well, awaiting the reversal of her ileostomy once medical therapy is completed.

Figure 1. Vasculitis involving small mesenteric artery. Fibrinoid necrosis of artery wall, with neutrophils and nuclear debris in wall, surrounded by acute and chronic inflammation.



Discussion

Beware the SLE patient with acute abdominal pain. Most will have surgical pathology. Steroid therapy can cloud the clinical picture, and anti-nuclear antibody titres are positive in only half of presentations.¹ Mortality from surgical pathology in those with SLE ranges from 38% to 53%.^{3,4}

Several studies have assessed and recommended CT images to help diagnose mesenteric vasculitis and ischaemia in these patients.⁶⁻⁸ Characteristic findings include dilated lumen, thickened bowel wall, engorged mesenteric vessels, mesenteric vessel thrombus, and intramural or venous gas. Increased attenuation of mesenteric fat and the target sign of bowel-wall oedema are also indicative. Three of these findings support the diagnosis of ischaemia.⁷

Unstable patients for whom a delay for CT is inappropriate would traditionally have proceeded to emergency laparotomy. This has been associated with improved survival in several studies.^{4,9,10} More recent evidence supports consideration of diagnostic laparoscopy in such patients.⁵ Laparoscopy allows minimally invasive assessment of the acute abdomen with the opportunity to proceed to laparotomy through the most

appropriate incision. Avoiding a larger wound in this manner gives a patient the best chance of a timely, uncomplicated recovery.

In summary, patients with SLE and abdominal pain should be assessed with a high suspicion of surgical pathology. The threshold for operative intervention should be low. In the stable patient, CT scanning is useful to confirm a diagnosis of mesenteric vasculitis with or without ischaemia. Patients requiring urgent surgery should be considered for diagnostic laparoscopy prior to laparotomy.

Author information: Sarah J White, Surgical Registrar; Arend Merrie, Surgical Registrar, Department of General Surgery, North Shore Hospital, Takapuna, Auckland

Correspondence: Dr Sarah J White, Department of General Surgery, Hutt Hospital, Private Bag 31-907, Lower Hutt. Fax: (04) 570 9273; email: sarahjwhite@hotmail.com

References:

1. al-Hakeem MS, McMillen MA. Evaluation of abdominal pain in systemic lupus erythematosus. *Am J Surg* 1998;176:291-4.
2. Hahn BH. Systemic lupus erythematosus. In: Braunwald E, Fauci AS, Kasper DL, et al, editors. *Harrison's principles of internal medicine*. 15th ed. New York: McGraw Hill; 2001. p. 1924-5
3. Zizic TM, Classen JN, Stevens MB. Acute abdominal complications of systemic lupus erythematosus and polyarteritis nodosa. *Am J Med* 1982;73:525-31.
4. Medina F, Ayala A, Jara LJ, et al. Acute abdomen in systemic lupus erythematosus: the importance of early laparotomy. *Am J Med* 1997;103:100-5.
5. Gobbi S, Sarli L, Violi V, Roncoroni L. Laparoscopically assisted treatment of acute abdomen in systemic lupus erythematosus. *Surg Endosc* 2000;14:1085-6.
6. Ko SF, Lee TY, Cheng TT, et al. CT findings at lupus mesenteric vasculitis. *Acta Radiol* 1997;38:115-20.
7. Byun JY, Ha HK, Yu SY, et al. CT features of systemic lupus erythematosus in patients with acute abdominal pain: emphasis on ischaemic bowel disease. *Radiology* 1999;211:203-9.
8. Kirshy DM, Gordon DH, Atweh NA. Abdominal computed tomography in lupus mesenteric arteritis. *Comput Med Imaging Graph* 1991;15:369-72.
9. Hallegua DS, Wallace DJ. Gastrointestinal manifestations of systemic lupus erythematosus. *Curr Opin Rheumatol* 2000;12:379-85.
10. Sultan SM, Ioannou Y, Isenberg DA. A review of gastrointestinal manifestations of systemic lupus erythematosus. *Rheumatology (Oxford)* 1999;38:917-32.