CASE REPORT

Leukocytoclastic vasculitis associated with perforated diverticular disease

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SUMMARY

Leukocytoclastic vasculitis (LV) is a small vessel vasculitis associated with infections, connective tissue disease, malignancies and, rarely, gastrointestinal conditions. An association between LV and acute diverticulitis has not previously been reported. LV may be localised to the skin as a purpuric rash or might manifest with systemic involvement, such as of the joints, gastrointestinal tract or kidneys. Management of LV can be medical or surgical, based on the degree of systemic involvement. We present the case of a 56-year-old man with a 2-year history of a purpuric rash associated with diarrhoea, who presented acutely with abdominal pain. Imaging studies revealed sigmoid diverticulitis with a pericolic collection. Operative findings were purulent peritonitis secondary to perforated diverticular abscess, which was treated with a Hartmann's procedure. Postoperatively, the purpuric rash resolved rapidly on treatment with antibiotics and steroids. Histopathology of the resected bowel and skin punch biopsy confirmed sigmoid diverticulitis and LV, respectively.

BACKGROUND

Leukocytoclastic vasculitis (LV) is, rarely, associated with gastrointestinal conditions, of which inflammatory bowel disease (IBD), bowel bypass syndrome and ischaemic colitis have been previously described. There has been no reported association between LV and acute diverticulitis. In this case, the histopathology of the surgical specimen confirmed sigmoid diverticulitis with no evidence of IBD or malignancy.

CASE PRESENTATION

A 56-year-old man was admitted with a 3-day history of abdominal pain, diarrhoea, fever and cutaneous lesions involving the arms, trunk and legs. He had a 2-year history of relapsing and remitting cutaneous lesions associated with spontaneous episodes of diarrhoea and intermittent joint pains. He had not been previously investigated, as symptoms had never been as serious as the current presentation. He had no significant medical history, apart from an asymptomatic hiatus hernia and a penicillin allergy. He drank alcohol occasionally and did not smoke.

Physical examination revealed a fever of 38.2°C, conjunctival injection and a non-tender purpuric rash on arms, trunk and legs (figure 1). His abdomen exhibited generalised tenderness on deep palpation but was not peritonitic. Bowel sounds were present and digital rectal examination revealed no abnormalities.

INVESTIGATIONS

Significant abnormal laboratory investigations were: C reactive protein of 138.7 mg/dL, urea (16.6 mmol/L), creatinine (175 mmol/L), mildly elevated IgA levels, and decreased C3 and C4 levels. Urinalysis was normal. Stool samples were negative for *Clostridium difficile* toxin, and they grew no pathogenic organisms. A chest X-ray revealed gas under the diaphragm, subsequent CT scan demonstrated sigmoid diverticulitis with a pericolic collection surrounding a localised perforation.

TREATMENT

Owing to the paucity of abdominal signs, the patient was initially managed conservatively with intravenous fluids and antibiotics (ciprofloxacin and metronidazole). Because of worsening abdominal pain, he underwent a laparotomy. During the operation, purulent peritonitis secondary to a perforated diverticular abscess was found and treated with a Hartmann's procedure.

OUTCOME AND FOLLOW-UP

Postoperatively, the patient was treated with intravenous ciprofloxacin, metronidazole and intravenous hydrocortisone 100 mg 8 hourly, as recommended by the multidisciplinary team, due

Figure 1 Preoperative.

CrossMark

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Figure 2 Postoperative day 5.

to the severe cutaneous involvement. The purpuric rashes gradually resolved (figures 2 and 3). The dose of steroids was subsequently reduced and stopped prior to discharge on the ninth postoperative day. Histopathology of the resected sigmoid colon confirmed the perforated diverticulitis, with no evidence of IBD or malignancy seen, and histology of the skin punch biopsy taken preoperatively revealed vasculitis consistent with LV.

A review 6 weeks postoperatively established that the cutaneous lesions had not returned and an absence of systemic symptoms was noted.

DISCUSSION

LV is a pathological condition initially defined as a vasculitis of small vessels after drug intake.¹ Subsequently, it has been associated with infections such as hepatitis C, connective tissue diseases (rheumatoid arthritis) and malignancies (lymphoproliferative disorders). Approximately half of the cases are idiopathic.² Rarely, LV may be associated with IBD or other gastrointestinal conditions, and bowel bypass syndrome and ischaemic colitis.^{1 3} It usually results from deposition of immune complexes at the vessel wall.⁴ It is characterised histopathologically by neutrophil infiltration and nuclear debris of inflamed postcapillary venules with endothelial enlargement and fibrinoid necrosis.⁵

LV may be localised to the skin or may be associated with systemic involvement, often manifesting in the joints, gastrointestinal tract or kidneys.² Our patient had reported intermittent episodes of diarrhoea and generalised joint pain over the 2-year period, in addition to the acute episode at presentation. Management of LV is based on the degree of systemic involvement and is usually aimed at treating the underlying cause.^{1 6} A multidisciplinary approach involving different specialty disciplines may be indicated, depending on the presentation.¹ In this case, the rheumatologist, dermatologist, gastroenterologist and a

Figure 3 Postoperative day 9.

colorectal surgeon were all involved, as the patient needed a combined medical/surgical approach to management. Removal of the causative agent usually leads to resolution of symptoms within days or weeks. In these cases, only symptomatic treatment and best rest is recommended.¹ Oral/parenteral steroids in addition to other immunosuppressive agents are recommended for those who have long-standing skin manifestations, severe cutaneous involvement and/or systemic disease.^{1 2} Surgical care is indicated when a tumour is identified as a cause or, in the case of IBD, if a recalcitrant intestinal ulceration persists after control of the active disease.²

There is no documented association between LV and acute diverticulitis. We believe that sepsis secondary to a diverticular abscess was responsible for the exacerbation of LV because none of the recognised aetiological factors were apparent and the rash rapidly resolved in the postoperative period.

Learning points

- ▶ Leukocytoclastic vasculitis, a condition with many aetiological factors, needs a high index of suspicion for diagnosis and subsequent management.
- ▶ Common associations such as infections, medications (β -lactam antibiotics) and malignancies should be ruled out before consideration of other rarer causes.
- ▶ Management is multidisciplinary and can be medical (steroids) and/or surgical, depending on level of systemic involvement.

Competing interests None declared.

Patient consent Obtained.

Provenance and peer review Not commissioned; externally peer reviewed.

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