

# Cutaneous Vasculitis — A Case for Laparotomy?

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**ABSTRACT.** The diagnosis of gut vasculitis infers a poor prognosis necessitating aggressive therapy. We describe a case with predominant features of a skin-limited vasculitis but atypical debilitating abdominal symptoms. Although endoscopic biopsies were unremarkable, full thickness biopsy taken at laparotomy revealed a necrotizing vasculitis. After treatment with cyclophosphamide, the previously resistant abdominal symptoms resolved. This case illustrates the need to tailor treatment to disease severity, rather than determine it by the type of vasculitis with which the patient has been labelled. In view of the importance of gastrointestinal involvement to therapy decisions, laparotomy may be necessary to establish the presence of vasculitis. (*J Rheumatol* 2003;30:1621–3)

*Key Indexing Terms:*

VASCULITIS

PURPURA

DIAGNOSIS

LAPAROTOMY

Vasculitis is characterized by the presence of inflammation and necrosis of blood vessels. It is broadly classified according to the size of the vessels involved and the presence or absence of granulomas. Further categorization relies on both the nature of the inflammatory cells involved and the detection of various autoantibodies, but these are not always 100% sensitive and specific. A wide spectrum of disease may be seen overlapping several subsets of vasculitis and it may be difficult to make a precise clinical diagnosis. The extent of disease, however, is the more important factor in determining therapy, irrespective of the particular label given to the disease.

Identifying gut vasculitis can be difficult and is not excluded by negative histology on endoscopic specimens, as affected vessels are rarely sampled by this route. Gastrointestinal (GI) involvement may feature in several of the vasculitides (including Henoch-Schonlein purpura<sup>1</sup>, polyarteritis nodosa<sup>2</sup>, Wegener's granulomatosis<sup>3</sup>, and rheumatoid arthritis<sup>4</sup>). We describe a case of cutaneous vasculitis complicated by unexplained GI symptoms but not associated with typical symptoms of systemic vasculitis, which proved a diagnostic challenge.

## CASE REPORT

A 58-year-old Caucasian woman was in good health until 1996, when she presented to her general practitioner with a florid maculopapular purpuric rash (Figure 1). This initially affected her lower limbs, but later progressed

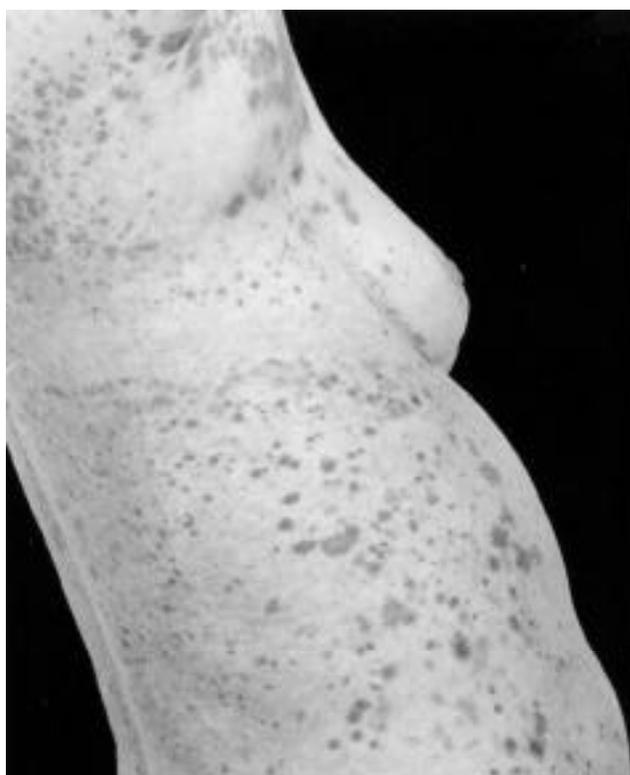


Figure 1. Purpuric rash extending from the arms onto the trunk.

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*Submitted August 23, 2002; revision accepted November 28, 2002.*

onto arms and trunk. She was otherwise well until March 2000, when she presented to her local hospital with abdominal pain, vomiting, and diarrhea. Investigations were nonspecific, in that she had a mild normochromic normocytic anemia of 9.2 g/dl, leukocytosis of  $19 \times 10^9/l$ , thrombocytosis of  $429 \times 10^9/l$ , and elevated C-reactive protein (79 mg/l). Rheumatoid factor was positive (sheep cell agglutination test 1:160), but antinuclear antibodies, antinuclear cytoplasmic antibodies, and cardiolipin antibody and complement concentrations were normal. Endoscopic biopsies from the colon and terminal ileum revealed a neutrophilic infiltration but no evidence of vasculitis. Systemic steroids were started, with a limited response in terms of both resolution of the abdominal pain and normalization of her inflammatory markers.

The rash became increasingly florid and confluent, despite prednisolone 10 mg, so she was transferred to our care. The clinical picture suggested a skin-limited vasculitis, which was supported by the laboratory tests. Skin biopsy in August 2000 showed a nonspecific leukocytoclastic vasculitis, with weak C3 and IgA deposition in the vessels of the papillary dermis. The absence of proteinuria or hematuria excluded significant renal involvement. Further markers of systemic disease that were negative or normal included C1 esterase inhibitor levels, cryoglobulins, immunoglobulins and serum electrophoresis profile, reticulocyte count von Willebrand factor, and hepatitis B and C serology.

Over the course of the following year she had 8 further episodes of acute abdominal pain and vomiting. Typically, her symptoms resolved completely within 12 to 24 h. Between attacks, she remained well and denied symptoms of systemic disease: of note, she had no weight loss, night sweats, fever, or malaise, giving her a Birmingham Vasculitis Activity Score of 1 for vasculitis disease activity<sup>5</sup>.

During acute attacks she had mesenteric angiography and labelled white cell scanning, which were within normal limits, although computer tomography (CT) of her abdomen on one occasion revealed gross edema and dilation of the small bowel (Figure 2). Small bowel enteroscopy was normal, and 6 further biopsies taken during this procedure were unremarkable.

After 5 more episodes of severe abdominal pain and vomiting in a 6 week period, the decision was made to proceed to laparotomy. At operation the serosal surface of the small bowel was covered with a florid "rash" similar to that present on the skin. Full thickness small bowel biopsy showed necrotizing vasculitis of the small vessels in the serosa (Figure 3). Immunohistochemical staining revealed positivity for C9 plus IgG, IgA, and IgM. Strongest staining was seen with IgA. The changes seen were similar to those found on cutaneous biopsy.

With histological evidence for systemic vasculitis, the patient was treated with pulsed chemotherapy of cyclophosphamide 15 mg/kg and methylprednisolone 10 mg/kg. This was given according to our standard regime in which the first 3 pulses are given intravenously at 2 weekly intervals. Subsequent pulses are given orally and at increased time intervals — 3 pulses at 3 weekly intervals followed by monthly pulses up to a total of 6 months' therapy<sup>6</sup>. Remission was achieved after the second pulse, and she has had no further episodes of abdominal symptoms in the 12 months since.

## DISCUSSION

This case illustrates the difficulties that can arise in diagnosing and treating systemic vasculitis. When determining treatment, it is more important to define the extent of disease

than to fit the condition to a recognized classification and treat prescriptively. We should therefore move away from blind treatment of a label to informed management of individual cases by a progressive care regime<sup>6-8</sup>. Adjusting therapy to disease extent has long been advocated in Wegener's<sup>9</sup>, where the presence of renal disease indicates more aggressive therapy. This concept has been carried into other systemic vasculitides by the French group in particular, who have found that a simple Five Factor Score (FFS) can be used to make decisions on the prognosis and thus the therapy indicated for an individual case<sup>10</sup>. Severe gut involvement is one of the 5 factors carrying a bad prognosis. The presence of gut vasculitis in our case would have established an FFS of 1, indicating the need for more aggressive immunotherapy. The clinical response to such therapy confirmed the value of the FFS approach.

The most plausible diagnosis in this clinical case is Henoch-Schonlein purpura (HSP). This multisystem disorder predominantly affects children. It has been reported infrequently in adults of all ages, where the outlook is relatively poor, particularly if there is renal involvement<sup>1</sup>. HSP usually affects the skin, joints, GI tract, and kidneys. It typically causes acute episodes that resolve spontaneously, and aggressive immunosuppression is not generally advocated.

Aggressive treatment in HSP has centered on the renal disease, which in general is responsible for any longterm morbidity or mortality, and many different immunosuppressive regimes have been tried. In contrast, the abdominal symptoms and vomiting are invariably self-limiting within 24 h, although a retrospective analysis suggested that resolution is hastened by steroids<sup>11</sup>. More potent immunosuppression is not usually indicated for abdominal involvement in the absence of renal disease.

In our clinical case, the issue central to diagnosis and effective treatment was whether the GI symptoms were independent of the long-standing skin lesions, as the history suggested. Neither abdominal CT nor specific investigation

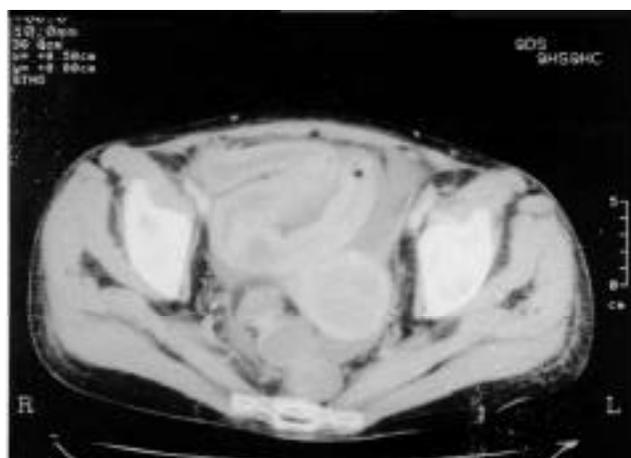
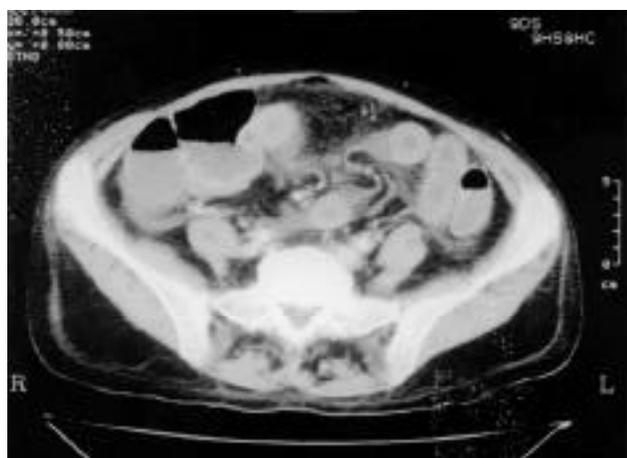


Figure 2. CT images showing thickened small bowel wall during episode of abdominal pain.



Figure 3. Fibrinoid necrosis and inflammatory cell infiltration in serosal vessels (H&E, original magnification  $\times 200$ ).

for vasculitis by selective mesenteric angiography provided the answer. This was only demonstrable at laparotomy since it particularly affected the serosal surface. The establishment of inflammatory vasculitis in the gut wall drove the decision to employ powerful immunosuppression. Cyclophosphamide is not usually employed for HSP without renal involvement, which is seen largely as a skin disease and is commonly self-limiting. In this unusual relapsing case it was clearly both needed and clinically effective.

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