

Palpable purpura, polyarthritis and abdominal pain

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We report a patient who presented with a purpuric rash and polyarthritis, but IgA deposits were not found in the skin. Abdominal pain and renal disease first emerged 1 and 2 weeks, respectively, after presentation, to reveal the classic tetrad of Henoch–Schönlein purpura. Our patient emphasises the need for careful follow-up in patients with cutaneous vasculitis, as they may develop systemic manifestations, of which renal involvement, particularly, may be asymptomatic. (MJA 2004; 180: 121-122)

HENOCH–SCHÖNLEIN PURPURA (HSP) is the most common vasculitis in children, but is uncommon in adults. It is characterised by a tetrad of purpuric rash, arthritis, gastrointestinal involvement and nephritis. The hallmark of the disease is IgA deposition in small vessels of the skin and kidney. The disease is often preceded by an upper respiratory tract infection, but drugs have also been implicated in the pathogenesis.

Clinical record

A 46-year-old previously healthy man developed upper respiratory tract symptoms (rhinitis and postnasal drip) and, on the second day, took one dose of naproxen to alleviate his symptoms. Later that evening he developed a rash over both his legs that gradually spread to his arms and trunk. Over the next 2 days, he experienced marked swelling of multiple joints, including both ankles, wrists, knees and elbows.

Physical examination revealed an erythematous, palpable purpuric rash all over the body, most pronounced on the legs. This was accompanied by swelling, warmth and redness of the joints mentioned above. In the emergency room, he was given 60 mg of prednisone for 2 days. There was no improvement in the patient's condition and he was admitted for investigations.

Laboratory tests revealed a normal total leukocyte count, haematocrit and platelet count. The erythrocyte sedimentation rate was 11 mm in the first hour. All metabolic parameters were within normal limits. Urinalysis did not show an active sediment or proteinuria. The results of tests for hepatitis B surface antigen, hepatitis B core antibody (IgM) and hepatitis C antibody were negative. Likewise, the results of tests for HIV, rapid plasma reagin (for syphilis), anti-nuclear antibody, anti-double-stranded DNA antibody, rheumatoid factor, cytoplasmic antineutrophil cytoplasmic antibody, perinuclear antineutrophil cytoplasmic antibody and antistreptolysin-O titre were all negative. Complement components C3 and C4 levels were 1.39 g/L (reference

range [RR], 0.88–2.01 g/L) and 0.46 g/L (RR, 0.16–0.47 g/L), respectively. Antibody test results for parvovirus, mycoplasma and coxsackievirus were also negative. There was no evidence of cryoglobulinaemia. A skin biopsy was consistent with leukocytoclastic vasculitis, but no IgA or immune complex deposits were found (Box, Figure A).

A week after the rash, the patient developed severe colicky abdominal pain, nausea, vomiting and features of subacute intestinal obstruction with melaena. An upper gastrointestinal endoscopy revealed severe erosive oesophagitis. An abdominal computed tomography scan revealed thickening of the bowel wall, with dilated loops suggestive of small-bowel obstruction. In view of the abdominal symptoms, mesenteric and renal angiograms were performed to rule out microscopic polyangiitis, which may rarely involve medium-sized arteries. The angiograms did not show any evidence of arteritis.

A provisional diagnosis of pauci-immune small-vessel vasculitis was made. Intravenous methylprednisolone was started at a dose of 125 mg twice a day. After 2 days of this therapy the patient developed haematuria and proteinuria (2 weeks after the onset of the initial rash). Urinalysis revealed a moderate amount of red cells, with proteinuria of 1.6 g/day. Blood urea nitrogen and serum creatinine levels remained normal.

Renal biopsy showed focal proliferative glomerulonephritis with segmental necrosis (Box, Figure B). Electron microscopy revealed dense immune complex deposits with IgA and fibrinogen deposition. The presence of a small vessel vasculitis with IgA deposition was consistent with HSP.

Intravenous methylprednisolone pulse therapy was started at 1 g/day for three consecutive days, followed by one dose of intravenous cyclophosphamide (1 g/m²). The patient's abdominal symptoms, arthritis and rash resolved. He was discharged home, taking oral prednisolone 80 mg/day and ramipril 5 mg/day. The dose of prednisolone was gradually tapered over 4 months to a small maintenance dose of 10 mg/day. The patient is being followed up, with regular urinalysis and renal function tests. His proteinuria has decreased to 0.17 g/day over 4 months.

Discussion

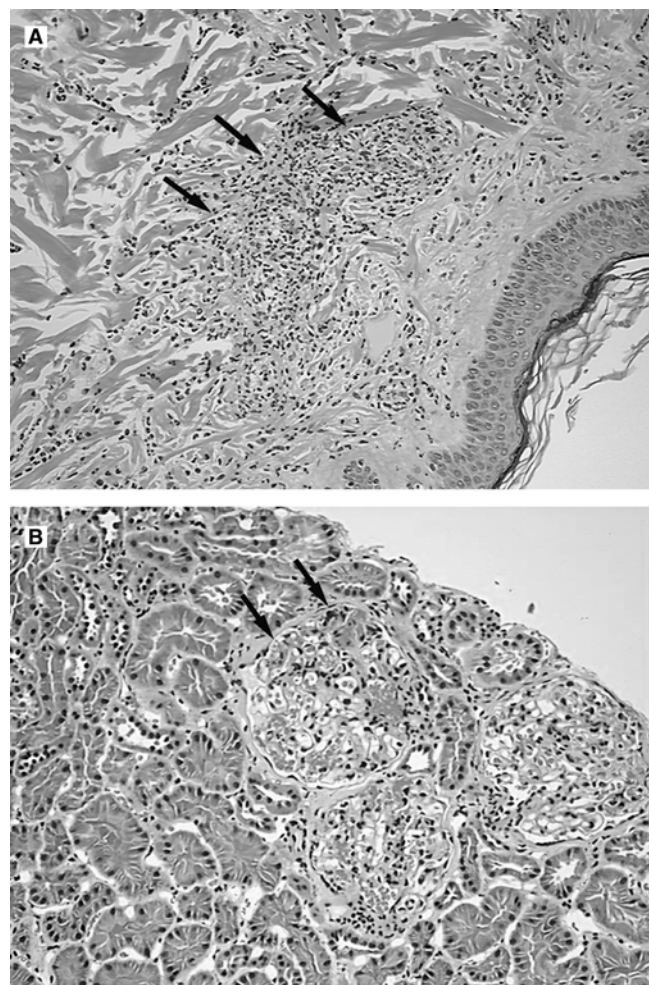
Our patient presented with a purpuric rash and polyarthritis, but IgA deposits were not found on skin biopsy. A review of the literature shows that skin biopsies in HSP can be negative for IgA in up to 25% of cases.¹ A rash followed by

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Microscopic examination of skin and renal biopsies



A: Skin biopsy showing leukocytoclastic vasculitis (arrows) (haematoxylin–eosin stain; original magnification 40).

B: Renal biopsy showing focal proliferative glomerulonephritis with segmental necrosis (arrows) (haematoxylin–eosin stain; original magnification 40).

polyarthritides occurs in up to 61% of adults with HSP.² Our patient went on to develop gastrointestinal involvement in the form of subacute intestinal obstruction. Obstruction, intussusception and perforation of the gastrointestinal tract are rare in HSP,³ although many patients have other gastrointestinal symptoms — colicky abdominal pain, nausea, vomiting, diarrhoea, haematemesis and melaena. The final component of the tetrad in our patient was renal involvement in the form of proteinuria. Our patient illustrates that HSP may be difficult to diagnose because the various components of the tetrad evolve over time.

There are a wide range of differential diagnoses in a patient with a rash accompanied by polyarthritides — including meningococcaemia, Lyme disease, streptococcal infection, gonorrhoea, syphilis, rheumatic fever, viral infections, allergic/hypersensitivity vasculitis and small vessel vasculitis.

IgA deposits on skin biopsy help to narrow the diagnosis in favour of HSP, but the absence of this finding does not rule out HSP. In our patient the crucial findings were gastrointestinal and renal involvement, with renal IgA deposition. Therefore, patients with a vasculitic rash and polyarthritides should be carefully followed up so that involvement of other organs can be detected early. In addition to vigilant monitoring of symptoms, regular urinalysis is invaluable. Kidney biopsy should be performed at the first indication of renal involvement.⁴

HSP nephritis of adults carries a high long-term risk of renal dysfunction.^{2,5} In the absence of randomised controlled trials testing the benefit of immunosuppressive treatment in adults with HSP, there is no consensus on this issue. Pillebout et al followed up 250 adults with HSP and concluded that age > 50 years, proteinuria > 1 g/day, macroscopic haematuria, glomerular sclerosis and glomerular necrosis were significant prognostic factors for eventual development of severe renal failure.² That study also stated that proteinuria of > 1 g/day and focal proliferative glomerulonephritis conferred respective relative risks of 2 and 9 for the eventual development of renal failure. By these parameters, our patient had a significant risk of developing severe renal failure. Moreover, he developed renal involvement while taking methylprednisolone; hence, we chose to treat him aggressively with immunosuppressive therapy.

A preceding upper respiratory tract infection is seen in up to a third of patients with HSP. Although an association with naproxen is less likely, it cannot be ruled out. Various drugs have been linked to the development of HSP,⁶ and naproxen has previously been reported to cause cutaneous vasculitis,⁷ renal damage⁷ and polyarthritides.⁸

Our case emphasises the need for careful follow-up in patients with cutaneous vasculitis with polyarthritides, and the need for a renal biopsy at the first sign of renal involvement. Finally, we raise the possible role of naproxen as a trigger in this disorder.

Competing interests

None identified.

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