# SHORT REPORTS

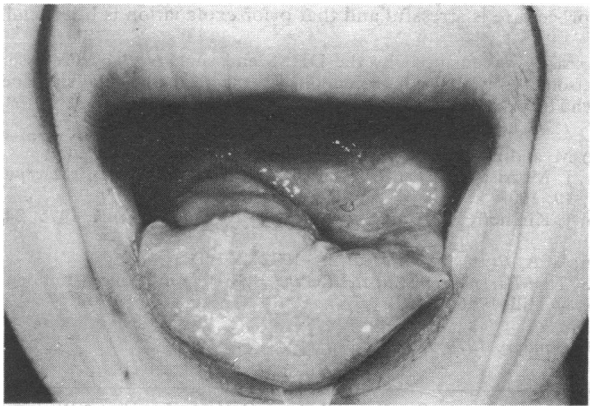
## Recurrent vasculitis associated with beta-haemolytic streptococcal infections

Many agents have been incriminated in producing polyarteritis nodosa and similar systemic vasculitic disorders, including the hepatitis B virus[1] and various drugs.[2 3] We report a case in which recurrent episodes of severe systemic vasculitis were associated with haemolytic streptococcal infections.

### Case report

In 1968, when aged 17 years, the patient developed a sore throat, which worsened over four weeks despite treatment with penicillin and tetracycline. On admission to hospital she was very ill, with fever, facial oedema, swollen tongue, tender muscles, and bilateral lateral popliteal nerve palsies. A few days later she developed polyarthritis and red papules on the hands and feet. Further treatment with tetracycline, ampicillin, and erythromycin was unhelpful. Investigations showed a white cell count of 23 $\times$ $10^9$/l (82% neutrophils, no eosinophils), ESR 77 mm in first hour, and ASO titre 230 (normal $<$ 200), and a throat swab cultured *Streptococcus pyogenes*. Histologically a skin biopsy specimen showed an intense arteritis. Hydrocortisone and azathioprine produced dramatic clinical improvement; after six months this was stopped and by 18 months her foot drop had resolved leaving her completely well.

She again acquired a severe sore throat in February 1977; despite treatment with erythromycin, and later tetracycline, she deteriorated and was readmitted with fever; facial oedema; gross swelling and ulceration of the tongue (see figure); painful muscles; a maculopapular rash over the buttocks;



Swelling and ulceration of tongue.

radial, median, and lateral popliteal nerve palsies; and necrosis of the soft palate. The white cell count was 33·6 $\times$ $10^9$/l (90% neutrophils, 1% eosinophils), ESR 103 mm in first hour, serum total complement 8 units (normal 30-45), C3 normal, immune complexes intermittently present, and antinuclear factor test negative; no proteinuria or haematuria; throat-swab culture negative but ASO titre above 1600; and chest *x*-ray film normal. A quadriceps biopsy specimen showed patchy necrosis histologically, and the tongue slough showed necrosis and an acute vasculitis. Prompt clinical improvement resulted from hydrocortisone and azathioprine, and over the next nine months progress continued with substantial resolution of the nerve palsies and some regeneration of the tongue, but 70 mg cortisone a day is still necessary to suppress the disease.

### Discussion

This patient has experienced two severe episodes of vasculitis. The clinical picture is atypical for classic polyarteritis nodosa,[4] or Wegener's disease. We were concerned to establish a common factor that could have triggered both illnesses, and a drug-induced arteritis was a possibility, although this phenomenon is rarer than was once supposed.[5] Erythromycin and tetracycline were the drugs given during the early part of the 1977 episode. Erythromycin was not given in 1968 until the illness was well established, and it is not reported as causing arteritis. In 1970 the patient had a course of tetracycline for infected "spots" on her face, and after three weeks' treatment developed a few skin lesions that were possibly similar to those of 1968. Nevertheless, in 1975 a full course of tetracycline was given with no adverse effects. There are no convincing reports incriminating this drug and the results of all our tests for drug allergy (including specific IgE and lymphocyte transformation tests) were negative. Polyarteritis is now known to be associated with the hepatitis B virus in many cases, but in our patient tests for HBAg were negative in serum and tissue.

A relation has been noted between streptococcal infection and polyarteritis.[4] Our patient had a severe sore throat as her first important symptom in both 1968 and 1977. In the first illness a haemolytic streptococcus was cultured and on both occasions the ASO titre was raised. We therefore suggest that this patient has experienced two episodes of systemic vasculitis in response to throat infections with haemolytic streptococci.


1 Gocke, D J, *et al*, *Lancet*, 1970, **2**, 1149.
2 Rich, A, *Bulletin of the Johns Hopkins Hospital*, 1942, **71**, 123.
3 Citron, B P, *et al*, *New England Journal of Medicine*, 1970, **283**, 1003.
4 Rose, G A, and Spencer, H, *Quarterly Journal of Medicine*, 1957, **26**, 43.
5 Coombs, R R A, Gell, P G H, and Lachman, P J, *Clinical Aspects of Immunology*, 3rd edn, p 924. Oxford, Blackwell, 1975.


(*Accepted 20 January 1978*)


**University College Hospital and University College Hospital Medical School, London WC1**

S B LUCAS, BM, MRCP, lecturer in morbid anatomy
J MOXHAM, MB, MRCP, lecturer in medicine


## Spontaneous platelet aggregation reversed by flurbiprofen

Spontaneous platelet aggregation has been associated with vascular thrombosis, particularly of the fingers and toes, which has responded to aspirin.[1-4] We report the occurrence of spontaneous platelet aggregation in a patient with rubra vera who suffered from recurrent ischaemic attacks. Aspirin did not improve the clinical symptoms and had no effect on platelet aggregation. The administration of 25 mg flurbiprofen (2-(fluoro-4-biphenylyl) propionic acid) had a dramatic effect, giving relief from symptoms within three hours.

### Case report

A 63-year-old woman was first diagnosed as suffering from polycythaemia rubra vera in April 1974. The initial platelet count was 592 $\times$ $10^9$/l. She was treated with busulphan and has remained in haematological remission since. During November 1974 she first complained of intermittent diarrhoea associated with pain in the right iliac fossa. Extensive investigation failed to disclose an underlying cause but her symptoms persisted.

In March 1977 the patient reported repeated episodes of numbness of the right arm together with tingling and redness of the toes of the right foot. Investigation showed a platelet count of 335 $\times$ $10^9$/l. Platelet aggregation was estimated using Born's method.[5] The platelet-rich plasma (320 $\times$ $10^9$ platelets/l) showed spontaneous aggregation four minutes after incubation at 37°C with stirring. Spontaneous aggregation occurred when the patient's platelets were suspended in normal platelet-poor plasma but not when suspended in the patient's platelet-poor plasma. This excluded the presence of an aggregating agent in the patient's plasma. These changes were not influenced by taking 300 mg of aspirin per day. Flurbiprofen, a strong inhibitor of the release action of platelets, was tried. Within three hours of administering a single 25-mg dose spontaneous aggregation could not be demonstrated. There was also complete inhibition of secondary aggregation in response to an ADP concentration of 5 mmol/l compared with