Cutaneous vasculitis and IgA glomerulonephritis in ankylosing spondylitis

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Abstract

Two patients with ankylosing spondylitis were found to have IgA nephropathy and leucocytoclastic cutaneous vasculitis. Immunofluorescence showed perivascular deposition of IgA in the skin of one patient and in the mesangium of both patients. Such an association has been reported only once before. This supports the concept of abnormal IgA immune stimulation in the pathogenesis of ankylosing spondylitis.

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Immunoglobulin A (IgA) nephropathy has been described in association with ankylosing spondylitis and other spondyloarthropathies such as Reiter's syndrome or psoriatic arthritis. The usual features are recurrent haematuria and mild proteinuria, whereas renal impairment and hypertension are uncommon. Approximately 35 cases of this association have been reported.^{1–4} We had the opportunity to observe two patients with a more widespread disease: ankylosing spondylitis and IgA nephropathy were associated with leucocytoclastic vasculitis of the skin.

Case reports

CASE 1

A 50 year old man had had low back pain beginning in his buttocks since 1980. Pain and stiffness subsequently affected his thoracic and lumbar spine. In 1985 radiography showed bilateral sacroiliitis and syndesmophytes in the dorsolumbar spine. The HLA-B27 antigen was absent. The symptoms were alleviated by various non-steroidal anti-inflammatory drugs (NSAIDs) including indomethacin and tenoxicam. There was no history of bowel disease or psoriasis. In January 1991 diffuse and extensive vasculitic purpura developed over his forearms and legs, together with an increase in the low back pain. On admission the patient was normotensive, and his spine was tender and rigid. The erythrocyte sedimentation rate was 60 mm/hour, serum creatinine was 98 µmol/l, 24 hour proteinuria was 1 g, and his urine sediment contained 88 000 red blood cells/minute. Serum complement was normal, latex agglutination and the Waaler-Rose reaction were negative, and antinuclear antibodies, cryoglobulinaemia, and HbS antigen were negative. The serum IgA level was 4.03 g/l (N<3.5 g). A skin biopsy sample showed

leucocytoclastic vasculitis and immunofluorescent microscopy showed IgA deposits on the vessel walls. A percutaneous renal biopsy revealed focal and segmental proliferative and necrotising lesions in 10% of the glomeruli with diffuse IgA mesangial deposition. There was no arteritis. The patient was treated with piroxicam. Purpura subsided in two months and he was subsequently lost to follow up.

CASE 2

A 45 year old man had an 11 year history of ankylosing spondylitis. He had pain in his lumbar spine, pelvis, knees, and heels and had been treated with NSAIDs. Since 1978 he had been treated with flurbiprofen. In February 1982 he developed permanent ischaemia affecting the third, fourth, and fifth fingers on his left hand, and the third and fourth fingers on his right hand. Subsequently, skin and subungueal necrosis appeared on some of the fingers and toes and a purpuric rash developed on his legs. His spine was stiff and painful. Radiography showed dorsolumbar syndesmophytes and bilateral sacroiliitis. The HLA-B27 antigen was present. The erythrocyte sedimentation rate was 20 mm/hour. Serum creatinine was 76 µmol/l, haematuria was 30 000 red cells/minute, leucocyturia was 12 000/minute, albuminuria was 0.75 g/24 hours. Cryoglobulinaemia, latex, and the Waaler-Rose reaction, and antinuclear antibodies were negative. Complement was normal. The serum IgA level was 3.42 g/l. Circulating immune complexes were negative. A skin biopsy sample showed leucocytoclastic vasculitis but immunofluorescence was not available. A renal biopsy sample showed mild focal and segmental proliferative glomerulonephritis with mesangial IgA deposits. The patient was treated with another NSAID; the skin lesions persisted for a few weeks and the haematuria disappeared during the following year.

Discussion

In these two patients, the diagnosis of idiopathic ankylosing spondylitis was confirmed by typical radiological abnormalities; the patients were treated with various NSAIDs depending on their clinical efficacy and the practice of the different rheumatologists in charge.

IgA nephropathy is a rare occurrence in the course of ankylosing spondylitis. Such an association might not be coincidental, as serum

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IgA levels are reported to be high during the active inflammatory phases of spondylitis,⁵ and circulating IgA containing immune complexes may be found in the spondyloarthropathies.⁶ It is noteworthy that, in these two patients, the nephropathy and purpura occurred with a clinical flare of ankylosing spondylitis. The IgA level was slightly increased in the B27 negative patient, and high normal in the B27 positive patient. Reynolds *et al* have shown such a difference in B27 positive and negative patients with ankylosing spondylitis.⁷

So far, only one case of coexisting leucocytoclastic cutaneous vasculitis and Berger's disease in patients with ankylosing spondylitis has been reported by Jennette *et al*,⁸ but immunofluorescence microscopy was not performed on the skin specimen. In this patient, as well as in ours, the skin lesions were consistent with the diagnosis of Henoch-Schönlein purpura, according to American College of Rheumatology criteria.⁹ In one of our patients IgA was found in the skin by immunofluorescence.

There are other instances of an association between IgA deposition disease and the spondyloarthropathies; in two patients with spondylitis associated with inflammatory bowel disease, the coincidence of IgA cutaneous vasculitis and IgA nephropathy has also been described.¹⁰ Systematic cutaneous immunofluorescence studies have been carried out in spondylitic patients without any clinical or microscopic signs of vasculitis; an increase of IgA deposits in dermal vessels was found compared with healthy controls.¹¹ Therefore IgA is likely to

play a pathogenic part in the skin and kidney lesions of our two patients. These findings support the concept of abnormal IgA secretion in ankylosing spondylitis, perhaps through microbial antigenic stimulation of the digestive mucosa.

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