therefore be considered in DM patients with anti-MDA5 antibody. In our patient, a combination therapy of methylprednisolone pulse, i.v. CYC and plasma exchange resulted in complete disease remission for the following 2 years.

### Rheumatology key message

- Anti-melanoma differentiation-associated gene 5 antibody represents a possible risk of medium vessel vasculitides in patients with DM.

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**Adult Kawasaki-like syndrome with eosinophilia and tenosynovitis in a patient with human immunodeficiency virus infection**

SIR, We report a patient with adult Kawasaki-like syndrome (KLS) associated with HIV infection with a rare presentation including eosinophilia and tenosynovitis. A 33-year-old Japanese man was admitted to another hospital with a 7-day history of a temperature of 38–39°C, shaking chills and an erythematous rash on his extremities. Laboratory tests revealed eosinophilia of 2100/μl. Despite antibiotic treatment with meropenem hydrate, the fever continued and his palms and fingers began to desquamate. The eosinophil count was 3800/μl. He was then transferred to our hospital for further evaluation. He had a history of herpes zoster 8 years previously. The patient suggested that he had previous homosexual contacts. He had no history of drug allergies and had taken no medications before the onset of symptoms.

On admission, his temperature was 39.9°C. Physical examination revealed bilateral conjunctivitis, strawberry tongue, erythematous lesions of the trunk and extremities, oedema of the hands and feet and desquamation on the fingertips (Fig. 1). There was no palpable cervical lymphadenopathy. The remainder of the physical examination was unremarkable.

Laboratory studies revealed a white blood cell count of 9500/μl (50.4% neutrophils, 40.5% eosinophils, 6.8% lymphocytes and 1.5% monocytes) and a CRP level of 6.58 mg/dl. Serum levels of complement and anti-streptolysin-O were within normal limits. ANA, RF, proteinase 3 ANCA and MPO ANCA were negative. HBV surface
antigen and both anti-HIV antibody and p24 antigen were positive in the serum. The peripheral CD4+ lymphocyte count was 4 cells/μl and the quantification of HIV-1 RNA was 180,000 copies/ml. Bacterial cultures of blood and urine were negative. Histological examination of the bone marrow showed only a slightly elevated eosinophil count.

The patient was diagnosed with KLS related to an HIV infection. Cardiovascular evaluation showed no evidence of coronary aneurysms. He was treated with antiretroviral therapy (ART) using emtricitabine, tenofovir disoproxil fumarate and raltegravir on day 6 after admission and the skin eruption and mucosal lesions improved over a few days. However, the fever and eosinophilia persisted, and pain in both hands was reported 9 days after starting ART therapy. Gadolinium-enhanced MRI of the right hand showed signs of tenosynovitis.

On hospital day 22, prednisolone was added at 30 mg/day (0.45 mg/kg/day) to the ART to treat the eosinophilia and tenosynovitis. The fever, eosinophilia and bilateral hand pain promptly disappeared and he was discharged on day 48. Prednisolone was gradually tapered off. However, mild peripheral eosinophilia at 900/μl and bilateral hand pain recurred, which required resumption of prednisolone therapy at low dose.

Kawasaki disease (KD) is a vasculitic syndrome that usually occurs in children under the age of 4 years and is very rarely reported in adults [1–3]. In a review of 57 adult patients with KD, men showed a slight predominance in frequency: 61% in men vs 39% in women. The mean age was 27.6 years (s.d. 10.3; range 18–68) [1]. The aetiology of KD remains unknown, although clinical and epidemiological features strongly suggest an infectious cause, most likely viral in origin. It has been reported that about one-third of adult KD cases are associated with HIV infection [2], suggesting that an immunocompromised state predisposes to KD. Superantigens produced by HIV may interact with T lymphocytes and induce modifications in cytokine production and immune cells, leading to vasculitis [1]. Both immunocompromised states and superantigens may play a role in the development of KD associated with HIV infection.

There is no consensus on the treatment of adult KD. In the present patient, antiviral therapy for the HIV infection was initiated because he had a very low CD4+ lymphocyte count. After ART, the mucocutaneous symptoms promptly improved, strongly suggesting that the HIV infection was related to the development of mucocutaneous lesion of KLS.

He also developed eosinophilia and tenosynovitis that did not improve with ART. The differential diagnosis of these clinical features includes drug hypersensitivity reaction and eosinophilic fasciitis. A drug hypersensitivity reaction was unlikely because there was no suspected drug administration before the onset of the disease. Eosinophilic fasciitis was also unlikely because there was no skin involvement or oedema on the extremities. There are reports of eosinophilia in patients with an HIV infection, although eosinophilia has not been reported in adult patients with KD [4]. It was highly likely that the eosinophilia was secondary to the HIV infection, as he had no allergic or parasitic diseases. Tenosynovitis may be related secondarily to the eosinophilia [5]. Prednisolone was very effective for the treatment of both the eosinophilia and tenosynovitis.

An adult with KLS associated with HIV infection is presented. Although eosinophilia is seen in patients with HIV infection, concurrent eosinophilia and tenosynovitis in an adult with KLS is very rare. When symptoms of KD appear in adults, HIV infection must be considered in the evaluation of these patients.

### Rheumatology key message

- Adult Kawasaki-like syndrome in association with HIV occasionally has atypical manifestations such as eosinophilia or tenosynovitis.

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