Treatment of Livedoid Vasculopathy with Short-cycle Intravenous Immunoglobulins

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Sir,

Livedoid vasculopathy manifests in the form of painful, recurrent ulcers on the lower limbs. The condition is mainly found in young and middle-aged women (1). Histologically, the disorder is characterized by the presence of hyaline thrombi in the cutaneous microcirculation. The underlying pathogenesis is not known, although local or systemic alterations in coagulation control appear to be involved, leading to fibrin thrombus formation in the blood vessels of the superficial dermis. Although sometimes considered synonymous, it is advisable to avoid the terms livedoid vasculitis and segmental hyalinizing vasculitis, as there is no histological evidence of vasculitis (2). The term atrophie blanche should also be avoided, as it is merely descriptive – referring to the formation of whitish scars with telangiectatic margins, although without considering the aetiology or physiology of the lesions. The term livedoid vasculopathy should be reserved for the primary idiopathic presentations of the disease. No controlled comparative studies have been made of the different treatment modalities used. We report here a case of livedoid vasculopathy treated with intravenous immunoglobulins (IVIg).

CASE REPORT

A 19-year-old woman presented intensely painful, recurrent ulcers on the dorsal region of the feet and pretibial zone since 1995. The lesions left whitish scars surrounded by telangiectasias and hyperpigmentation. The biopsy revealed the presence of hyaline thrombi within the lumen of the small vessels of the upper dermis and focal epithelial necrosis, without signs of vasculitis. Extensive laboratory tests were made to discount the presence of vasculitis and coagulopathy. No anomalies were detected, as a result of which idiopathic livedoid vasculopathy was diagnosed.

Combined treatment was provided in the form of aspirin, dipyridamole, nadroparin, potassium iodine, pentoxifylline and prednisone – although continuous lesions persisted. In April 2003, in view of the clinical worsening of the condition despite the administration of prednisone (1 mg/kg), IVIg was prescribed (Flebogamma®, Grifols) at an initial daily dose of 0.4 g/kg for 5 days, repeated after 6 weeks with a daily dose of 0.7 g/kg for 3 days. The patient received a total IVIg dose of 4.1 g/kg. The treatment was well tolerated. Four weeks after initial infusion the ulcers had healed completely for the first time since the disease developed, and the pain had disappeared. No further livedoid vasculopathy lesions have appeared since.

DISCUSSION

Therapeutic strategies have been designed involving antivasculitis agents, anticoagulants, antiplatelet drugs, fibrinolytic agents and vasodilators: systemic corticosteroids, cyclophosphamide, colchicine, methotrexate, sulfasalazine, fenformin-ethylestrenol, aspirin, ticlopidine, dipyridamole, pentoxifylline, danazol, non-fractionated heparin, warfarin, recombinant tissue plasminogen activator, prostacyclin, iloprost, nicotinic acid, nifedipine and low molecular weight heparin (3, 4). Good results have recently been published involving hyperbaric oxygen (5) and PUVA therapy (6). The successful treatment of livedoid vasculopathy has also been reported in three patients after IVIg at an initial dose of 2 g/kg, followed by maintenance doses of 1–2 g/kg every 4–8 weeks (7, 8).

IVIg is used to treat a growing number of autoimmune and immune-mediated diseases. It consists of a highly purified preparation of IgG obtained from human plasma. A number of IVIg mechanisms of action have been proposed: (i) functional Fc receptor block; (ii) the elimination of circulating immune complexes; (iii) anti-idiotype autoantibody suppression; (iv) inhibition of complement-mediated damage; (v) modulation of cytokine production and release; and (vi) FasL block (9). The side effects of IVIg are infrequent and mostly mild – the most important being anaphylactic reactions in patients with IgA deficiency, haemolytic anaemia, renal failure and the transmission of infectious agents (e.g. hepatitis C virus) (10). The use of IVIg is partly limited by its high cost.

IVIg seems to offer effective, rapid and safe treatment of idiopathic livedoid vasculopathy that has proved refractory to different treatments. In our patient short-cycle high-dose IVIg was found to be effective, involving a lower total IVIg dose than in previously reported treatment regimens. In this way, an important cost reduction was achieved as well as a reduction in the risk of side effects. Further studies are required to confirm the efficacy of short-cycle IVIg in the management of idiopathic livedoid vasculopathy.

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