SLE with C1q deficiency treated with fresh frozen plasma: a 10-year experience

Sir, We present the case of a 24-year-old female of Pakistani origin with an SLE-like illness secondary to complete C1q deficiency, treated successfully with fresh frozen plasma (FFP) therapy since the age of 15 years. Her clinical presentation has been previously reported [1]. She presented at the age of 6 years with cutaneous rash associated with matched unrelated donor transplantation was considered unfavourable. We therefore attempted interval replacement of C1q through the use of infusions of detergent-treated FFP (Octaplas). The C1q level in Octaplas was 157 μg/ml, representing 84% of the control sera level (187 μg/ml). After a single intravenous infusion of 10 ml/kg Octaplas, serum C1q was detectable in the patient’s sera with levels peaking 2 h after the infusion (Fig. 1). CH100 returned to normal at 12 and 24 h post-infusion, demonstrating that the C1q within Octaplas was sufficient to restore complement haemolytic activity. Similar time courses have been reported previously [4, 5]. We therefore proceeded with an Octaplas infusion regimen that consisted of four infusions at weekly intervals followed by six infusions at fortnightly intervals. Thereafter, infusions were continued at 3 weekly cycles. The patient demonstrated a dramatic improvement during the infusion regime. By 6 months, her symptoms had fully resolved and the dose of prednisolone was reduced to 5 mg/day. Subsequently, it was possible to reduce her infusion frequency to 4 weekly cycles. Attempts to increase the intervals to 5-week cycles resulted in recurrence of lethargy and mouth ulcers in the week leading up to the next infusion cycle. She has continued to receive monthly Octaplas infusions over the last decade during which she has not required significant increase in her prednisolone therapy or additional immunosuppression. She remains on AZA (75 mg/day) and prednisolone (5 mg/day). Importantly, the therapy has not been associated with the development of anti-C1q antibodies, which is an important potential limitation of this therapeutic approach. Apart from transient, mild urticarial reactions post-infusion, the treatment has been well tolerated. However, it is important to note that severe allergic reactions have been described in C1q-deficient individuals receiving FFP [5, 6].

Complement is crucial for the physiological processing of immune complexes and the beneficial effect of reconstituting the deficient complement component in hereditary complement deficiency is likely to be at least in part the result of temporarily restoring this biological role. Evidence to support this includes the demonstrations that: (i) the uptake of immune complexes by the spleen is absent in complement C2 deficiency but restored after the administration of FFP [7]; and (ii) circulating levels of immune complexes fell in a C2-deficient individual following plasma infusion [8]. It is clear that, while our patient derived symptomatic relief for 4 weeks following Octaplas infusion, restoration of CH100 activity lasted for <48 h following infusion. We speculate that the short-lived normalization of complement activity is sufficient to reduce circulating immune complexes to a level that prevents tissue damage. Subsequently, loss of complement activity results in gradual accumulation of pathological immune complexes. The rate of this accumulation would be predicted to determine the infusion frequency. FFP has been successfully used in the treatment of SLE associated with complement C2 deficiency over the periods of 30 months [9], 45 months [10] and 8 years [8].
Administration of plasma in our C1q-deficient patient has clearly been therapeutically successful over a decade, demonstrating that this is a valid treatment option in this difficult condition.

Rheumatology key message

- Chronic plasma infusion is an effective therapy in complement C1q deficiency.

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Treatment of a patient with remitting seronegative, symmetrical synovitis with pitting oedema with a humanized anti-interleukin-6 receptor antibody, tocilizumab

Sir, RS3PE is an inflammatory disorder of unknown aetiology that affects elderly persons [1]. The clinical features of the disease are characterized by bilateral pitting oedema of the hands and sudden onset of polyarthritis [1]. Although the pathogenesis of RS3PE remains unknown, over-production of IL-6 has been demonstrated to contribute to its development [2, 3]. Corticosteroids constitute the preferred treatment for RS3PE and in most cases of RS3PE the quick and dramatic response to corticosteroids is one of the characteristics of the disease. In our...