Title: Infliximab: An effective rescue therapy in refractory extra-pulmonary sarcoidosis

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Body: Background Sarcoidosis is a multisystem granulomatous disorder of unknown aetiology. In cases of progressive organ threatening disease, corticosteroids form the mainstay of treatment. However, in the treatment of refractory sarcoidosis, infliximab, a monoclonal anti-TNF-α antibody, may provide a vital therapeutic alternative. Objectives The Chelsea & Westminster Hospital Dermatology Department and Interstitial Lung Disease Unit at the Royal Brompton Hospital, London (U.K.), serve as national tertiary referral centres for refractory cutaneous and systemic sarcoidosis. We report a retrospective analysis of infliximab as a treatment for recalcitrant disease and explore its place in the treatment algorithm. Results Between February 2009 and December 2012, thirteen patients received infliximab for progressive cutaneous, upper airway (ear, nose and throat; ENT), or pulmonary disease. In all patients, sarcoidosis had progressed despite the use of at least two systemic immunosuppressive agents. Following infliximab, six patients with skin lesions reported greater than 50% improvement, and three patients reported complete resolution. Four patients with ENT involvement (three of whom also had progressive skin involvement) experienced symptomatic and nasendoscopic improvements. In three patients with progressive pulmonary sarcoidosis, there was no significant change in symptoms, chest radiographs or pulmonary function tests. Six patients reported improvement in psychological distress following treatment. Conclusion Infliximab appears to be a safe and highly effective ‘rescue’ therapy for cutaneous and upper airway sarcoidosis. Whether infliximab is of benefit in progressive pulmonary sarcoidosis is less clear.