Letters to the Editor

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Physical therapy in anti-TNF treated patients with ankylosing spondylitis

Sir, AS is a chronic inflammatory condition of the spine most commonly affecting the axial skeleton. Physical therapy has a well-defined role in the management of this condition. A Cochrane review on the role of physiotherapy interventions in AS concluded that physical therapy (physiotherapy, home exercises, spa therapy) was beneficial; although it was not clear as to which treatment protocol should be recommended [1]. Similar conclusions were drawn in the review of AS for the ASAS/EULAR management recommendations [2, 3]. In patients with OA, studies have shown that a significant majority of patients were not fully compliant with exercise regimes [4]. No studies reporting real-life data for physical therapy in AS have been published. In the National Health Service in United Kingdom, most patients undergo education and supervised exercise programme at diagnosis or flare, but are expected to continue with unsupervised physical therapy for continuing benefit.

In patients with AS on treatment with anti-TNF agents, we sought to ascertain details of physical therapy regimes and its perceived benefit; and explore motivation levels for physical therapy.

We could not find any suitable instruments in literature for this study. Hence, we devised a one-page anonymous questionnaire on the basis of the Cochrane review. This was piloted on six patients, their feedback obtained and combined with feedback from research nurse, physiotherapist and Consultant Rheumatologist (all with an interest in AS). Content validation was thus performed; the modified questionnaire was then distributed by nurse practitioners either at the time of patients’ attendance for infliximab infusion or for clinic visits. All 40 patients at our centre who fulfilled the inclusion criteria were included. This was a cross-sectional survey, and was conducted between March and July 2006. Results were analysed using Microsoft Excel and SPSS version 14.0.

We obtained 32 responses, a response rate of 80%. Twenty-six responders are males with six females, and mean duration of AS was 16.34 yrs (2–40 yrs). Mean age was 45.21 yrs (26–64 yrs); 17 patients were on infliximab, eight were on etanercept and two on adalimumab. The most common form of exercise was walking (21) followed by swimming (7). The mean time spent weekly on physical therapy was 133.61 min compared with 67.97 min prior to anti-TNF treatment. Out of 32 responders, 31 did more exercise now than prior to anti-TNF treatment. Patients perceived mild to moderate benefit from physical therapy in terms of fitness, function, maintenance of posture, stiffness and long-term outcome (Fig. 1). The internal consistency of this scale using Cronbach’s-α was 0.6.

On a 10-point scale, motivation levels for physical therapy had significantly increased since commencing anti-TNF treatment. Literature appears to be mixed in terms of benefits in symptoms of AS, with studies suggesting no benefit in pain [1], no benefit in pain, stiffness or physical function [5] and two trials suggesting modest improvement in function [6, 7]. This leads us to hypothesize that this group of patients experience greater benefit than patients not on anti-TNF treatment. There is some support for this hypothesis with another study reporting synergistic effect between anti-TNF treatment and intensive in-patient rehabilitation [8]. Further studies are needed to investigate this. The limitations of this study are small sample size, lack of construct validity testing and study design due to which reliability issues remain with the retrospective data.

Motivation levels for physical therapy have not been studied previously in AS. The improvement in motivation levels is interesting, and may be partly attributable to increased functional ability, as these patients represent increased disease severity. No data exist for assessing how other forms of treatment have altered motivation levels for physical therapy.

Patients with AS treated with anti-TNF agents appear to be exercising more than prior to anti-TNF treatment, and they feel that physical therapy helps stiffness, function and overall outcome. Their motivation levels for physical therapy have improved significantly with anti-TNF treatment.

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Autoimmunity manifesting as dermatomyositis associated with oligoastrocytoma and dendritic cell immunotherapy

SIR, A case of severe dermatomyositis occurring after completion with oligoastrocytoma and dendritic cell immunotherapy

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Sir, A case of severe dermatomyositis occurring after completion with dendritic cell (DC) immunotherapy as a treatment for grade II oligoastrocytoma is described. This is the first report to our knowledge of dermatomyositis associated with either a primary brain tumour or DC immunotherapy.

A 39-yr-old man presented with a 4-week history of muscle pain and weakness, fatigue, fever and a rash. He had been fit and well, and was a keen athlete until a year prior to this presentation when he had been diagnosed with a grade II oligoastrocytoma. This had been debulked 6 months earlier, with 85% clearance and minimal neurological deficit. No further conventional therapy had been indicated post-operatively and follow-up MRI scans of the brain tumour or DC immunotherapy.

The group involved in this patient’s care matured the DCs as described above, without the tumour-loading stage, unique in their capacity to initiate a primary T-cell response. The cells are matured with a combination of cytokines and then loaded with tumour cell product (lysate, peptides, RNA or DNA) with the intention of inducing a tumour-directed cytotoxic T-cell response. Results in a wide spectrum of malignant disease are variable, though promising [1].

The underlying mechanism of his dermatomyositis could be paraneoplastic, an unrelated autoimmune pathology or driven by the DC immunotherapy.

Dermatomyositis presenting as a paraneoplastic phenomenon from many types of tumour is well described. Primary brain tumours can be responsible for paraneoplastic phenomena but neither our personal experience nor a search of the literature revealed a known association between myositis and this type of tumour. The spectrum of paraneoplastic phenomena is wide, and the pathophysiology in most cases is not fully understood. In general terms, the heightened immune response to a tumour coupled to the aberrant release of autoantigens normally confined to a specific tissue is thought to be responsible in most neurological, rheumatological and ophthalmological cases. Case-control studies have attempted to identify serological markers of cancer-associated myositis but full serological profiles are yet to emerge [3].

Myositis-associated autoantibodies are present in up to 40% of cases of myositis. They are thought to play a role in the pathogenesis of the condition, as different autoantibodies define distinct inflammatory process most prominent in the adductors and skin and muscle biopsies confirmed the diagnosis of dermatomyositis (Fig. 1). A PET scan, performed to exclude a second malignancy, revealed abnormal uptake in the proximal muscles only. He was treated with intravenous and then oral steroid therapy and received a single dose of 7.5 mg MTX.

The patient then developed cellulitis at the site of his muscle biopsy (left quadriceps) and synovitis of his right elbow. Cultures were taken from both sites and the blood. He was treated with intravenous flucloxacillin and benzylpenicillin and cultures later revealed a sensitive Staphylococcus aureus from the elbow aspirate and negative cultures elsewhere.

Over 2 days, the cellulitis had spread rapidly and there were concerns regarding an underlying collection. The site was opened surgically and revealed extensive and deep myonecrosis and necrotizing fasciitis. The patient did not mount a clinical systemic inflammatory response at any time, and developed only a late rise in CRP to 125. He was treated with intravenous immunoglobulin (a total of 2 g/kg in three divided daily doses) and then transferred for specialist plastic surgical care. Multiple further resections of necrotic tissue were required prior to a major skin graft and, following two further monthly intravenous immunoglobulin infusions, the patient made a notable recovery and, in spite of losing a significant amount of muscle bulk, was able to run again. His CK returned to normal range and the rash resolved completely.

This case highlights a number of interesting points. The underlying mechanism of his dermatomyositis could be paraneoplastic, an unrelated autoimmune pathology or driven by the DC immunotherapy.

4 Sweeney S, Taylor G, Cailin A. The effect of a home based exercise intervention on inflammatory process most prominent in the adductors and skin and muscle biopsies confirmed the diagnosis of dermatomyositis (Fig. 1). A PET scan, performed to exclude a second malignancy, revealed abnormal uptake in the proximal muscles only. He was treated with intravenous and then oral steroid therapy and received a single dose of 7.5 mg MTX.

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Fig. 1. Coronal MRI of thighs prior to muscle biopsy showing inflammatory change bilaterally in the adductors.