October and December 2005. Amongst the study population rheumatoid arthritis was the most common diagnosis, representing 85% of the patients studied. Analysis revealed marked differences in the level of knowledge and uptake of vaccination in those <65 and those >65 (Table 1).

Awareness of the influenza vaccine was good across both populations and health practitioners including GPs, hospital doctors and nurses were proactive in discussing immunization requirements with their patients. Influenza vaccine uptake was relatively poor in the <65 age group despite education about immunization. Similarly with respect to pneumococcal vaccination of the >65 age group, there was a good level of vaccine awareness and education from health practitioners, though this was not reflected in its uptake. This may suggest that the immunization message needs to be reinforced. Our audit highlighted a very low level of pneumococcal vaccine uptake in the <65 age group. This may have resulted from a failure of healthcare professionals to educate their patients and thus, raise awareness of the importance of pneumococcal vaccination. We have thus highlighted a need to educate patients treated for rheumatic disease with DMARDs, and under the age of 65, about vaccination. These individuals are eligible for immunization against pneumococcus and influenza though are not always targeted in promotional campaigns. Rheumatology departments can play an important role in increasing vaccine uptake in their patient population by being proactive in their education about immunization. Following this audit, we have changed our own practice such that we have highlighted the importance of vaccination on our patient education leaflets, and offer vaccination against influenza and pneumococcus routinely to our inpatients.

W. A. FAHY, E. FARNWORTH, K. P. YELDREM, G. S. MELLING, D. M. GRENNAN

Rheumatology Department, Wrightington Hospital, Hall Lane, Appleby Bridge, WN6 9EP, Lancashire, UK
Accepted 21 February 2006
Correspondence to: W. A. Fahy.
E-mail: billy-fahy@doctors.org.uk


TABLE 1. Vaccination awareness and uptake in patients with rheumatic conditions attending Wrightington Hospital during October–December 2005

<table>
<thead>
<tr>
<th></th>
<th>Age &lt;65 (%)</th>
<th>Age &gt;65 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Patients aware of influenza vaccine</td>
<td>96</td>
<td>100</td>
</tr>
<tr>
<td>Influenza vaccination discussed by health practitioner</td>
<td>89</td>
<td>100</td>
</tr>
<tr>
<td>Vaccinated against influenza</td>
<td>46</td>
<td>81</td>
</tr>
<tr>
<td>Patients aware of pneumococcal vaccine</td>
<td>65</td>
<td>96</td>
</tr>
<tr>
<td>Pneumococcal vaccination discussed by health practitioner</td>
<td>42</td>
<td>92</td>
</tr>
<tr>
<td>Vaccinated against pneumococcus</td>
<td>12</td>
<td>54</td>
</tr>
</tbody>
</table>


Rheumatology 2006;45:913–915
doi:10.1093/rheumatology/kei263
Advance Access publication 25 April 2006

Sustained improvement of a girl affected with Devic’s disease over 2 years of mycophenolate mofetil treatment

Sir, We report a 9-yr-old girl with a severe relapsing–remitting course of neuromyelitis optica (NMO) [1–3] who had a dramatic and sustained improvement over a 2-yr period of treatment with mycophenolate mofetil (MMF), the prodrug of mycophenolic acid.

A 9-yr-old Caucasian girl, previously healthy, was admitted to A. Meyer Children’s Hospital in November 2001, complaining of motor alterations and headache. Pregnancy and delivery had been uneventful. Psychomotor development was normal. The family medical history was negative for neurological and autoimmune diseases. No recent history of fever, respiratory or gastrointestinal symptoms were recorded.

On admission she was alert and afebrile, with respiratory rate and blood pressure within the normal range. She reported pain in her right eye, weakness in both legs and gait difficulties. Routine blood tests were normal, including thyroid function and functional clotting tests. Extensive autoimmune disease work-up resulted negative for systemic lupus erythematosus (SLE), Sjögren syndrome and antiphospholipid syndrome [4, 5].

Whilst MRI of the brain did not disclose any alterations, a spinal MRI showed multiple hyperintense T2 in the upper cervical region, predominating in the cervical and upper dorsal region (C2–D3) (Fig. 1A and B). A large hyperintense lesion with mild mass effect was detected, extending from the high cervical level through the conus medullaris. Mild gadolinium enhancement was seen in spinal cord lesions. The cerebral spinal fluid analysis showed pleocytosis, more than 50 × 10⁶/μl leucocytes, predominantly neutrophils, and the absence of oligoclonal bands. Seven months later (June 2002), the girl developed visual impairment. Reduction both in visual activity and visual field was detected on ocular evaluation, and the diagnosis of retrobulbar optic neuritis in the right eye was made. Gadolinium enhancement was observed in the right optic nerve (Fig. 1C and D).

Due to the clinical and MRI findings, Devic’s disease was diagnosed. Three courses of high-dose pulse corticosteroid (30 mg/kg/day) followed by oral administration (2 mg/kg/day) were helpful in inducing complete remission of ocular and motor symptoms. The girl was discharged on a low oral dose of steroids (1 mg progressively tapered to 0.5 mg/kg). Several months later (November 2002), a new severe optic myelitis attack with visual loss prompted us to restart pulse methylprednisolone and then oral prednisone treatment. Following vertebral crush steroids were quickly tapered. Azathioprine (2.5 mg/kg/day) was added to a low oral dose (0.5 mg/kg/day) of steroids, but the patient experienced two additional relapses of optic neuritis with worsening of visual acuity (1/25 and 1/30, respectively, in the right eye), both...
associated with a reduced visual field. After wash-out of azathioprine, MMF (2 g/day) was then introduced 16 months after the onset of symptoms (March 2003), and corticosteroids were progressively tapered and withdrawn. Subsequently, the girl experienced an impressive clinical remission, with no relapses of optic neuritis and motor alterations over the following 2 yr.

At the 2-yr follow-up, MRI showed a significant reduction in previously detected lesions with no new alterations, and the last ophthalmological evaluation of visual acuity and the visual field showed complete recovery.

Our patient is the first case of severe relapsing NMO who dramatically improved on MMF, achieving sustained remission over a 2-yr follow-up. The high dose of steroids provided was able to induce a partial response and initial improvement of her symptoms but relapse on any attempt at withdrawal. After vertebral crash, azathioprine was then added as steroid sparing drug. However, within steroid tapering the patient flared again.

MMF provided prompt, impressive and persistent control of disease activity. Over 2 yr, no relapses of visual disturbances or motor deficits have been observed despite the progressive tapering and withdrawal of steroids.

The typical MRI features detected on admission showed a significant regression 2 yr later, and no new findings of NMO were added.

NMO is frequently associated with vasculitis or thyroid disease; thus, at the onset and during follow-up, complete screening for systemic vasculitic is recommended. Supporting the diagnosis of primary optical neuromyelitis, at the 2-yr follow-up our patient has not yet developed any other autoimmune diseases.

The observation that several diseases may share common pathogenetic pathways suggests the possibility of using common therapeutic strategies in different autoimmune diseases [6].

MMF, a non-competitive inhibitor of the enzyme inosine 5′-monophosphate dehydrogenase, controls lymphocyte proliferation and T-cell-dependent antibody responses through purine synthesis inhibition [7]. Having been used effectively as an immunosuppressant in transplantation medicine, it has recently attracted interest as therapeutic agent for several autoimmune diseases, including refractory immune thrombocytopenia, autoimmune inflammatory myopathy and autoimmune hepatitis [7, 8]. It has been proved to be effective and well tolerated in SLE nephritis, in adults as well in childhood, avoiding potential side-effects, such as amenorrhoea and sterility, in long-term administration [9].

Fig. 1. T2-weighted MRI showing an extensive hyperintense lesion involving the spinal cord from C2 to D1, and from D3 to the conus medullaris with mild mass effect. (A) Mild gadolinium enhancement is seen in spinal cord lesions. (B) Impressive improvement of lesions is seen at 2 yr of follow-up. (C and D) Brain MRI showing T2-weighted areas of increased signal intensity and diffuse gadolinium enhancement of the right optic nerve (C) and no pathological features at the 2 yr of follow-up (D).
In NMO, approaches combining steroids and steroid-sparing drugs, such as cyclophosphamide and/or azathioprine, were unsuccessful in preventing relapses [9]; evidence for the efficacy of monthly intravenous immunoglobulins in addition to steroids and azathioprine is still limited to anecdotal cases [10]. Plasmapheresis promptly instituted when flares occur has also been useful in ameliorating optic and motor findings, but is unable to reduce the recurrence of attacks.

Pending further controlled studies to confirm this observation, based on the clinical and MRI outcome at 2 yr in the case described above, MMF might be considered a safe and effective alternative immunosuppressive approach in preventing relapses of Devic’s disease.

The authors have declared no conflicts of interest.

F. FALCINI, S. TRAPANI, L. RICCI, M. RESTI, G. SIMONINI, M. DE MARTINO

Department of Pediatrics, Clinica Pediatrica I, University of Florence, Florence, Italy
Accepted 18 November 2005

Correspondence to: F. Fernanda, Department of Pediatrics, Rheumatology Unit, University of Florence, Anna Meyer Children’s Hospital, Via Pico della Mirandola 24, 50132 Florence, Italy. E-mail: falcini@unifi.it


Rheumatology 2006;45:915–916
doi:10.1093/rheumatology/kel162
Advance Access publication 11 May 2006

Therapy-resistant lupus skin disease successfully treated with rituximab

Sir,

Cutaneous lesions are common in systemic lupus erythematosus (SLE), and occur in ~70% of patients [1]. Topical therapy consisting of sunscreens and corticosteroids is effective in controlling skin lesions in most cases. More serious skin lesions can cause significant morbidity and require systemic therapy. Anti-malarials are the treatment of choice. When this standard therapy fails, other (immunosuppressive) medication might be effective [2]. However, some patients suffer from severe skin disease refractory to current treatment options.

Recently, rituximab (anti-CD20 monoclonal antibody) has successfully been used in the treatment of patients with severe therapy-resistant SLE and other autoimmune diseases.

Here, we report two consecutive patients with predominant lupus skin disease for whom current treatment was unsuccessful or contra-indicated because of serious adverse events. Rituximab treatment (2 × 1000 mg/m^2 with methylprednisolone 100 mg i.v. at 2 weeks interval) resulted in dramatic and persistent improvement of skin manifestations in both patients.

Patient 1

A 52-yr old woman was diagnosed with SLE in 1997 based on erythematous photosensitive rash, arthritis, leucopenia and thrombopenia, and positive ANA. Additionally, she suffered from Raynaud’s phenomenon and sicca complaints, with positive anti-SSA and anti-SSB antibodies. Her symptoms were mainly cutaneous, and her disease was treated with prednisolone (15–35 mg daily) from 1999 onwards. Addition of hydroxychloroquine, azathioprine, pulse cyclophosphamide, methotrexate and high-dose i.v. immunoglobulins proved ineffective or resulted in serious adverse events. And she was reluctant to use thalidomide. In June 2005, she experienced a relapse, consisting of leucocytoclastic vasculitis with diffuse urticarial rash. Combined treatment with prednisolone 60 mg daily, hydroxychloroquine and mycophenolate mofetil initially slightly improved her skin symptoms. However, upon tapering of prednisolone, symptoms re-emerged severely in August 2005 (Fig. 1, left). In September 2005, she received rituximab, while continuing other medication. Her skin manifestations improved quickly and markedly (Fig. 1, right), and prednisolone dosage could be tapered. At present, January 2006, she is without skin lesions and still tapering prednisolone to <15 mg daily, a dose she never reached in the last 5 yrs.

Patient 2

A 44-yr old woman was diagnosed with mixed connective tissue disease in 1987. Her symptoms consisted of polymyositis, Raynaud’s phenomenon and restrictive lung function disturbances with decreased diffusion capacity. In 1989, she developed a photosensitive rash, arthralgia and synovitis with high levels of anti-dsDNA antibodies, consistent with a diagnosis of SLE. Addition of hydroxychloroquine, azathioprine or thalidomide to daily treatment with prednisolone proved to be either ineffective in the long run or to cause serious adverse events. Increased dosages of prednisolone were repetitively necessary to treat exacerbations, consisting of arthritis, muscle weakness and skin manifestations. In July 2005, a diffuse generalized skin rash had emerged with diffuse painful erythema and scaly skin, particularly on her feet and hands. In August 2005, these skin manifestations had worsened, while the preceding muscle weakness had improved. In September 2005, she received rituximab, which induced marked improvements of her skin manifestations. At present, January 2006, skin lesions are still absent, and prednisolone has been tapered from 60 mg to 12½ mg daily.

Discussion

The above described two patients suffered from lupus skin disease, and the severity of their symptoms made systemic therapy necessary. Anti-malarials are the systemic therapy of first choice for lupus skin disease, either as monotherapy or in combination.