LETTERS TO THE EDITOR

Chronic inflammatory demyelinating polyneuropathy during treatment with interferon-α

Interferon-α (IFN-α) is widely used for the treatment of chronic viral hepatitis. There have been some reports concerning the development of autoimmune diseases, particularly thyroid disease, in patients under treatment with IFN.[1] Disorders including autoimmune haemolytic anaemia, pernicious anaemia, thrombocytopenic purpura, systemic lupus erythematosus, Raynaud´s disease, parotiditis, and epididymitis have been reported. Some neurological problems have also been described[2]; although most such adverse events have involved the CNS, several cases of peripheral nervous system involvement have been reported—namely, axonal polyneuropathy,[3] neuralgic amyotrophy, multiple mononeuropathies, and myasthenia gravis.[4] On the other hand, some authors have reported that IFN-α may be an effective alternative therapy in patients with chronic inflammatory demyelinating polyneuropathy (CIDP) who are refractory to conventional treatments.[5] Two trials using IFN-α and IFN-β on patients with CIDP are currently in progress. We describe one patient who developed CIDP during IFN-α treatment.

A 29 year old man who had hepatitis C for 2 years, was started on IFN-α treatment. He had the usual related flu-like syndrome during the first month of treatment. Previously he had had some migraine headache episodes, but no other medical problems. After 4 months of treatment, he progressively developed paraesthesias and weakness in both feet. When he came to our hospital 4 months later, his condition had worsened. Neurological examination disclosed tetraparesia (proximal and distal) with 4/5 strength (Medical Research Council scale), generalised areflexia, and hypoaesthesia both in his hands and feet. EMG data are summarised in the table. Prolonged distal motor latencies, slowed conduction velocities, temporal dispersion of the compound muscle action potentials (CMAPs), marked prolongation of F wave latencies, and a reduction of sensory and motor CMAPs in both arms and the right sural nerve were found. These findings were consistent with a demyelinating polyradiculoneuropathy with a mild axonal degeneration. The protein concentration in CSF was 208 mg/dl, there were no cells. Immunoelectrophoresis was normal, and antiganglioside antibodies (GM1, GD1a, GD1b, GT1b) were absent. Serum biochemical studies, including HIV antibody determination, were negative. We ruled out the presence of cryoglobulins. Although IFN-α was discontinued, the disease continued to worsen; the maximal neurological deficit was reached 5 months from onset. The patient was given prednisone (60 mg/day) and progressively improved. One year later he had no symptoms and showed areflexia only on neurological examination. A further EMG showed appreciable improvement.

This is the first report of CIDP development during treatment with IFN-α. CIDP is an immune mediated disorder that usually responds to plasma exchange, intravenous gammaglobulin, or corticosteroids, although occasionally the disease is refractory to these therapies. In the past, some authors have reported improvement in patients with CIDP who were receiving IFN-α.[5] The mechanism by which IFN induced improvement in these patients is uncertain, although it may be related to complex immunomodulating effects, possibly by reduction of proinflammatory cytokine concentrations (tumour necrosis factor and IFN-γ) which may have a role in the development of inflammatory demyelination.[5] The relation between IFN-α and CIDP in our patient is uncertain. Whether IFN-α was the cause of CIDP or whether their relation was only coincidental remains unknown. Nevertheless it seems clear that the treatment mentioned above did not prevent the development of this demyelinating disease with an immunological basis. IFN-α exerts complex immunomodulator effects, it can improve or worsen autoinmune diseases.

Although our findings could be coincidental, the data suggest caution, as IFN-α treatment might yield undesirable effects involving autoimmune phenomena.

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Nerve conduction studies

	Distal latency (m/s)	*Conduction velocity (m/s)*	*Amplitude (μV (sensory) mV(motor))*
Sensory:			
Right median	3.1	50	4.2
Right ulnar	2.7	48	1.1
Left sural	2.8	41	8.5
Right sural	3	43	3.3
Motor:			
Right median	4.4	34	2.4
Left posterior tibial	10	39	0.8
Right common peroneal	7.9	38	3.6
F wave:	*Latency F-M*	*Incidence (n (%))*	
Right median	42.9	30 (100)	
Right ulnar	36.3	31 (60)	
Left posterior tibial	65.5	57 (70)	
Right common peroneal	63.7	57 (70)	

Posteroventral pallidotomy can ameliorate attacks of paroxysmal dystonia induced by exercise

Paroxysmal exercise induced dystonia is a rare disorder classified as one of the paroxysmal dyskinesias.[1 2] In this condition patients develop dystonia, mostly involving their feet, after prolonged exercise, usually walking or swimming.[1–3] Treatment response is poor to both antiepileptic drugs and drugs given for dystonia—for example, anticholinergic drugs, muscle relaxants, or acetazolamide.[3]

We recently noted the dramatic benefit of unilateral pallidotomy in completely abolishing attacks of paroxysmal exercise induced dystonia of the contralateral foot in one patient.

This 47 year old woman was followed up over 2 years for a 10 year history of attacks of dystonia affecting her right foot, induced by exercise. At onset the attacks were mild and were induced by walking long distances. During an attack her right foot would invert for a few minutes making it difficult for her to continue walking or stand. The attack would subside within 2–3 minutes on resting. Two years after onset the attacks subsided and she was attack free for 3–4 years. Four years ago the attacks returned and got progressively worse, increasing in frequency and intensity. Over the past 2 years she could have an attack on walking even 10–15 steps. The attacks in the past few years not only made her right foot to in turn as before but caused her to fall as the right leg would rise up in the air and flex at the knee and hip and there would be some involvement of the trunk causing her spine to twist to the left. Recently the toes of the left foot were also noted to curl up during attacks. She would never lose consciousness and the attacks would last 1–2 minutes and then subside. They never occurred in sleep. Interictally the neurological examination was normal although posturing of the right foot could be induced by repeated prolonged passive flexion-extension movements of the right ankle. More recently she also began to have occasional spontaneous attacks. Investigations including repeated MRI of the head and spine were normal as were tests for Wilson's disease and other causes of secondary dystonia. Examination of CSF gave normal results and disclosed no oligoclonal bands. The patient was negative for the common mitochondrial mutations. An EMG/nerve conduction study detected no evidence of a peripheral neuropathy and somatosensory evoked potentials were normal. Polymyography confirmed cocontraction of agonists and antagonist muscle pairs in the right leg during an attack supporting an organic basis for the dystonia. Surface EEG during an attack and interictally disclosed no abnormality. The patient was tried on a variety of treatments including baclofen, levodopa, benzexhol, tetrabenazine, and acetazolamide without benefit. Different antiepileptic drugs given individually or in combination (1g sodium