OUTCOME AND FOLLOW-UP

The patient’s symptoms resolved over the course of the next 3 weeks. Although he had experienced significant flu-like symptoms at the beginning of his IFNβ treatment, which were sometimes debilitating and caused him to miss several days of work, slowly advancing the drug helped control these symptoms. He was counseled that flu-like symptoms generally diminish over time and was advised to use a nonprescription pain reliever (eg, ibuprofen). His flu-like symptoms gradually subsided as treatment continued and rarely caused significant problems after the second month of treatment.

Follow-up examinations were performed every 6 months. The patient has experienced no additional demyelinating episodes and no neurologic disability during 3 years of IFNβ therapy. Imaging performed at the end of 3 years showed only a single new T2 lesion and no gadolinium-enhancing lesions. The patient continues to use IFN therapy.

DISCUSSION

An important recent trend in multiple sclerosis (MS) therapy has been the identification and treatment of patients at earlier stages of illness. In patients with a single demyelinating episode suggestive of MS (a CIS), many experts in the treatment of MS advocate early initiation of disease-modifying therapy to slow the conversion to clinically definite MS, providing that other disorders that have the potential to mimic MS have been ruled out. Other important goals of disease-modifying therapy are to reduce the number of relapses and to prevent the progression of permanent disability. An alternative approach is to wait until the diagnosis of MS is confirmed (eg, by repeat MRI 3 months later) before beginning therapy. However, a position paper from the American Academy of Neurology concluded that the presence of 3 or more T2 lesions in an individual with CIS was associated with a greater than 80% chance of conversion to clinically definite MS within the next 7 to 10 years, and that the probability of an eventual diagnosis other than MS is low. A recent analysis of data from the Betaferon/Betaseron in Newly Emerging MS for Initial Treatment (BENEFIT) clinical trial found that more than 90% of patients with CIS and MRI lesions at the time of their initial evaluation had progressed to a diagnosis of MS within the next 2 years.

Randomized controlled clinical trials have demonstrated significant reductions in clinical and radiographic measures of disease activity in patients with CIS who were treated with IFNβ-1a subcutaneous (the Controlled High Risk Avonex MS study), IFNβ-1a intramuscular (the Early Treatment of MS study), or IFNβ-1b (the BENEFIT study). In patients with CIS, all of the IFNβ products have been shown to sig-
significantly slow the rate of progression to a second demyelinating event or a diagnosis of MS. Long-term follow-up of patients who were initially treated when they had CIS also have demonstrated that early initiation of therapy significantly reduces the accumulation of permanent neurologic disability.\(^7,8\) Glatiramer acetate (GA) is also approved for relapsing MS and has been shown to reduce relapse rates and MRI measures of disease activity. The efficacy and safety of GA for patients with CIS have recently been evaluated in the PRECISE study, the results of which have not yet been published.\(^9\)

Flu-like symptoms are common with all of the IFN\(\beta\) products, and injection-site reactions are common for IFN\(\beta\) products that are administered by subcutaneous administration. Less common adverse events that are associated with IFN\(\beta\) therapy include elevated liver function tests, lymphopenia, and the potential worsening of depression.\(^10-12\) Adverse effects associated with GA include injection-site reactions and a postinjection reaction that is characterized by a transient sensation of chest tightness.\(^13\) GA also is associated with rare cases of adenopathy.

Patients with early MS are often at high risk of discontinuing therapy. All of the approved MS medications require frequent self-injections, and adverse events are common. Disease-modifying therapies are primarily intended to reduce future MS exacerbations or progression of disability, and they may not produce benefits that are immediately apparent to patients. It is essential to educate patients about the expected benefits and adverse events of treatment. Treatment adherence with self-injected medications for MS may be improved by several techniques, including the use of pain relievers or antipyretic medications to reduce flu-like symptoms, injection training with a nurse, icing the injection site before and after treatment, and rotating injection sites.\(^14\) An effective oral medication may significantly improve treatment adherence, and several oral immunomodulating agents for MS therapy are being evaluated in clinical trials.

REFERENCES