STATINS AND AUTOIMMUNE DISEASES

Lipid-Lowering Linked to Autoimmune Diseases

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Within the last few years, several published reports have linked statins to lupus and other autoimmune disorders; learn about the benefits and risks of statin therapy.

What are Statins?

Statins are drugs used to lower cholesterol levels. Statins are among the most widely prescribed drugs. Several recent reports indicate that statin medications used to lower blood lipids may cause drug-induced lupus erythematosus, systemic lupus erythematosus, dermatomyositis, autoimmune hepatitis, vasculitis, and other autoimmune conditions.

From an extensive review of the literature Doctor Noel reported in January 2007 that 28 cases of statin-induced autoimmune disease have been published so far. Considering that only a small percentage of medical cases are published, researchers suspect that the incidence of statin-induced autoimmune diseases is much higher. Of the 28 published cases, lupus conditions were reported in 13 cases, dermatomyositis and polymyositis in 14 cases, autoimmune hepatitis with SLE in two cases, and lichen planus pemphigoides in one case.

Timeframe and Prognosis

Most cases of autoimmune disease associated with statins were caused by second-generation statins such as simvastatin, atorvastatin, or pravastatin. The mean time of exposure to statins before autoimmune disease developed ranged from one month to six years. In many cases, symptoms resolved after the medication was stopped. However, in most cases, systemic immunosuppressive therapy was required to reduce symptoms. And in many patients, antinuclear antibodies remained positive many months after clinical recovery. Despite aggressive treatment, two fatal cases of statin-induced autoimmune disease have been reported.

Immunology

Drug-induced lupus is associated with the production of antinuclear antibodies. Drug-induced lupus is not associated with the ds-DNA antibodies characteristic of systemic lupus erythematosus. There have been reports of statin therapy inducing the production of ds-DNA antibodies, indicating that statins may induce systemic as well as drug-induced lupus.

Statins are suspected of inducing autoimmune disease by interfering with normal cellular apoptosis (programmed cell death) and by releasing nuclear antigens into the blood.
circulation, a mechanism similar to that of ultraviolet light, a known trigger for lupus. Statins are also suspected of triggering an increase in B-lymphocyte activity.

**Benefits and Side Effects of Statins**

For many years, statins have been associated with a toxic myopathy or muscle wasting related to the inhibition of HMG-CoA. A direct consequence of statin use is decreased levels of CoQ10 and other oil-soluble nutrients. For this reason, in some countries, but not in the United States, CoQ10 is added to statin preparations.

In numerous online discussion boards, patients describe a long list of side effects they’ve anecdotally attributed to statin use. And in the last decade, an association between statins and autoimmune diseases has been described.

Many autoimmune diseases including systemic lupus and Hashimoto’s thyroiditis are associated with elevated lipid levels, atherosclerosis, and cardiovascular disease. For this reason, statins are often prescribed for patients with lupus and other autoimmune disorders. However, in light of the immunological side effects associated with statins described by Noel and other researchers, patients may want to try alternative natural therapies or dietary interventions such as the use of omega-3 oils that are aimed at lowering blood lipid levels before considering statin therapy.

**Resources:**


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