AUTOIMMUNE DISEASE RISK IN HEPATITIS

Risk for patients with viral and autoimmune hepatitis

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Patients with viral and autoimmune hepatitis are at increased risk for developing several different autoimmune disorders.

Autoimmune Conditions in Hepatitis

Several different autoimmune diseases are known to occur in persons with viral and autoimmune hepatitis. Patients with hepatitis A, hepatitis B, and hepatitis C are at risk for developing autoimmune hepatitis and Guillain-Barre syndrome. Patients with hepatitis B and C are also at risk for developing conditions of autoimmune glomerulonephritis, vasculitis, and cryoglobulinemia, which is described later in this article.

Both vitiligo and Behcet's disease are considered to be extrahepatic (affecting organs other than the liver) manifestations in patients with hepatitis C. In addition, patients using interferon therapy for hepatitis B or C are at risk for developing several different autoimmune disorders such as autoimmune thyroid disease and multiple sclerosis.

Interferon

Interferon is an immune system chemical known as a cytokine. Normally, when the immune system responds to viral infection, it produces adequate interferon, which promotes recovery from infection. However, in certain infections including hepatitis B and hepatitis C, the immune system becomes overwhelmed and is unable to produce adequate interferon.

Consequently, therapies containing interferon alpha or pegylated interferon alpha are effective therapies for hepatitis. Because interferon stimulates the immune system, it's a well known autoimmune disease trigger. Insulin dependent diabetes mellitus (IDDM), Graves' disease, Hashimoto's thyroiditis and multiple sclerosis are common occurrences in patients using interferon therapy for viral hepatitis.

Cyroglobulinemia

As many as 40 percent of patients with chronic hepatitis C go on to develop cryoglobulinemia, a condition of elevated cryoglobulin levels. Cryoglobulin proteins precipitate, forming solid compounds in cold temperatures. When patients with cryoglobulinemia are exposed to the cold their blood vessels become clogged and inflamed, which causes a condition of palpable purpura (characterized by small purple bruises), which causes bleeding into the skin. About half of all patients with hepatitis C and cryoglobulinemia experience symptoms.
**Cryoglobulinemia Subtypes**

Patients with cryoglobulinemia may develop type I, type II, type III or essential mixed cryoglobulinemia. Patients with type I cryoglobulinemia develop increased blood viscosity and are at risk for lymphoma, multiple myeloma, and Waldenstrom's macroglobulinemia. Patients with type II and type III cryoglobulinemia are more likely to develop vasculitis, purpura, kidney disease and peripheral neuropathy.

Patients with essential mixed cryoglobulinemia are more likely to have vasculitis involving the smaller blood vessels of the skin, kidneys and gastrointestinal tract with symptoms of hyperpigmentation, muscle pain, itching, ulcerations, arthritis and fatigue.

**Cryoglobulinemia Symptoms**

Besides purpura, patients may develop kidney problems such as glomerulonephritis, peripheral neuropathy, Sjogren's syndrome, and arthritic symptoms. Furthermore, patients with chronic hepatitis C and cryoglobulinemia have a higher risk for liver disease that progresses to cirrhosis. Interferon may help reduce this progression. And although interferon is known to trigger autoimmune disease development, patients with hepatitis and extrahepatic autoimmune manifestations such as cryoglobulinemia or vasculitis show improvement in these extrahepatic manifestations when they use interferon therapy. Chronic hepatitis C is also associated with pain syndromes including fibromyalgia.

**Autoimmune Hepatitis**

Patients with autoimmune hepatitis are at risk for developing other autoimmune disorders. Interferon is not used for patients with autoimmune hepatitis because the immune system is already stimulated. Corticosteroids are a more common treatment. If patients with autoimmune hepatitis are misdiagnosed or develop autoimmune hepatitis in addition to viral hepatitis their conditions worsen if they're prescribed interferon therapy.

The related autoimmune diseases that spontaneously occur most often in patients with autoimmune hepatitis include autoimmune thyroid disorders (both Graves' disease and Hashimoto's thyroiditis), rheumatoid arthritis, ulcerative colitis, diabetes mellitus, autoimmune hemolytic anemia, thrombocytopenia, Sjogren's syndrome, glomerulonephritis and vitiligo.

**Reference:**