LIVER ABNORMALITIES IN SYSTEMIC LUPUS ERYTHEMATOSUS

Liver test abnormalities have been described in up to 60% of patients with systemic lupus erythematosus (SLE) at some point during disease course. In the vast majority of the cases, this represents an asymptomatic (with no particular signs or symptoms) elevation of certain liver enzymes.

The most commonly used enzymes are the alanine aminotransferase (ALT or serum glutamic pyruvic transaminase, SGPT) and aspartate aminotransferase (AST or serum glutamic oxaloacetic transaminase, SGOT). These enzymes are called transaminases and the ALT is considered to be more specific for liver damage since AST may derive from other sources, such as the muscles, the heart and others.

The most common cause of transaminase elevation in lupus patients is liver damage from certain hepatotoxic drugs (“hepar” is the Greek word for liver). These include a wide variety of drugs since almost all of them are metabolized (chemically modified) in the liver after their absorption from the gastrointestinal tract. However, the non-steroidal anti-inflammatory drugs (NSAIDs like ibuprofen, naproxen, diclofenac etc.), excessive use of acetaminophen (and acetaminophen-containing analgesics) and some immunosuppressives (azathioprine, methotrexate etc.) are most often implicated in lupus patients. Usually, the elevation of the transaminases is mild (2-5 times the upper limit of normal) and subsides a few days to weeks after the withdrawal of the offending agent.

In significantly fewer cases, the cause of the elevated liver enzymes may be a common liver disease, such as viral hepatitis (an inflammation of the liver caused by the hepatitis viruses A, B, C etc. or other viruses such as the Epstein-Barr Virus, the cytomegalovirus etc.), alcoholic hepatitis or diseases of the gallbladder and the biliary tree (cholelithiasis, cholangitis etc.).

Nowadays, non-alcoholic fatty liver disease (NAFLD) and non-alcoholic steatohepatitis (NASH) are recognized as a frequent cause of liver enzyme elevation. Plenty of other causes have also been described and extend from localized infections (hepatic abscess) to neoplasms (of the liver or the biliary system). The management of these diseases is individualized and does not differ from the management in non-lupus patients.

In patients with autoimmune conditions, another process is often the underlying cause of elevated liver enzymes. This is an autoimmune

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inflammation of the liver (autoimmune hepatitis) and/or the biliary system (primary biliary cirrhosis, primary sclerosing cholangitis etc.). Clinical symptoms may include jaundice and abdominal pain, nausea, loss of appetite, fatigue etc. The diagnosis of such conditions is often based on specific blood tests (including additional liver enzymes and immunological tests to detect specific autoantibodies) and liver biopsy. The co-existence of autoimmune hepatitis and SLE is considered rare (less than 100 patients have been reported in the world literature). However, in many SLE patients the elevation of the liver enzymes coincides with generalized lupus activity (clinical and serological). Moreover, successful management of lupus leads to their normalization. It is not known if this represents a distinct clinical entity (like autoimmune hepatitis) or liver involvement in the context of lupus.

Of interest, autoimmune hepatitis was formerly known as lupoid hepatitis whereas now it is believed that only a fraction of patients have concurrent SLE. The management of autoimmune hepatitis consists of corticosteroids (prednisone) and immunosuppressives (most commonly azathioprine) and its goal is the normalization of the liver enzymes. Prevention of cirrhosis (advanced liver damage) is achieved in more than 80% of the patients after 5 years.

In conclusion, liver test abnormalities are rather frequent in lupus patients but in most cases this is related to drug toxicity or common liver and/or biliary system diseases. Autoimmune hepatitis is considered rare but it may pose a diagnostic challenge to the physicians. Regular monitoring of the liver enzymes is warranted in lupus patients, particularly in the case of management with certain hepatotoxic drugs. In addition, patients should be advised to minimize other potential risk factors for liver disease, such as excessive use of NSAIDs and acetaminophen as well as alcohol intake.

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