

## “Should Patients with Liver Disease be Screened for Celiac Disease?”

Janaina Luz Narciso-Schiavon\*, Simone Aiko Hatanaka and Leonardo de Lucca Schiavon

Department of Internal Medicine, Division of Gastroenterology, Federal University of Santa Catarina, Santa Catarina, Brazil

Celiac disease was first described by Samuel Gee in 1887 as “a kind of chronic indigestion which is met with in persons of all ages” and could be cured through the diet [1,2]. In the 1950s, during World War II, wheat was identified as a toxic agent for children with celiac disease [2,3]. Today, celiac disease is known as an autoimmune disease of world wide distribution, affecting not only children but adults as well, with a varied clinical picture and symptoms ranging from diarrhea, anemia, and malnutrition to neurological symptoms and association with other autoimmune diseases [4].

Celiac disease is always remembered as a differential diagnosis for malabsorption syndrome or iron deficiency anemia [5]. However, when the clinician has a patient with liver disease, it rarely occurs to him that the patient may suffer from associated celiac disease.

Liver involvement in celiac disease has been widely described in case reports and case series. Abnormal liver tests found during diagnosis of celiac disease are commonly normalized with a gluten-free diet [6-14]. Celiac disease has been associated with primary biliary cirrhosis [15-24], primary sclerosing cholangitis, autoimmune hepatitis [25-27], hepatitis C [28-33], hepatitis B [34-37], non-alcoholic steatohepatitis, and even Wilson’s disease, cirrhosis, and portal hypertension [38-42].

Asymptomatic persistent elevation of amino transferases unrelated to the usual causes of liver disease, such as non-alcoholic fat liver disease, alcohol abuse, viral infection, autoimmune hepatitis, or rare genetic and metabolic disorders, is relatively common among patients undergoing outpatient hepatology. Celiac disease is frequently found in this setting and should be considered in the differential diagnosis of altered alanine transaminase [43].

In autoimmune liver diseases, patients with primary sclerosing cholangitis [39,44,45], primary biliary cirrhosis, or autoimmune hepatitis should undergo celiac screening with tissue transglutaminase and endomysial antibody blood tests [46-48] because an association has been indicated. Patients with celiac disease do not always improve using a gluten-free diet [44,45,49]. However, early recognition and treatment of celiac disease is recommended; gluten restriction improves its symptoms and can also reduce the risk of complications (malabsorption, osteoporosis, and malignant neoplasms) [48,50-52].

In individuals with viral hepatitis, an increased number of celiac antibodies has been described, but the association is not clear and active screening for celiac disease is not recommended [30,53]. However, if the patient will undergo interferon-based therapy, screening is recommended, and if antibodies are present, a gluten-free diet should be established before initiating treatment to reduce the risk of triggering over celiac disease that can lead to discontinuation of interferon [54].

In individuals with liver cirrhosis, screening for celiac disease during evaluation is recommended, even when another etiology for the cirrhosis has already been determined [42]. It is not clear, however, if celiac disease has a specific effect on the liver or is a coincidental finding [42].

Thus, the hepatologist needs to consider celiac disease during differential diagnosis of abnormal liver blood tests, autoimmune liver diseases, pre-interferon viral hepatitis, and cirrhosis of various etiologies.

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\*Corresponding author: Narciso-Schiavon JL, Hospital Universitário - UFSC, Departamento de Clínica Médica Rua Professora Maria Flora Pausewang, s/no, 3o andar - Trindade - Florianópolis (SC) - Brazil - 88040-900, Tel: 55-48-3721-9149; E-mail: [janaina.narciso@uol.com.br](mailto:janaina.narciso@uol.com.br)

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