

 VIRAL HEPATITIS

## Mechanism of fatigue in patients with chronic hepatitis C involves carnitine

The severity of fatigue in patients with chronic hepatitis C (CHC) may be linked to plasma carnitine levels, according to a new French study by Roldolphe Anty and colleagues. Oral supplementation with carnitine may, therefore, be an effective way to relieve fatigue in such patients. This research points to a novel pathophysiological mechanism for fatigue in this setting, in which no proper fatigue-related biochemical changes have been established.

Fatigue is a symptom that is frequently reported by patients suffering from chronic illnesses, such as CHC, primary biliary cirrhosis and IBS, and is an important determinant of quality of life. Owing to its subjective nature, however, fatigue has been difficult to research and few studies investigating potential mechanisms have been performed. On the basis of previous research by Anty and his team, they decided to investigate the contributory role of plasma levels of

carnitine and leptin on fatigue in patients with IBS or CHC. A group of prospectively recruited patients with IBS ( $n = 42$ ) or CHC ( $n = 81$ ) and healthy individuals ( $n = 44$ ) underwent a number of anthropometric and biological assessments before completing the Fatigue Impact Scale questionnaire. This survey determined patient level of fatigue through cognitive, physical and psychological domains.

Plasma levels of carnitine were significantly lower in patients with CHC, but not IBS, compared with healthy individuals. Moreover, the severity of fatigue correlated negatively with total and free levels of carnitine in patients with CHC. Lastly, free levels of carnitine were significantly and independently associated with the severity of fatigue in these patients.

“The present findings could have practical, clinical consequences,” say Anty and colleagues. “In particular, to reduce fatigue related to liver diseases



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and to increase adherence to antiviral therapy in patients with CHC. Emerging evidence also suggests that the addition of carnitine to antiviral therapy for CHC results in a marked and significant reduction in fatigue levels, providing good reasons to pursue larger trials on the possible benefit of carnitine oral supplementation in this setting.”

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**Original article** Anty, R. *et al.* Plasma carnitine is associated with fatigue in chronic hepatitis C but not in irritable bowel syndrome. *Aliment. Pharmacol. Ther.* doi:10.1111/j.1365-2036.2011.04608.x