What's the role of Kupffer cells in non-alcoholic steatohepatitis?

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Nonalcoholic steatohepatitis (NASH) is a disorder characterized by hepatic steatosis, inflammation and fibrosis with a risk of developing cirrhosis and hepatocellular carcinoma (HCC). The progression from simple steatosis to cirrhosis has been attributed to inflammatory cytokines such as tumor necrosis factor alpha (TNF-?), oxidative stress and endotoxin, in combination with fatty degeneration due to insulin resistance. At present, histopathological examination of liver biopsy tissue is the only way to definitively diagnose NASH. The diagnosis of NASH is important in clinical hepatology, as this common disease is known to progress to hepatic cirrhosis and finally HCC.

A research article to be published on October 21, 2008 in the *World Journal of Gastroenterology* addresses this question. The research team was led by Tatsuhiro Tsujimoto from Nara Medical University of Japan.

Kupffer cells and hepatic sinusoidal function can be evaluated using the contrast effect in the liver parenchymal phase during CEUS examination using Levovist®, strongly implicating Kupffer cells in the pathogenesis of NASH. Reduced function or uneven distribution of Kupffer cells in the liver may play a part in this phenomenon, although this is no more than conjecture at this stage. In this study, authors investigated the contrast effect in the liver parenchymal phase of CEUS using Levovist®, as well as Kupffer cell dynamics and phagocytic activity.

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to HCC. At present, histopathological examination of liver biopsy tissue is the only way to definitively diagnose NASH. When patients with NASH undergo CEUS examination using Levovist®, a reduced contrast effect is seen in the liver parenchymal phase. They investigated Kupffer cell dynamics and phagocytic activity using a rat NASH model.

This report shows the contrast effect in the liver parenchymal phase of CEUS using Levovist®, as well as detailed Kupffer cell dynamics and phagocytic activity in the rat NASH model. The results confirmed the effectiveness of CEUS examination in diagnosing NASH. Authors expect that the CEUS examination using Levovist® is useful screening examination which picks up NASH among fatty liver patients.

Source: World Journal of Gastroenterology

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