Coffee consumption reduces fibrosis risk in those with fatty liver disease

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Caffeine consumption has long been associated with decreased risk of liver disease and reduced fibrosis in patients with chronic liver disease. Now, newly published research confirms that coffee caffeine consumption reduces the risk of advanced fibrosis in those with nonalcoholic fatty liver disease (NAFLD). Findings published in the February issue of *Hepatology*, a journal of the American Association for the Study of Liver Diseases, show that increased coffee intake, specifically among patients with nonalcoholic steatohepatitis (NASH), decreases risk of hepatic fibrosis.

The steady increase in rates of diabetes, obesity, and metabolic syndrome over the past 20 years has given rise to greater prevalence of NAFLD. In fact, experts now believe NAFLD is the leading cause of chronic liver disease in the U.S., surpassing both hepatitis B and C. The majority of patients will have isolated fatty liver which has a very low likelihood of developing progressive liver disease. However, a subset of patients will have NASH, which is characterized by inflammation of the liver, destruction of liver cells, and possibly scarring of the liver. Progression to cirrhosis (advanced scarring of the liver) may occur in about 10-11% of NASH patients over a 15 year period, although this is highly variable.

To enhance understanding of the correlation between coffee consumption and the prevalence and severity of NAFLD, a team led by Dr. Stephen Harrison, Lieutenant Colonel, U.S. Army at Brooke Army Medical Center in Fort Sam Houston, Texas surveyed participants from

a previous NAFLD study as well as NASH patients treated at the center's hepatology clinic. The 306 participants were asked about caffeine coffee consumption and categorized into four groups: patients with no sign of fibrosis on ultrasound (control), steatosis, NASH stage 0-1, and NASH stage 2-4.

Researchers found that the average milligrams in total caffeine consumption per day in the control, steatosis, Nash 0-1, and Nash 2-4 groups was 307, 229, 351 and 252; average milligrams of coffee intake per day was 228, 160, 255, and 152, respectively. There was a significant difference in caffeine consumption between patients in the steatosis group compared to those with NASH stage 0-1. Coffee consumption was significantly greater for patients with NASH stage 0-1, with 58% of caffeine intake from regular coffee, than with NASH stage 2-4 patients at only 36% of caffeine consumption from regular coffee.

Multiple analyses showed a negative correlation between coffee consumption and risk of hepatic fibrosis. "Our study is the first to demonstrate a histopatholgic relationship between fatty liver disease and estimated coffee intake," concludes Dr. Harrison. "Patients with NASH may benefit from moderate coffee consumption that decreases risk of advanced fibrosis. Further prospective research should examine the amount of coffee intake on clinical outcomes."

More information: "Association of Coffee and Caffeine Consumption with Fatty Liver Disease, Non-alcoholic Steatohepatitis, and Degree of Hepatic Fibrosis." Jeffrey W Molloy, Christopher J Calcagno, Christopher D Williams, Frances J Jones, Dawn M Torres, Stephen A Harrison. *Hepatology*; December 22, 2011 (DOI: 10.1002/hep.24731); Print Issue Date: February 2012.

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