Cardiovascular issues up mortality rates in patients with advanced fibrosis

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New research reveals that advanced fibrosis is a significant predictor of mortality in patients with nonalcoholic fatty liver disease (NAFLD), largely brought about by cardiovascular causes. NAFLD alone was not associated with increased mortality according to findings published in the April issue of *Hepatology*, a journal of the American Association for the Study of Liver Diseases.

With super-sized portions, sugary soft drinks and physical inactivity, obesity is on the rise and showing no sign of slowing. Studies report that the prevalence of obesity has doubled in the U.S. over the past 25 years. As obesity rates have soared, so has the incidence of NAFLD, making it the most prevalent liver disease in the U.S.

NAFLD is a chronic form of liver disease that includes such conditions as steatosis without fibrosis, nonalcoholic steatohepatitis (NASH) with fibrosis, and cirrhosis. Fibrosis is the progressive scarring of the liver with stages ranging from zero to four (cirrhosis). Medical evidence has found that patients with simple steatosis have a better prognosis than those with NASH, which could progress to end-stage liver disease.

Lead investigator Dr. W. Kim Ray from the Mayo Clinic in Rochester, Minn. explains, "The effect of NAFLD on public health is not well understood. Large, population-based studies, which can provide insight into disease activity, present some difficulty given that liver biopsy is required to confirm NAFLD."

To investigate the long-term impact of NAFLD on mortality, the team used data from the National Health and Nutrition Examination Survey (NHANES)—a survey by the National Center for Health Statistics in conjunction with the Centers for Disease Control and Prevention (CDC) that was conducted from 1988 to 1994 with mortality follow-up through 2006. NAFLD was diagnosed by ultrasound and severity of fibrosis was measured by non-invasive fibrosis markers such as the NAFLD fibrosis score (NFS).

Findings indicate that of the 11,154 participants, 34% had NAFLD, with 72% of these patients having a NFS that indicated lack of significant fibrosis (NFS less than -1.455) and 3% with advanced fibrosis (NFS greater than 0.676). NAFLD was not associated with higher mortality risk after a median of 15 years of follow-up.

Further analysis shows that mortality increases as fibrosis advances. In fact, patients likely to progress to advanced fibrosis had a 69% increase in mortality compared to those without fibrosis. Higher mortality in those with advanced fibrosis was largely due to cardiovascular causes, more than expected from conditions common in patients with NAFLD such as high blood pressure or high levels of cholesterol. "Our findings confirm that NAFLD patients without advanced fibrosis do not have higher mortality risk," concludes Dr. Kim. "Careful monitoring of disease progression in patients with NAFLD and fibrosis, along with interventions that reduce cardiovascular risk factors are warranted."

More information: "Association Between Noninvasive Fibrosis Markers and Mortality Among Adults with Non-alcoholic Fatty Liver Disease in the United States." Donghee Kim, W. Ray Kim, Hwa Jung Kim and Terry M. Therneau. *Hepatology*; (DOI: 10.1002/hep.26156) Print Issue Date: April, 2013. doi.wiley.com/10.1002/hep.26156