# Hypothyroidism in women associated with liver cancer

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Women with a history of hypothyroidism face a significantly higher risk of developing liver cancer, according to a new study in the May issue of *Hepatology*, a journal published by John Wiley & Sons on behalf of the American Association for the Study of Liver Diseases (AASLD).

Hypothyroidism is the most common thyroid disorder among U.S. adults, affecting between 8 and 12 percent of the U.S. population, and more women than men. The condition can cause hyperlipidemia and weight gain and may play a role in the development of nonalcoholic steatohepatitis which can progress to more severe liver disease. Studies have also suggested a clinical association between hypothyroidism and hepatitis C, which is contributing to the country's rising rate of liver cancer.

Researchers, led by Manal Hassan of Anderson Cancer Center at the University of Texas, designed a case-control study to better understand the association between hypothyroidism and the development of liver cancer, also known as hepatocellular carcinoma (HCC), in the U.S.

They included 420 patients with liver cancer and 1,104 healthy controls. From each subject, the researchers gathered demographic data and information about liver cancer risk factors, like smoking, alcohol consumption and family cancer history. The participants were also asked about their history of thyroid conditions and obesity. They provided blood samples that were tested for hepatitis B and hepatitis C.

About 15 percent of the liver cancer patients had a history of thyroid disease, compared to about 12 percent of the healthy controls. Subjects with a history of hypothyroidism had twice the risk of liver cancer; however the relationship was only significant for females.

Women who had a prior history of hypothyroidism for more than 10 years had a threefold higher risk of liver cancer compared to women without a history of thyroid disorders. Adjusting for obesity did not change the association.

"Whether and why hypothyroidism causes HCC is not clear," the authors write. "However, the association between hypothyroidism and NASH can be explained by the underlying hyperlipidemia, decreased fatty acid oxidation insulin resistance and lipid peroxidation in patients with hypothyroidism." And these conditions may make the patient susceptible to HCC development.

"Further studies among different populations are warranted to confirm the association between hypothyroidism and HCC and to identify the underlying biological mechanisms and the genetic predisposition factors that may contribute to susceptibility to HCC development in the presence of thyroid disorders," the authors conclude.

More information: "Association Between Hypothyroidism and Hepatocellular Carcinoma: USA Case-Control Study." Hassan, Manal; Kaseb, Ahmed; Li, Donghui; Patt, Yehuda; Vauthey, Jean-Nicolas; Thomas, Melanie; Curley, Steven A.; Spitz, Margaret; Sherman, Steven; Abdalla, Eddie; Davila, Marta; Lozano, Richard; Hassan, Deena; Chan, Wenyaw; Brown, Thomas; Abbruzzese, James. *Hepatology*; May 2009.

Source: Wiley (news : web)