Medical Xpress

# Low vitamin D linked to fatty liver disease in UK children

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A UK study[1] investigating the link between low vitamin D status and non-alcoholic fatty liver disease (NAFLD) in British children has identified a genetic variant associated with the disease's severity.

The research, conducted by the King's College Hospital Paediatric Liver Centre and the University of Surrey's School of Biosciences and Medicine, and funded by the Children's Liver Disease Foundation retrospectively analysed the medical records of 120 paediatric patients with NAFLD.

The findings could carry significant implications for UK clinicians in light of the nation's rising number of childhood NAFLD cases. High levels of vitamin D deficiency and increasing numbers of rickets cases are thought to be due to the obesity epidemic, more children increasingly choosing to play indoors rather than outside and the excessive use of sun-creams.

EASL's Educational Councillor Professor Jean-Francois Dufour of the University Clinic for Visceral Surgery and Medicine, University of Bern, Switzerland said: "The data support recent research that revealed an association between low vitamin D status and incidence of NAFLD and is an important development in helping clinicians better understand the growing rate of NAFLD in children throughout the western world."

"Identifying a gene that impacts or alters the disease is a step in the right direction and could potentially lead to the development of new

treatments or diagnostic techniques to address this growing issue," Professor Dufour continued. "More research into this field is warranted and I look forward to seeing future developments over time."

NAFLD is the term used to describe fat build-up in liver cells in people who do not drink alcohol excessively.[2] NAFLD is rapidly becoming the most common liver disease worldwide and is the most common persistent liver disorder in western countries and is estimated to affect up to 10% of Europe's paediatric population.[3] The disease has an estimated overall prevalence of 20% to 30% across Europe.[4],[5]

Patients were found to have low vitamin D blood levels throughout the entire year, not just in the winter months, plus the majority of samples were found to be deficient or insufficient in vitamin D status compared to national UK and US health standards. The study also detected a variant of the NADSYN1 gene which was associated with NAFLD severity in patients.

**More information:** [1] P.S Gibson et al. VITAMIN D STATUS, PNPLA3 GENOTYPE AND RISK OF NON-ALCOHOLIC FATTY LIVER DISEASE SEVERITY IN A UK PAEDIATRIC POPULATION. Abstract presented at the International Liver Congress 2014

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[3] World Gastroenterology Organisation. World Gastroenterology Organisation Global Guidelines: Nonalcoholic Fatty Liver Disease and Nonalcoholic Steatohepatitis. Available at www.worldgastroenterology.org/ … /userfiles/2012_NASH %20and%20NAFLD_Final_long.pdf Accessed 24.03.14.

[4] Fatty Liver. Medicine Net. Available at www.medicinenet.com/fatty_liver/page4.htm Accessed 19.03.14

[5] Bellentani S, Scaglioni F, Marino M. and Bedogni G. Epidemiology of Non-Alcoholic Fatty Liver Disease. Digestive Diseases 2010; 28: 155-161

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