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Endocrine. 2014 Sep;47(1):213-20. doi: 10.1007/s12020-013-0107-8. Epub 2013 Nov 23.

Vitamin D Status, Liver Enzymes, and Incident Liver Disease and Mortality: A General Population Study

Tea Skaaby ¹, Lise Lotte Nystrup Husemoen, Anders Borglykke, Torben Jørgensen, Betina Heinsbæk Thuesen, Charlotta Pisinger, Lars Ebbe Schmidt, Allan Linneberg

Affiliations

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Abstract

Vitamin D deficiency is common among patients with liver diseases. Both cholestatic and non-cholestatic liver diseases can cause vitamin D deficiency. Whether vitamin D status can also affect liver function is poorly understood. To investigate the association between vitamin D status, liver enzymes, and incident liver disease, we included a total of 2,649 individuals from the Monica10 study conducted in 1993-1994. Vitamin D status as assessed by serum 25-hydroxyvitamin, serum alanine transaminase (ALT), aspartate transaminase (AST), and gamma glutamyl transferase (GGT) were measured at baseline. Information on fatal and non-fatal liver disease was obtained from the Danish National Patient Register and The Danish Registry of Causes of Death, respectively. Median follow-up time was 16.5 years, and there were 62 incident cases of fatal and non-fatal liver disease. Multivariable Cox regression analyses with age as underlying time axis and delayed entry showed a statistically significant inverse association between vitamin D status and incident liver disease with a hazard ratio = 0.88 (95 % confidence interval 0.79-0.99) per 10 nmol/l higher vitamin D status at baseline (adjusted for gender, season, alcohol consumption, smoking, physical activity, dietary habits, education, body mass index, and ALT). The risk of having a high level of ALT, AST, or GGT tended to be higher for lower vitamin D levels, although not statistically significant. In this general population study, vitamin D status was inversely associated with incident liver disease. Further studies are needed to determine whether patients in risk of developing impaired liver function should be screened for vitamin D deficiency for preventive purposes.

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Targher G, Byrne CD. Targher G, et al. *Endocrine*. 2014 Sep;47(1):3-4. doi: 10.1007/s12020-014-0220-3. Epub 2014 Mar 5. *Endocrine*. 2014. PMID: 24595898 No abstract available.

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