Elmer Press

Editorial

J Endocrinol Metab. 2016;6(5):133-134

Think About the Application of Vitamin E to Heterozygous Familial Hypobetalipoproteinemia to Prevent Liver Cirrhosis and Hepatocellular Carcinoma

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Familial hypobetalipoproteinemia (FHBL) is a rare genetic disease characterized by low levels of low-density lipoprotein (LDL) cholesterol and apolipoprotein (apo) B. In homozygous FHBL, dietary fat restriction and long-term high-dose vitamin E and A supplementation are recommended to prevent the progression of neuromuscular and retinal degenerative disease [1]. However, it has been considered that heterozygous FHBL subjects are usually asymptomatic, and do not require vitamin E supplementation [1]. The accumulated literatures suggest the development of fatty liver diseases including non-alcoholic steatohepatitis (NASH)-related cirrhosis and hepatocellular carcinoma (HCC) in heterozygous FHBL individuals [1-11].

A 33-year-old skinny man was referred to me for the treatment of heterozygous FHBL. He had been diagnosed to have fatty liver disease and heterozygous FHBL 6 years ago. However, he was told that there was no treatment for FHBL by the doctor. His serum levels of total cholesterol, LDL-cholesterol and apo B (normal range: 73 - 109 mg/dL) were 102, 27 and 22 mg/dL, respectively, supporting the diagnosis of heterozygous FHBL. He complained of steatorrhea and general fatigue. I started the treatment using dairy 150 mg of vitamin E, which ameliorated steatorrhea and general fatigue. He gained body weight by 3 kg. His father was diagnosed to have HCC when he was 63 years old; however, hepatitis B and C viruses, and alcoholism were not detected, suggesting the development of HCC due to NASH.

Vitamin E supplementation has been recommended for persons with homozygous FHBL because this disease leads to low serum lipid-soluble vitamin E. However, it has not been recommended that persons with heterozygous FHBL receive vitamin E supplementation [1, 12]. I think that a significance of vitamin E for fatty liver diseases including NASH, liver cirrhosis and HCC in heterozygous FHBL individuals has been forgotten. To our knowledge, there are no literatures about the application of vitamin E to prevent NASH in heterozygous FHBL. The efficacy of vitamin E is reasonably well established in a selected group of patients with NASH, who are not FHBL patients [13]. To prevent NASH, liver cirrhosis and HCC, we should think about the application of vitamin E to heterozygous FHBL patients who may have low serum vitamin E levels and may be also prone to develop NASH.

Manuscript accepted for publication October 19, 2016

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doi: http://dx.doi.org/10.14740/jem380w

Conflicts of Interest

The author declares that there are no conflicts of interest concerning this article.

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