

The Effects of Vitamin E on Chronic Hepatitis C Genotype 3: A randomized, double-blinded, placebo-controlled study

Chalermrat Bunchorntavakul, M.D. and Thorntavach Wootthanant, M.D.

Division of Gastroenterology and Hepatology, Department of Medicine

Rajavithi Hospital, Bangkok, Thailand

ABSTRACT

BACKGROUND: Hepatitis C infection is associated with chronic inflammation and oxidative damage. Vitamin E is a potent antioxidant, which has been shown to protect against liver damage induced by oxidative stress in various liver diseases, particularly steatohepatitis. HCV-induced steatosis is most frequently reported in HCV genotype 3.

AIM: To assess the effect of vitamin E on alanine aminotransferase (ALT) status in HCV genotype 3.

METHODS: This randomized, double-blind, placebo-controlled study was conducted in a single tertiary-care hospital between September 2010 and February 2011. We included HCV genotype 3 patients with elevated ALT levels who were unable to receive or tolerate, or did not respond to standard therapy. Thirty-seven eligible patients were randomly assigned either to receive vitamin E 400 IU twice daily (N=19) or placebo (N=18; 1 dropped out) for 12 weeks. Response to treatment was defined by a statistically significant decrease in serum ALT levels below baseline values.

RESULTS: 23/36 patients were women, median age was 50 (31-63) years, mean HCV-RNA was 5.48 ± 0.71 log₁₀ IU/ml, 39% were obese, and 56% had fatty liver on ultrasonography. There was no statistically significant difference in baseline characteristics between the two treatment groups. Eleven of 19 patients in vitamin E group (57.8%) were responders (ALT levels reduced from 122.6 (± 80.1) IU/L to 68.4 (± 25.3) IU/L; 55.78% lowering; $p=0.016$), whereas 5 of 17 patients in placebo group (29.41%) were responders. Multivariate analysis did not identify a significant predictor of

response to therapy. Vitamin E treatment was well-tolerated and no serious adverse events seen during the study.

CONCLUSION: Vitamin E treatment decreases serum ALT levels in HCV genotype 3 patients with elevated ALT levels. Due to good safety profile of vitamin E, it may be worthwhile to utilize it as a supportive therapy for hepatitis C patients, particularly in those who were unable to receive standard therapy.