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The Biochemical Prognostic Factors of Subclinical Hypothyroidism (*Endocrinol Metab* 2014;29:154-62, Myung Won Lee et al.)

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Subclinical hypothyroidism is defined as a serum thyroid stimulating hormone (TSH) concentration above the upper limit of its reference range plus a serum free thyroxine (FT4) concentration within its reference range. There are several controversies regarding the effect of subclinical hypothyroidism on the risk of heart failure, cardiovascular disease risk, cholesterol metabolism and mortality, due to the lack of randomized prospective clinical trials [1].

Several studies have evaluated the natural course of overt hypothyroidism and risk factors for its development. In one previous United States study of elderly subjects (≥65 years old) [2], subclinical hypothyroidism remained in 56% of patients at a 2-year follow-up, while 35% showed euthyroidism and 2% overt hypothyroidism. In that study, higher TSH level and thyroid peroxidase (TPO) antibody (Ab) positivity were independently associated with persistent subclinical hypothyroidism, and a TSH level of 10 mU/L or higher was an independent risk factor for overt hypothyroidism. In another study, 36.4% of patients showed persistent subclinical hypothyroidism, 37.4% euthyroidism and 26.2% overt hypothyroidism after 6 to 72 months of follow-up (mean 31.7 months) [3]. TSH level was the only significant predictor of progression to overt hypothyroidism.

Recently, Lee et al. [4] reported that the initial TSH level was the only definite prognostic factor for persistent subclinical hypothyroidism. Also, TPO Ab titer was a helpful prognostic factor for maintenance of subclinical hypothyroidism in patients with mildly elevated TSH levels (5 to 10 mU/L). This result is consistent with those reported previously. However, the authors needed to perform a multivariate Cox regression analysis to identify prognostic or risk factors for persistent subclinical hypothyroidism. Simple comparison of baseline characteristics seems insufficient to conclude that TSH is a risk factor. In addition, it might be helpful to perform a survival analysis according to TSH range using Kaplan-Meier curves.

Determining the natural course and long-term clinical effects of subclinical hypothyroidism and identifying risk factors for persistent subclinical hypothyroidism would have implications for the follow-up and treatment of patients with subclinical hypothyroidism. Therefore, a long-term prospective study is needed.

CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

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