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Thyrotropin Levels and Risk of Fatal Coronary Heart Disease

The HUNT Study

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Background Recent studies suggest that relatively low thyroid function within the clinical reference range is positively associated with risk factors for coronary heart disease (CHD), but the association with CHD mortality is not resolved.

Methods In a Norwegian population-based cohort study, we prospectively studied the association between thyrotropin levels and fatal CHD in 17 311 women and 8002 men without known thyroid or cardiovascular disease or diabetes mellitus at baseline.

Results During median follow-up of 8.3 years, 228 women and 182 men died of CHD. Of these, 192 women and 164 men had thyrotropin levels within the clinical reference range of 0.50 to 3.5 mIU/L. Overall, thyrotropin levels within the reference range were positively associated with CHD mortality (P for trend = .01); the trend was statistically significant in women (P for trend = .005) but not in men. Compared with women in the lower part of the reference range (thyrotropin level, 0.50-1.4 mIU/L), the hazard ratios for coronary death were 1.41 (95% confidence interval [CI], 1.02-1.96) and 1.69 (95% CI, 1.14-2.52) for women in the intermediate (thyrotropin level, 1.5-2.4 mIU/L) and higher (thyrotropin level, 2.5-3.5 mIU/L) categories, respectively.

Conclusions Thyrotropin levels within the reference range were positively and linearly associated with CHD mortality in women. The results indicate that relatively low but clinically normal thyroid function may increase the risk of fatal CHD.