Subclinical Thyroid Dysfunction as a Risk Factor for Cardiovascular Disease. Archives of Internal Medicine 2005; 165:2467-2472.

Abstract

Background: There have been few large epidemiological studies examining the association between thyroid dysfunction and cardiovascular disease. In particular, it is uncertain if subclinical hypothyroidism is a risk factor for cardiovascular disease.

Methods: Serum thyrotropin and free thyroxine concentrations were measured in 2108 archived serum samples from a 1981 community health survey in Busselton, Western Australia (Busselton Health Study). In a cross-sectional study, we examined the prevalence of coronary heart disease in subjects with and without subclinical thyroid dysfunction. In a longitudinal study, we examined the risk of cardiovascular mortality and coronary heart disease events (fatal and nonfatal combined) to the end of 2001 (excluding subjects who had coronary heart disease at baseline).

Results: In the cross-sectional analysis, subjects with subclinical hypothyroidism (n=119) had a significantly higher prevalence of coronary heart disease than euthyroid subjects (n=1906) (age- and sex-adjusted prevalence odds ratio, 1.8; 95% confidence interval, 1.0-3.1; P=.04). In the longitudinal analysis of subjects with subclinical hypothyroidism (n=101), there were 21 cardiovascular deaths observed compared with 9.5 expected (age- and sex-adjusted hazard ratio, 1.5; 95% confidence interval, 1.0-2.4; P=.08) and 33 coronary heart disease events observed compared with 14.7 expected (age- and sex adjusted hazard ratio, 1.7; 95% confidence interval, 1.2-2.4; P<.01). The increased risk of coronary heart disease events remained significant after further adjustment for standard cardiovascular risk factors. Subjects with subclinical hyperthyroidism (n=39) had no adverse outcomes.

Conclusion: Subclinical hypothyroidism may be an independent risk factor for coronary heart disease.