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## Thyroid function and carotid wall thickness.

### Abstract

Decreased serum TSH levels predict vascular mortality in older people. There is a need to investigate mechanisms that could explain this association. This study was designed to investigate the relationship between thyroid function and the carotid intima-media thickness (IMT). The Study of Health in Pomerania is a population-based survey in Germany. Data from 2086 individuals at least 45 yr old with carotid ultrasound and without known thyroid disorders were analyzed. Twenty-nine participants (1.4%) had elevated serum TSH levels, 300 (14.4%) had decreased serum TSH levels, and 12 (0.6%) participants were hyperthyroid. A linear relationship between thyroid function and IMT was found. The highest IMT values were observed in participants with hyperthyroidism, the lowest in subjects with elevated serum TSH levels ( $P < 0.01$ ). A multivariable regression analysis identified thyroid function as an independent risk factor for increased IMT. Other risk factors for increased IMT included male gender, advanced age, diabetes mellitus, current smoking, and the use of antihypertensive medication; increased pulse pressure, serum low-density cholesterol, and total cholesterol/high-density lipoprotein ratio; as well as a decreased heart rate and a positive history of myocardial infarction. We conclude that there is an independent association between thyroid function and the IMT of the carotid artery.

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