CARDIOVASCULAR MODIFICATIONS IN SUBCLINICAL HYPOTHYROIDISM

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Although subclinical hypothyroidism is frequently diagnosed, the decision to initiate a substitutive therapy with LT4 remains controversial. Because the cardiovascular system is considered a main target for the action of thyroid hormone, we investigated whether subclinical hypothyroidism induces cardiovascular abnormalities. Fifteen patients (mean age 48±11) were evaluated by Doppler-echocardiography and reevaluated after 6 months of LT_4 substitutive therapy (mean dose 64μg daily). Fifteen subjects (matched for age, sex) served as controls. Mean plasma TSH was significantly higher in patients, whereas mean serum free T_4 concentrations, although in normal range, were significantly lower.

Echocardiogram exam showed no abnormalities of the left ventricular morphology and a slight reduction in the systolic function in the patient group. In contrast, Doppler-derived indices of diastolic function showed significant prolongation of the isovolumic relaxation time (89±11 vs. 80±10msec), increased a wave (61±12 vs 52±11).

Thyroid hormone profile was normalized by 6 months of treatment, whereas no changes were observed in the LV morphology. These findings indicate that subclinical hypothyroidism affects diastolic function and that this abnormality may be reversed by LT_4 therapy.