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THYROID HORMONE DEFICIENCY - INFLUENCE ON THE CARDIOVASCULAR SYSTEM AND COGNITIVE FUNCTIONS

Abstract: Thyroid hormones have a significant influence on the cardiovascular system, by both direct action on heart and blood vessels and by modulating blood lipids. In overt hypothyroidism, vascular resistance is increased and heart rate is decreased. In mild thyroid, failure there is a left and right ventricle systolic and diastolic dysfunction. TSH also correlates with the levels of total and LDL cholesterol. Subclinical hypothyroidism is a strong indicator of risk for atherosclerosis and myocardial infarction.

Thyroid hormones are essential for the brain function. In euthyroid subjects, large part of the variability in cognitive function can be explained by the variability in thyroxin concentration. In subclinical hypothyroidism, neuropsychological tests and event related brain potential are abnormal, and thyroxin substitution normalizes results. Thyroid hormone deficiency causes brain dysfunction, influencing cerebral blood flow, glucose utilisation and cholinergic activity. Presence of thyroid antibodies, especially antiTPO antibodies can be associated with severe cerebral dysfunction, known as Hashimoto encephalopathy. It seems that specific antineuronal antibodies are present in these patients, but also there might be intrathecal synthesis