

Lipid Profile and its Association with Inflammatory Markers in Overt Hypothyroidism

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INTRODUCTION: Overt Hypothyroidism (OH) is recognized risk factor for atherosclerotic cardiovascular disease, a chronic inflammatory process. However, few studies has been investigating the potential link between hypothyroid dysfunction and inflammation. **OBJECTIVES:** The purpose of the study was to evaluate the association between OH and inflammatory markers. **MATERIAL AND METHODS:** A case-control study was performed with 40 OH patients and 40 healthy controls, enrolled prospectively from clinical laboratory LABIMED, located in Santa Maria-RS, Brazil. Inflammatory cytokines, interleukin-1 (IL-1), interleukin-6 (IL-6), tumor necrosis fator- α (TNF- α) and interferon- γ (IFN- γ) as well as cell-free DNA (cf-DNA) levels were measured. Additionally, total cholesterol, high and low density lipoprotein subfractions, triglyceride, fibrinogen, and D-dimer were recorded. **RESULTS AND DISCUSSION:** All cytokines and cf-DNA levels analyzed were increased in OH group, suggesting chronic low-grade proinflammatory state. Lipids and prothrombotic markers were also increased in hypothyroid subjects, indicating additional cardiovascular risk factors. A significant association between the inflammatory cytokines and lipid profile was observed, independently of sex, age and BMI status of the subjects. **CONCLUSIONS:** Hypothyroidism is associated with inflammatory profile. Hyperlipidemia has a stronger influence on inflammation, increasing cardiovascular risk and atherosclerosis development in hypothyroidism.

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