Association of serum levels of alpha-tocopherol and Friesinger score in patients with cardiovascular risk.

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INTRODUCTION: Atherosclerosis is a chronic inflammatory process associated with the majority of cardiovascular diseases (CVD). The oxidative stress is an important event in the pathogenesis of these diseases that are major cause of morbidity and mortality worldwide. Antioxidants are substances capable of preventing the deleterious effects of oxidation, and recent studies showed that they might have a protective role in CVD. Alpha-tocopherol has shown important antioxidant, anti-inflammatory, and antiatherogenic features. Thus, it has been suggested that this substance is associated with decreased risk of CVD and atherosclerosis. **OBJECTIVES:** This study evaluated serum concentrations of alpha-tocopherol and its association with the degree of atherosclerotic lesion in patients with cardiovascular risk. **MATERIALS AND METHODS:** The study included adults aged 30-74 years undergoing first coronary angiography. Fasting blood samples have been collected for biochemical analysis. The concentration of alpha-tocopherol was determined by high-performance liquid chromatography (HPLC). The atherosclerotic burden was measured through Friesinger score. This score ranges from 0 to 15 points. **RESULTS:** The sample consisted of 60 adult patients: 30 men (50%) and 30 women (50%). According to degree of atherosclerosis injury, 53.3% of patients had low injury, 23.3% intermediate injury and 23.3% serious injury. The average concentration of alpha-tocopherol was equal to 607.99 µg/dl in patients with low injury, 872.28 µg/dl in patients with intermediate injury and 850.23 µg/dl in patients with serious injury. Lesion degree of correlation was observed with the alpha-tocopherol ($p = 0.04$), glucose ($p < 0,01$) and uric acid ($p = 0.04$). **CONCLUSIONS:** The degree of atherosclerotic lesion was associated with the alpha-tocopherol levels in patients with cardiovascular risk.

Keywords: alpha-tocopherol; atherosclerosis; Friesinger score.
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