

## Incidence of familial hypercholesterolemia in patients with acute coronary syndrome

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Familial hypercholesterolemia is recognized as the most common cause of premature cardiovascular disease both globally and within Europe. Elevated levels of LDL-cholesterol promote generalized atherosclerosis and the accumulation of atherosclerotic plaques within arterial walls, often resulting in complete occlusion of arteries and acute cardiovascular events, including acute coronary syndrome and myocardial infarction. In order to prevent such events in a timely manner, it is optimal to start treatment in childhood or adolescence. However, insufficient awareness of this disease often results in a situation where treatment is started only after a cardiovascular incident has already occurred. In Croatia, as in many other countries, the diagnosis of familial hypercholesterolemia is often not timely, and the treatment is often inadequate. The diagnosis is made clinically with the help of the Dutch Lipid Clinic Network criteria, without necessarily requiring genetic analysis. However, it is crucial to start treatment as early as possible. The central goal of the treatment is to reduce the value of LDLcholesterol depending on the individual cardiovascular risk. This thesis is based on a cross-sectional study of collected data on age, sex, family history, comorbidities and LDL-cholesterol concentration in patients with acute coronary syndrome. Aggregated data from the hospital information system were used. The aim of this research is to investigate the frequency of familial hypercholesterolemia in patients with acute coronary syndrome and to raise awareness of the need for early lowering of LDL cholesterol levels in diagnosed patients. The research results show a pronounced frequency (20.3%) of cardiovascular incidents in the group of patients with definite or probable familial hypercholesterolemia according to the Dutch lipid score. This suggests that people with familial hypercholesterolemia more often experience cardiovascular incidents such as myocardial infarction and cerebrovascular incidents. Additionally, despite the use of statins, patients with familial hypercholesterolemia are not always properly treated, which significantly increases the risk of recurrent cardiovascular events.

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