

Coronary atherosclerosis imaging using CT coronary angiography in patients with high risk of coronary heart disease

Coronary heart disease (CHD) belongs to most frequent disorders and in industrial countries is responsible for most deaths in population. The costs of treatment of the clinical manifested CHD are high, so there is tendency to detect this disease in early phase and ideally before development of clinical symptoms.

Aim of our study was to evaluate the value of coronary CT angiography (CCTA) in detecting of coronary atherosclerosis in early (preclinical) phase. Our goals were estimation of prevalence of atherosclerosis in group, influence of main risk factors on grade and character of atherosclerotic changes. In follow-up we concerned on occurrence of cardiac events.

205 patients with increased cardiovascular risk underwent CCTA using dual-source CT. Coronary findings were analyzed by character of atherosclerotic changes and degree of event. stenosis. Statistical evaluation of influence of risk factors was made using the odds ratio. The statistically important differences were tested between subgroup of type 2 diabetics and non-diabetics. All patients were under follow-up for two years.

Overall prevalence of atherosclerosis in analyzed group was 73 %, calcified lesions were found in 63.9 % persons, non-calcified plaques in 9.3 %.. Type 2 diabetes mellitus was evidenced as most significant risk factor and diabetic patients suffered from more advanced coronary atherosclerosis. There was low rate of the cardiac events during follow-up in general, CT coronary angiography without significant atherosclerotic changes proved high negative predictive value.

The main conclusion of our study is confirmation, that CT coronary angiography is beneficial to patients with higher risk of development of CHD. Accordingly to up to now published texts is possible to identify persons suitable for setting or intensify therapeutic effort.