

CARDIOVASCULAR RISK ASSESSMENT IN PATIENTS WITH DIABETES MELLITUS USING PROSPECTIVE CARDIOVASCULAR (PROCAM) STUDY

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Introduction. The World Health Organization (WHO) ranks cardiovascular disease as the current leading cause of death globally, with an approximated mortality rate of 17,9 million deaths per year. The prevalence of diabetes mellitus has increased to near-epidemic proportions over the last few years mainly as a result of a socioeconomic environment that contributes to a sedentary lifestyle and excessive nutritional intake. The rate of development and progression of cardiovascular complication in diabetes mellitus can be decelerated by identifying those at high risk and ensuring they receive appropriate treatment early. This can be done by using tools and formulas such as the Prospective Cardiovascular Munster (PROCAM) study, which allow precise estimation of risk of cardiovascular disease before onset [1].

Aim. To estimate the risk of cardiovascular disease development and/or progression in patients suffering from diabetes mellitus in order to decelerate progression of the disease, improve life expectancy and reduce morbidity through early necessary and timely interventions.

Methods. We conducted a comprehensive analysis of 18 patients case reports consisting of 6 males from ages 53 to 74 years with mean age of 65,17 years and 12 females from ages 26 to 87 years with mean age of 62,58 years. Mean duration of diabetes in these patients was 15,58 years. Through assessment of patients' history and laboratory results for 8 independent risk variables; age, low-density lipoprotein (LDL) cholesterol, smoking, high-density lipoprotein (HDL) cholesterol, systolic blood pressure, family history of premature myocardial infarction (MI), diabetes mellitus and triglycerides, PROCAM score was calculated. Using the obtained PROCAM score, approximate predictions of 10-year cardiovascular risk in these patients was estimated.

Results and discussion. 1 patient had PROCAM score of 20 and less, 1 patient had PROCAM score of 21-28, 10 patients had PROCAM score of 29-37, 2 patients had PROCAM score of 38-44, 3 patients had PROCAM score of 45-53 and 1 patient had PROCAM score of 54-61.

The analysis of this study's result shows that 1 out of 18 patients (5,56%) has 20-40% risk of cardiovascular disease in 10 years, 3 out of 18 patients (16,67%) has 10-20% risk, 2 out of 18 patients (11,11%) has 5-10% risk, 10 out of 18 patients (55,56%) has 2-5% risk 1 out of 18 patients (5,56%) has 1-2% risk and 1 out of 18 patients (5,56%) has <1% risk of cardiovascular disease development in 10 years.

Conclusion. Analysis of clinical data in this study shows the risk of cardiovascular disease development and/or progression in patients with diabetes mellitus thus posing the need for early intervention and proactive treatment to stop development of cardiovascular disease or decelerate its progression in this group of patients.

References:

1. Assmann G. Assessing risk of myocardial infarction and stroke: new data from the Prospective Cardiovascular Münster (PROCAM) study/ G. Assmann // Eur. J. Clin. Invest. – 2007. – Vol. 37(12). – P. 925-932.

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Comprehensive analysis of clinical data with PROCAM score assessment was carried out for 18 patients (6 males of mean age - 65,17 years and 12 females of mean age - 62,58 years; with mean diabetes duration of 15,58 years); results show evident risk of cardiovascular disease development in diabetic patients with need for appropriate and proactive treatment.

EFFECT OF DIABETES MELLITUS ON THE CHRONIC KIDNEY DISEASE DEVELOPMENT

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Introduction. Diagnosis of chronic kidney disease (CKD) today remains a difficult task, especially in cases where it is Diabetes mellitus (DM) affect the kidney in stages. At the onset of diabetes, the kidney grows large and glomerular filtration rate (GFR) becomes disturbed. Most recent basic and clinical research has pointed toward sclerosis and kidney failure. The cardiovascular risk is progressively increased with the glomerular filtration rate decreasing [1].

Aim. To estimate the risk CKD progression in patients with DM in order to provide early necessary and timely interventions to improve life expectancy and reduce progression of the disease and morbidity.

Methods. Work was based on the comprehensive analysis of 18 patient case reports. Mean age of the patients was 53 - 74 years old (65 male and 66 female).