Regression models for assessment of the significance of blood pressure as a risk factor for myocardial infarction

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In a number of epidemiological studies, elevated BP has been identified as a risk factor for coronary heart disease, heart failure, cerebrovascular disease, peripheral arterial disease, renal failure, and, more recently, atrial fibrillation. The purpose of this study was to estimate the impact of the blood pressure on the prematurity of occurrence of myocardial infarction by logistic regression analysis. During year 2012, study in 99 subjects with survived MI, inhabitants of Pleven region in Republic of Bulgaria was conducted. The following biomarkers are tested (fasting): HDL-cholesterol, serum triglycerides (TG) and total cholesterol (TC). Data processing is a logistic regression analysis. In our study, we developed two regression models. The first model includes DBP, level of Tg and TC level. The impact of the increase in DBP by 10% on average OR was significantly less in women than in men. The second model includes DBP, Tg levels and levels of HDL-cholesterol. With the greatest influence of DBP in men, where the OR increased 2.19 fold increase in DBP of 10% from the average, while the increase for women was almost twice less. For men, the second level of influence risk factor is the DBP, and for women it is Tg. Third degree of risk factor for women is total cholesterol and in men at this level and the level of HDL-cholesterol have almost the same effect.