

## CONTROL OF HYPERTENSION AND SURVIVAL ANALYSIS OF THE HYPERTENSIVE MEN IN STULONG - LONGITUDINAL STUDY OF RISK FACTORS OF ATHEROSCLEROSIS

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**Objective:** The leading causes of death were diseases of the circulatory system (53,4 % of all causes of death) in the Czech Republic in 2000. Of them, ischemic heart disease was the most frequent (45,5 % in men, 35,8 % in women). It is known that cardiovascular survival is depended on the blood pressure and other risk factors of atherosclerosis (RFA) but that the control of hypertension is not satisfactory in many countries. The main objective of the paper is to demonstrate the control of hypertension of middle-aged men and to analyse cardiovascular survival of hypertensive men in twenty years lasting primary preventive study STULONG.

**Design and Methods:** During the years 1975-79, total of 1417 middle-aged men (38-53 years) from the center of Prague were examined. 276 men were without RFA (normal group-NG) and 972 of men were found influenced by at least one of RFA (risk-group-RG), all of them were without any clinical manifestation of atherosclerosis at the entry to the study. 289 men were hypertensive. The hypertension was defined according to the definition at that time, i.e. as blood pressure (BP)  $\geq 160$  and/or 95 mm Hg. Cardiovascular survival of hypertensive men was analysed in comparison with men without RFA and with the group of men with other RFA (obesity, smoking, hypertension and hyperlipidemia).

**Results:** The average values of blood pressure in hypertensive men at the entry to the study were 149.35 and 95.98 mm Hg, systolic and diastolic BP respectively (n=289). The percentage of hypertensive men was rising within the study (34.3 %, n=289, at the entry and 57.1 %, n=160, in the 20th year). The percentage of hypertensive men on the medication was rising too (22.5 % at the entry and 76.2 % in the 20th year). In spite of aging, the average values of BP in hypertensive men at the end of the study was lower (142.7 and 85.7 mm Hg, systolic and diastolic BP respectively) compared to the entry. Control of hypertension was dependant on the number of the visit in the whole study – better control was in hypertensive men with more then twelve visits during the whole study compared to the group of men with less than 12 visits.

In RG, there were 68 men with one RFA-hypertension (RGH), 216 men with two RFA-hypertension plus other RFA (RGH+), 299 men with one RFA except hypertension (RGH-). The significant difference (p<0.001) in survival was found among NG, RGH and RGH+ (97 %, 92 % and 77 % surviving in 20<sup>th</sup> year, respectively), when comparing times since entry into the study till death from atherosclerotic cardiovascular diseases. Three groups were significantly different in Body Mass Index (BMI), level of cholesterol and triglycerides (p<0.001). The highest values of these RFA were observed in RGH+. When comparing RGH with RGH-, there was no significant difference in survival. BMI was significantly higher in RGH compared with RGH- (p<0.005). No significant difference was found in level of cholesterol and triglycerides between these two groups.

**Conclusions:** In the twenty years lasting primary preventive study STULONG organized in the group of the middle-aged urban men in Prague, the control of the blood pressure improved but was not optimal either during the study or at the end of the study according to the actual guidelines. The increasing number of RFA resulted in the decreasing percentage of surviving. In hypertensive middle-aged men, the presence of other RFA significantly diminishes the chance of survival.

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