

Traditional Risk Factors in Hypertensive Women and Men with Ischemic Heart Disease

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Background: Ischemic heart disease is the main cause of morbidity and mortality in Europe. It occurs often in women, and its prevalence increases with age. Hypertensive patients with coronary heart disease are at highest risk and thus are the most important target of secondary prevention strategies. The **purpose** of this study was the identification of traditional cardiovascular risk factors in group of patients with known cardiovascular disease.

Material and methods: One hundred seventy-six patients took part in this cross-sectional study, which included 72 women and 104 men. Statistical analysis was performed with Microsoft Excel and SPSS 17 Programs.

Results: The average age of the patients was 66 for women and 68 for men. Obesity (BMI >30) was found more among women. We haven't found statistically significant differences between the sexes regarding lipid profile, this being a common risk factor for both men and women. New cases of diabetes have been discovered in 19%.

Conclusions: Traditional cardiovascular risk factors are present both in women and men with hypertension and ischemic heart disease. The target levels for lipids suggested by secondary prevention guides are not achieved by a large number of patients.

Keywords: hypertension, coronary heart disease, risk factors

Introduction

Ischemic heart disease is the main cause of morbidity and mortality in Europe. It occurs often in women, and its incidence increases with age [1]. Hypertensive patients with coronary heart disease are at highest risk and thus are the most important target of secondary prevention strategies [2].

The application of these strategies requires a prior identification of cardiovascular risks followed by an intervention to lower their negative impact.

The purpose of this study was the identification of traditional cardiovascular risk factors in a group of patients with known cardiovascular disease.

Material and method

The study involved hypertensive patients with known ischemic heart disease who were admitted to the Cardiovascular Rehabilitation Hospital of Tîrgu Mureş between June 2010 – December 2010. One hundred seventy-six patients took part in this cross-sectional study, which included 72 women and 104 men. Beside history and physical examination, the following investigations have been made: blood chemistry, 12 lead ECG, 24 hour blood pressure monitoring, and echocardiography.

Statistical analysis was performed with Microsoft Excel and SPSS 17 Programs with the Mann-Whitney test for the non-parametric data and chi square test. The values of $p < 0.05$ were considered statistically significant.

Results

The average age of the patients was 66 years for women and 68 years for men, 58% coming from urban and 42% from rural environment.

Most of the patients taking part in the study (78% – 137 individuals) had grade 2 hypertension, as illustrated on figure 1.

24 hour blood pressure monitoring showed that 31% of patients, 27 women and 22 men were non-dippers. The clinical forms of ischemic heart disease among the studied patients are presented on figure 2.

Coronarography has been performed in 36 patients, one third of which were women.

Family history of premature cardiovascular disease was positive in 57% of the patients.

64% (112) of the patients were non-smokers. 31% of the smokers continued to smoke after being diagnosed with coronary heart disease.

31% of men and 19% of women had a normal body weight, 44% of men and 39% of women were overweight (BMI of 25–29.99). Obesity (BMI >30) was found in a higher percentage among women. There was a significant difference between men and women regarding obesity ($p = 0.0472$, relative risk ratio 1.61, 95% CI 1.042 to 2.491). Waist circumference was pathological for 86% of the women (above 80 cm), and for only 27% of men (above 100 cm). Pathologic waist circumference was significantly higher in women than in men ($p < 0.0001$, relative risk ratio 3.198, 95% CI 2.299 to 4.449).

Glucose metabolism disorders were present in both genders, in 38 women (53%) and 54 of men (52%). 35% of the women and 32% of the men were diabetic.

New cases of diabetes have been discovered in 19% of the patients: 11 women (15%), and 21 men (20%).

The average value of cholesterol level was 5.15 mmol/l in women and 4.92 mmol/l in men without statistical significance ($p = 0.31$). Guide recommended values for pa-

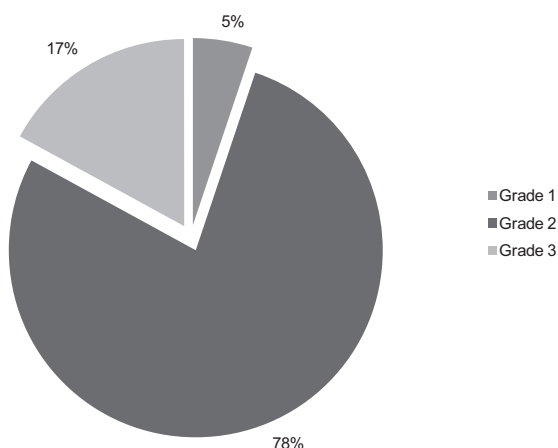


Fig. 1. Distribution of patients according to hypertension grades

tients with a higher risk (4.5 mmol/l) were registered in 54 patients (31%), 19 women (26%) and 35 men (34%).

No statistically relevant differences between the sexes were found regarding average values of triglycerides (1.81 mmol/l in women and 1.76 mmol/l in men, $p = 0.42$).

Comparing lipid values in women of different age groups, we have found significant differences related to HDL cholesterol levels, which were significantly elevated in women under 65 years of age (1.14 mmol vs. 1.026 mmol, $p = 0.025$), but both groups had lower values than those recommended by the guides.

Discussions

In our study patients had advanced age, the average was 65 years, which is in concordance with literature data showing the increase of cardiovascular risk factors with age [3].

In more than half of patients we found positive family history of premature coronary heart disease, in concordance with literature data. These data suggest the role of genetic factors in the etiology of ischemic heart disease [4].

According to previous studies the probability of ischemic cardiovascular disease increases in women after menopause, and becomes equal to men around the age of 65 [1,2,5]. These findings have been confirmed in our study.

Regarding smoking habits we have found that one third of the patients don't give up this habit once their cardiovascular condition is diagnosed. These data are similar to the findings of the EUROASPIRE III study [6].

As suggested in the literature, obesity was present at a large number of patients, men being mostly overweight while women obese [2,7]. In most cases the obesity was abdominal.

Glucose metabolism disorders are often associated with arterial hypertension, and they are an important cardiovascular risk factor [8,9]. This explains the large number of patients with diabetes or prediabetic condition. The high percentage (19%) of newly diagnosed patients attracts attention to the importance of screening these disorders (including oral glucose tolerance test) in ischemic coronary artery condition patients.

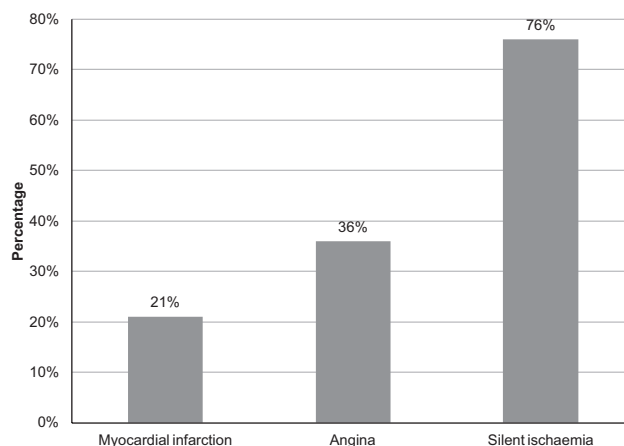


Fig. 2. Clinical forms of ischemic heart disease among the studied patients.

We haven't found statistically significant differences between the sexes regarding lipid profile, this being a common risk factor for both men and women [2,5]. The guideline recommendation for cholesterol levels have been achieved by 26% of women and 33% of men, as per earlier studies [9,10].

We have also noticed the decrease of HDL-cholesterol values with increasing age. According to literature data HDL-cholesterol levels are significantly lower in women over 65 years compared to women under 65 years of age [5]. Both groups had levels below the target levels recommended by the guide [10].

Conclusions

Traditional cardiovascular risk factors are present both in women and men with hypertension and ischemic heart disease.

The target levels suggested by secondary prevention guides are not achieved by a large number of patients.

Consequently there is a need to include patients with high cardiovascular risk in secondary prevention programs for an efficient identification, modification and control of changeable risk factors.

References

- Johannes J, Bairez Merz CN – Is cardiovascular disease in women inevitable? Preparing for menopause and beyond. *Cardiology in review* 2011, 19: 76–80.
- Mosca L, Banca CL, Benjamin EJ et al. – Evidence based guidelines for cardiovascular disease prevention in women 2007 Update. *Circulation* 2007, 115: 1481–1501.
- Gaiță D, Avram C, Avram A, Zdrenghia D, Mancaș S – Optimizarea stilului de viață în prevenția cardiovasculară – de la ghiduri actuale la practica clinică, în *Societatea Română de Cardiologie* (ed): *Progrese în cardiologie* 2007 Media Med Publicis 2007, 2: 361–384.
- Goldberg RG – Coronary heart disease: epidemiology and risk factors in Ockene I, Ockene J (eds): *Prevention of coronary heart disease*. Little, Brown et Company, Boston 1992, 3–39.
- Mosca L, Benjamin EJ, Berra K et al. – Effectiveness Based Guidelines for prevention of cardiovascular disease in women. 2011 Update a guideline from the American Heart Association. *Circulation* 2011, 123: 1243–1262.
- Kotseva K, Wood D, Becker G et al. – Cardiovascular prevention guidelines in daily practice: A comparison of EuroAspire I, II, and III Surveys in eight European countries. *Lancet* 2009, 14: 873–875.

7. Roinier P, Giles TD, Abray G et al. – Obesity and cardiovascular disease pathophysiology, evaluation and effect of weight loss. *Circulation* 2006, 113: 898–918.
8. Beckman JA, Creager MA, Libby P – Diabetes and atherosclerosis: epidemiology, pathophysiology, and management. *JAMA* 2002, 287: 2570–2581.
9. Cinteza M, Pana B, Cochino E, et al. – Prevalence and control of cardiovascular risk factors in Romania cardio-zone national study. *Maedica-a Journal of Clinical Medicine* 2007, 2: 277–288.
10. Pop D, Zdrengea D – Indicațiile recuperării cardiovasculare, în Zdrengea D(ed): *Recuperare și prevenție cardiovasculară*, ed Clusium Cluj Napoca 2008, 1–16.