Ferritin in the prediction of cardiovascular risk in women - preliminary results

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Introduction: Over the past two decades, the prevalence of myocardial infarction (MI) has trended downward in both sexes in the United States and Europe, although this decline has been smaller in women.[1] According to the available literature, only two models predicting cardiovascular risk (CVD) in women included risk factors specific to women, which were reproductive risk factors.[2] Our previous research showed a significant association between ferritin, hsCRP, and systolic blood pressure in women working shift work.[3] In women, iron stores increase during menopause. We started a prospective study of CVD risk factors and CVD outcomes in women in Brod-Posavina County. *Aim:* To determine the association between ferritin level and menopause age as female-specific CVD risk factors in women and the influence of body mass index (BMI), non-HDL and hsCRP on cardiovascular risk in women.

Patients and Methods: Women aged 35 to 75 years, divided into two groups: women without coronary artery disease (CAD) and women with CAD (angiography, medical history of MI). The variables included in the evaluation are: age, BMI, menopause age and status, systolic blood pressure (SBP), non-HDL, ferritin, hsCRP, and smoking habits. Results are mean±SD. For the comparison of continuous variables, we used the Student t-test, whereas for the comparison of categorical variables, we used the Fisher exact test. P < 0.05 is considered statistically significant.

Results: We analyzed a total of 32 subjects matched by age. Women without CAD had a statistically significant lower BMI and higher SBP compared to women with CAD (**Table 1**). There was no statistically significant difference in menopause age, presence of menopause, smoking habits, and non-HDL. Ferritin and hsCRP levels were statistically significantly higher in the group of women with CAD.

Conclusion: The preliminary results of our study show that women without CAD have statistically lower BMI, ferritin and hsCRP levels compared to women with CAD. There were no differences in menopause age and status, non-HDL or smoking habits. Further research is needed to improve women's health.

TABLE 1. Differences between the two groups.

	With CAD (n=16)	Without CAD (n=16)	P value*#
Age	61.5±5.37	60.38±4.27	0.52*
BMI	31.15±5.76	25.58±3.01	<0.01*
SBP	122.81±17.32	131.53±11.75	<0.05*
Menopause, n (%)	15 (93.8)	14 (87.5)	1.00#
Menopause age	48.73±4.82	51.07±4.14	0.17*
non HDL	4.23±1.25	4.6±0.7	0.31*
Ferritin	96.12±63.75	57.77±38.3	<0.05*
hs CRP	7.97±6.41	1.74±1.47	<0.001*
Smoking habits, n (%)	7 (43.8)	7 (43.8)	1.00#

BMI = body mass index; SBP = systolic blood pressure
*Student t test, #Fisher's exact test

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LITERATURE

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