

A Body Shape Index versus Systematic Coronary Risk Evaluation2 algorithm and Atherosclerotic Cardiovascular Disease Risk Score – is there a connection?

 Mihovil Santini^{1*},
 Juraj Jug²,
 Maja Sirovica¹,
 Martina Matovinović³,
 Martina Lovrić Benčić^{1,3}

¹University of Zagreb, School of Medicine, Zagreb, Croatia

²Health Care Center Zagreb-West, Zagreb, Croatia

³University Hospital Centre Zagreb, Zagreb, Croatia

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***ADDRESS FOR CORRESPONDENCE:** Maja Sirovica, Medicinski fakultet Sveučilišta u Zagrebu, Šalata 3, HR-10000 Zagreb, Croatia. / Phone: +385-91-8843-377 / E-mail: maja.sirovica@gmail.com

ORCID: Mihovil Santini, <https://orcid.org/0000-0002-1428-4484> • Juraj Jug, <https://orcid.org/0000-0002-3189-1518> Maja Sirovica, <https://orcid.org/0000-0002-4751-0513> • Martina Matovinović, <https://orcid.org/0000-0002-6325-7394> Martina Lovrić Benčić, <https://orcid.org/0000-0001-8446-6120>

Goal: To check the differences between A Body Shape Index (ABSI), recently proposed as a better mortality risk stratification tool, and alternative indices Systematic COronary Risk Evaluation2 algorithm (SCORE2) and Atherosclerotic Cardiovascular Disease Risk Score (ASCVD).¹⁻³

Patients and Methods: In this cross-sectional study, 132 obese patients (24 male, 109 female, average age 46 years; body mass index 40.65kg/m²) treated at the Division of Endocrinology at University Hospital Center Zagreb were included. ABSI was calculated with the proposed formula created by Bertoli *et al.* [waist circumference/(BMI^{2/3}*height^{1/2})]. ABSI z score was calculated from ABSI, gender, and age of each patient. Atherosclerotic cardiovascular risk was calculated using the ASCVD score and SCORE2. General laboratory and anthropometric parameters were checked in all patients. Spearman's correlation, one-way ANOVA, and descriptive statistics were used in Statistica v.12.

Results: There were no differences between genders. Although a significant correlation between SCORE2 and ASCVD risk was found ($r=0.873$; $p<0.001$), there was no correlation between them and ABSI or ABSI z score ($r=0.152$; $p=NS$). SCORE2 and ASCVD risk were higher in patients with higher BMI ($r=0.761$; $p<0.001$), higher blood pressure ($r=0.446$; $p<0.01$), lower HDL ($r=-0.346$; $p<0.05$), lower glomerular filtration rate [CKD-EPI] ($r=-0.268$; $p<0.05$), but no significant correlation was found between ABSI, or ABSI z, between any observed parameter except BMI ($r=-0.367$; $p<0.01$). One-way ANOVA on five risk groups created according to the ABSI z score did not show any connection between higher-risk groups and observed parameters.

Conclusion: In this study ABSI and ABSI z scores did not show any connection with alternative indices (SCORE2 and ASCVD risk) and observed laboratory and anthropometric parameters. Accordingly, risk stratification significantly differs between ABSI and alternative indices. More extensive multicentric studies are needed to check these findings.

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LITERATURE

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