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CIRCULATING NON-CLASSICAL ENDOTHELIAL PROGENITOR CELLS IN METABOLICALLY UNHEALTHY OBESITY

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The aim of the study: to investigate the number of circulating endothelial progenitor cells (EPCs) in patients with established metabolically healthy obesity (Met-HO).

Materials and Methods. The study was retrospectively evolved 89 patients with established abdominal obesity (47 patients with metabolically unhealthy obesity [Met-UHO] and 42 subjects with Met-HO) from the large cohort of dismetabolic patients (n=268). High-Definition Fluorescence Activated Cell Sorter methodology was performed for measurement of the number of circulating endothelial progenitor cells co-expressed CD45, CD34, CD14, CD309, and Tie-2 antigens.

Results. A significant difference between number of circulating progenitor cells labeled CD45-CD34+ and CD14+CD309+ in Met-UHO and Met-HO patients was found. In contrast, Met-UHO patients had a significantly lower level of circulating CD14+ Tie-2+ cells and CD309+ Tie-2+cells compared with Met-HO individuals. In multivariate logistic regression analysis we found that HOMA-IR, hs-CRP, and number of CV risk factors were independent predictors for depletion in numerous of circulating progenitor cells with immune phenotypes CD309/Tie2+ cells and CD14/Tie2+. Conclusion: in this investigation, we found that the lowered circulating number of CD309/Tie2+ cells / CD14/Tie2+ cells

produces the well balanced discrimination on Met-HO development in Met-UHO patients than other models based on conventional CV risk factors.

Key words: Metabolic syndrome; metabolically healthy obesity; metabolically unhealthy obesity; circulating endothelial progenitor cells.

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