

Introduction: While low in women of childbearing age, cardiovascular risk rises quickly after menopause. It is a well known fact that cholesterolemia increases in the absence of ovarian estrogen secretion, and a number of studies have demonstrated an increasing incidence of metabolic syndrome (MS) following menopause. Despite this, conclusive evidence for most of the MS components is unavailable, and an increase in insulin resistance due to menopause has likewise not been documented. The aim of our study was to determine the effect of menopause on selected cardiovascular risk factors in Czech women. Methods: A total of 909 women, as a random 5% sample of female residents of Prague 4 aged 45-55 years, were enrolled. Fasting blood samples were obtained, a thorough history was taken, necessary anthropometric measurements and ultrasound examinations of arteries were performed. Results: In multivariate regression analysis, postmenopausal status, not age, was the only predictor of combined markers, i.e., MS as defined by NCEP-ATPIII ($p = 0.03$) and atherogenic lipid indexes (total cholesterol/HDL-C, $p = 0.002$; LDL-C/HDL-C, $p = 0.004$; apolipoprotein B/apolipoprotein A-I, $p = 0.004$). While age was the strongest predictor of individual components of MS, menopausal status was only associated with waist circumference ($p = 0.03$); however, a higher rate of clustering of all MS components after menopause was noted. The index of insulin resistance (HOMA-IR) was not increased, and it took a more detailed analysis, decile-by-decile, to reveal low (below median) HOMA-IR values after menopause within the same decile limits while increased are only high (above median) HOMA-IR levels correlating with increasing incidence of MS as well as increasing rates of clustering of MS components. Conclusion: Postmenopausal women show increased rates of clustering of cardiovascular risk markers, i.e., atherogenic lipid indices and MS. Those at risk for clustering of components of MS and its manifestations are women with some of the MS manifestations already prior to menopause. These women should be educated about the importance of appropriate lifestyle in preventing the development of cardiovascular disease.