

Background: The relationship between erectile dysfunction and risk factors of atherosclerosis has been confirmed by a number of previous investigations. There are also plausible pathophysiological mechanisms explaining the observed association.

One of the tested hypotheses in our work was the assumption that risk factors of atherosclerosis would be more prevalent in men with erectile dysfunction than in controls selected from the representative sample of the Czech population. Our work did not confirm this hypothesis. Most likely explanation can be greater representation of younger-middle aged men in our group than in the Czech post-Monica study in which the age distribution was equal. On the other hand authors of the Czech post-Monica study admit worse compliance in younger participants of their survey. Nevertheless, the risk factors of atherosclerosis occur very frequently in males with erectile dysfunction.

Results: In our group mean cardiovascular risk calculated according to the SCORE chart was 3.39% ($\pm 3,39$). In the Czech post-MONICA study conducted between 2007 and 2008 the mean SCORE risk reached 2.47%. There was a trend, though not statistically significant, towards direct relationship between the severity of ED and the SCORE CVD risk. Asymptomatic atherosclerosis was detected in 56.25% of our study group. Microvascular reactivity did not differ between men with erectile dysfunction and the control group in any of the parameters measured.

Conclusion: Although some of our results are ambiguous the observed trends, supported by the previous observations of others, support the notion of direct relationship between erectile dysfunction and risk factors of atherosclerosis, thus, representing an important medical issue. We intend to continue our research. The patients' study group will be expanded by close cooperation with urology and sexuology specialities. We will focus on refining the determination of the relationship between risk factors for atherosclerosis and erectile dysfunction using new "emerging" risk factors. Moreover, we plan to extend the scope of our interest also to patients with overt cardiovascular disease and erectile dysfunction.

Key words: vascular erectile dysfunction, atherosclerosis, risk factors, laser Doppler, SCORE, ankle-brachial index, ultrasound of carotid artery