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GENDER DIFFERENCES IN VASCULAR ENDOTHELIAL FUNCTION AND CAROTID INTIMA MEDIA THICKNESS BY FRAMINGHAM RISK SCORE

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Objectives Vascular dysfunction is associated with increased risk for adverse cardiovascular events. However, less is known about gender differences in endothelial function and arterial intima thickness according to Framingham risk score. The purpose of this study is to investigate whether the gender differences are existed in flow-mediated vasodilation and carotid intima thickness by Framingham risk score (FRS).

Methods According to the Framingham risk score, 1083 subjects (544 males and 539 females) were divided into three groups: low-risk, middle risk and high-risk group respectively. Brachial arterial flow-mediated vasodilation (FMD) and carotid intima media thickness (IMT) were measured by high frequency ultrasound.

Results With the increasing of the Framingham risk score, FMD reduced and carotid IMT increased in both genders ($p < 0.001$). Compared with males, FMD of females were significantly higher in the low-risk FRS group (female to male: $9.76 \pm 3.62\%$ vs $8.31 \pm 2.89\%$, $p < 0.001$). However, FMD of females were significantly lower than males in the mid-risk and the high risk group (female to male: $6.67 \pm 2.42\%$ vs $7.43 \pm 2.65\%$, $5.78 \pm 2.39\%$ vs $6.41 \pm 2.27\%$, respectively, $p < 0.001$). But there are no significant gender differences in carotid IMT among the three groups.

Conclusions Gender differences are existed in FMD not in carotid IMT according to the Framingham risk score. FMD is more sensitive than IMT to response the gender difference in vascular function under Framingham risk stratification.