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THE RELATIONSHIP BETWEEN 24 H AMBULATORY BLOOD PRESSURE MONITORING RHYTHM AND CAROTID-RADIAL PULSE WAVE VELOCITY, INTIMA MEDIA THICKNESS IN PREHYPERTENSIVE SUBJECTS

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Objective To analyse the relationship between 24 h ABPM rhythm and crPWV, IMT in prehypertensive subjects.

Methods According to the blood pressure level, 286 cases were divided into two groups, namely, normotensive controls 90 cases; prehypertensive participants 196 cases. Meanwhile, prehypertensive subjects were divided into two groups depending on 24 h ABPM, which were 103 and 93 cases in dipper and non-dipper group respectively, 24 h ABPM, crPWV and IMT were tested for all subjects.

Results Twenty four h systolic blood pressure (24 h SBP) was higher in non-dipper group than in dipper group (126.74 ± 7.38) vs (120.11 ± 8.15) mm Hg, $p < 0.05$). In accordance with systolic blood pressure fall (SBPF), diastolic blood pressure (DBPF), nocturnal systolic blood pressure (nSBP), nocturnal diastolic blood pressure (nDBP), there were significant difference between non-dipper group and dipper group ($p < 0.01$). Brachial-ankle pulse wave velocity (crPWV) (9.85 ± 1.04) vs (9.02 ± 0.99) m/s, $p < 0.01$) and intima media thickness (IMT) (0.91 ± 0.15) vs (0.84 ± 0.12) mm, $p < 0.05$) were changed more obviously in non-dipper group than dipper group. Some factors including SBPF, DBPF, daytime systolic blood pressure (dSBP) affected crPWV and IMT was affected by total cholesterol, SBPF, 24 h SBP, dSBP.

Conclusion The abnormal rhythm of 24 h ABPM lead to more serious transformation of vessel wall in prehypertensive subjects, and was more correlated with crPWV and IMT.