SEVERITY OF TARGET ORGAN DAMAGE ACCORDING TO CIRCADIAN VARIATION OF BLOOD PRESSURE

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Background: Hypertension is usually related to altered diastolic dysfunction and left ventricular hypertrophy (LVH). Diastolic dysfunction of LV considered as early hallmark of cardiac damage. Among the hypertensive patients, the non-dippers tend to have more severe diastolic dysfunction and LVH than the dippers. And there was a report that the dipper duration is inversely correlated to target organ damage such as renal dysfunction. So, we hypothesized that dipper duration is related to cardiac damage in the dippers. Method: We reviewed 24-hour ambulatory blood pressure (ABP) monitorings of patients taken for a diagnosis of hypertension. We divided the patients into 2 groups, the dippers and the non-dippers according to the 24-hour ABP results and calculated the dipper duration during sleep in the dippers. We checked echocardiographic variables of diastolic dysfunction and left ventricular mass index (LVMI) as a marker of target organ damage. Results: The total number of subjects enrolled this study was 152. Twenty two patients were classified to the non-dippers and 130 patients to the dippers. As the non-dippers were compared to the dippers, E/E’ was higher in the non-dippers (p=0.009). Among the dipper patients, we checked the relation between dipper duration and diastolic dysfunction. The dipper duration was inversely correlated to E/E’ (r=-0.195, p=0.026). The LVMI were correlated to dipper duration, but it was statistically not significant (r=-0.154, p=0.08). The other echocardiographic variables showed no significant correlation related to dipper duration. Conclusion: In the patients with high BP, the shorter dipper duration was related to the more frequent incidence of diastolic dysfunction.