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# 유지혈액투석환자에서 야간혈압 비하강군과 하강군의 임상 지표 및 혈관 척도 비교

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# Differences of Clinical and Vascular Parameters between Dippers and Non-dippers in Patients with Maintenance Hemodialysis

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**Background:** Cardiovascular disease is the leading cause of death in ESRD patients. The cardiovascular complications of non-dippers are known to be greater than the dippers in the stratification of hypertensive patients. Oxidative stress plays key roles in developing cardiovascular disease and non-dippers related with higher oxidative stress markers and lower antioxidant levels. The aim of this study was to compare clinical parameters, vascular calcification and oxidative stress between dippers and non-dippers in patients with maintenance hemodialysis.

**Methods:** A total of 55 patients who were on maintenance hemodialysis were enrolled and 49 patients were analyzed. All the participants were performed 24-hour ambulatory blood pressure (ABP) monitoring to divide the patients into two groups; dippers and non-dippers. Non-dippers were defined by a nocturnal reduction in average daytime blood pressure of less than 10%. Bioimpedance analysis (BIA), ankle-brachial index (ABI), and carotid artery intima-media thickness (CA-IMT) were performed with routine laboratory tests for baseline study.

**Results:** Dippers and non-dippers were 11 and 38 patients, respectively. Age, body mass index, profiles of BIA, proportion of abnormal results in ABI, IMT and all the laboratory tests were not different between the two groups. The mean systolic BPs in daytime were not different between dippers and non-dippers (131 vs. 136 mmHg, p=0.320). However, the nocturnal mean systolic BPs were significantly different between the two groups (112 vs. 137 mmHg, p<0.001). Not only for systolic BP, nocturnal minimum, maximum, or mean diastolic BPs were significantly high in non-dippers than dippers. After 3 months after study initiation, phosphorus level of dippers was significantly lower than the others (4.4 [3.7-5.8] vs 4.8 [2.9-10.2], p=0.034).

**Conclusion:** This study is still on-going and more data should be collected to evaluate major parameters such as oxidative stress markers, CA-IMT, BIA, ABI, and laboratory findings between the two groups.

**Key Words:** 혈액투석, 활동혈압측정, 동맥 내중막 두께
Hemodialysis, ABPM, Carotid IMT