**AMBULATORY BLOOD PRESSURE PATTERN OF RESISTANT HYPERTENSION: DEPENDENCE ON TREATMENT-TIME REGIMEN OF HYPERTENSION MEDICATIONS: THE HYGIA PROJECT**

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Objectives: We investigated the effects of hypertension treatment-time on the circadian blood pressure (BP) pattern and degree of BP control of patients with resistant hypertension enrolled in the Hygia Project, designed to evaluate prospectively cardiovascular risk by 48h ambulatory BP monitoring in primary care centers of Northwest Spain.

Methods: We evaluated 2520 patients with resistant hypertension, 1481 men/1039 women, 64.1+/-11.7 years of age. Among the participants, 1084 were ingesting all BP-lowering medications upon awakening, and 1436 were ingesting the full dose of at least one hypertension medication at bedtime.

Results: Ingestion of medications at bedtime was associated was associated with significantly lower asleep systolic (SBP) and diastolic BP (DBP) means than treatment with all medications upon awakening (125.5/67.5 vs. 132.3/71.9 mmHg; P<0.001). The sleep-time relative BP decline was significantly attenuated and thus the prevalence of non-dipping significantly higher when all hypertensive medications were ingested upon awakening (80.5%) than when at least one of them were ingested at bedtime (54.4%; P<0.001). Patients ingesting medications at bedtime showed a significantly higher prevalence of properly controlled ambulatory BP (17.9 vs. 10.2%; P<0.001) mainly during nighttime sleep (28.9 vs. 15.8%; P<0.001).

Conclusions: In resistant hypertension, pharmacological therapy should take into account when to treat with respect to the rest-activity cycle of each patient. Bedtime hypertension treatment is associated with increased ambulatory BP control, greater asleep BP attenuation, and significantly lower prevalence of a non-dipper and riser BP patterns, relevant therapeutic targets that have already been shown prospectively to reduce cardiovascular risk.