Abstract: P5470

Studying target organ damage indices in newly diagnosed and never treated extreme dipper patients with essential hypertension

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Topic(s):
Target Organ Damage/ Left Ventricular Hypertrophy

Citation:
Background: Cardiovascular risk estimation in arterial hypertension includes the investigation for target organ damage indices (TOD). 24h ambulatory blood pressure monitoring (ABPM) represents the gold standard method for the confirmation of the arterial hypertension disease. Dipping phenomenon, defined as blood pressure decrease >10% during night-time measurements, leads to hypertension burden reduce during night and carries a positive prognostic significance. However, there are doubts regarding its prognosis when it becomes augmented (extreme dipping defined as blood pressure decrease >20% during night-time measurements). Aim of our study is to explore TOD existence between extreme dipper and dipper hypertensive patients with newly diagnosed and never treated arterial hypertension.

Methods: From the 480 total patients with newly diagnosed and never treated arterial hypertension who subjected to ABPM, we excluded 190 non-dipper patients and we divided the rest 290 hypertensives (mean age 49+11 years, 193 males) in normal dippers (n=245, mean age 49+11 years, 160 males) and extreme dippers (n=45, mean age 49+10 years, 33 males). Both groups were subjected to the following measurements: arterial stiffness (PWV), 24h microalbumin levels (MAU), carotid intima-media thickness (IMT), diastolic dysfunction (E/Ea), left ventricular mass index (LVMI) and coronary flow reserve (CFR).

Results: We did not find any differences within groups regarding age, sex distribution, BMI, office SBP/DBP, central SBP/DBP and daytime average SBP/DBP as well as PWV, MAU, IMT, E/Ea and CFR. We noticed that extreme dippers had reduced 24h average SBP/DBP (p=0.001 and p=0.02, respectively) and increased LVMI (86+18 vs. 79+20 gr/m², p=0.04) compared to normal dippers.

Conclusions: Extreme dipper hypertensive patients have an increased LVMI, probably as a result of myocardial hypoxia due to severe blood pressure reduction over night. Our results point to the possible increased cardiovascular risk in this group of hypertensive patients.
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Differences in Left Ventricular Mass Index (LVMI)

![Bar graph showing LVMI comparison between extreme dippers and normal dippers.](image-url)

- Extreme Dippers: 85 g/m2
- Normal Dippers: 79 g/m2

p=0.04

LVMI (g/m²)