RELATIONSHIP BETWEEN NIGHT SYSTOLIC BLOOD PRESSURE DIPPING AND INTIMA - MEDIA THICKNESS IN PATIENTS WITH HYPERTENSION AND TYPE 2 DIABETES MELLITUS

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Objective: to investigate relationship between night systolic blood pressure (SBP) dipping and common carotid artery intima - media thickness (CCIMT) in patients with arterial hypertension (AH) and type 2 diabetes mellitus (T2DM).

Design and method: we examined 70 patients with AH stage II and 2 degree accompanied with T2DM (32 men, aged 55.2 ±5.1 years). The level of HbA1c was less than 7.5%. Baseline characteristics of patients included history of AH – 8.2±1.5 years, T2DM – 5.3±1.3 years. All patients underwent ambulatory BP monitoring. CCIMT was measured by Carotid Doppler Ultrasonography. Depending on nighttime SBP pattern patients were divided into 3 groups (grp): 1st grp (n=14) - "dipper" – 10-20% night SBP reduction, 2nd grp (n=35) - "non-dipper" - less than 10% night SBP reduction, 3rd grp (n= 1) - "night peaker" - with nocturnal AH. The control grp included 20 healthy volunteers of appropriate age.

Results: in patients with T2DM and AH impaired night-time SBP dipping and nocturnal AH detected significantly more frequently ($p<0.05$), with the preferred type "non-dipper". 3rd grp of patients showed a significantly higher average daily and nightly values of SBP ($p<0.05$). In 21.5% patients of the 1st grp (n=3), 23% patients of the 2nd grp (n=8), 33.5% patients of the 3rd grp (n=7) revealed atherosclerotic plaques. The degree of stenosis in the 3rd grp of patients was significantly higher than in the 2nd grp (68.4±4.5 vs 59.7±3.8%, $p<0.05$). In patients with AH and T2DM mean CCIMT was significantly higher than in the control grp (1.38±0.17 vs 1.11±0.16 mm, $p<0.05$). Patients of the 2nd and 3rd grps experienced significantly greater degree of CCIMT compared with the 1st grp (1.38± 0.17 and 1.46±0.18 vs 1.27±0.14 mm).

Conclusions: atherosclerosis lesion and CCIMT were significantly more increased in diabetic hypertensive patients with impaired SBP dipping and nocturnal AH. It should be considered for antihypertensive therapy in such grp of patients.