CONGRESUL CONSACRAT ANIVERSĂRII A 75-A DE LA FONDAREA USMF „NICOLAE TESTEMIŢANU”
20 23 octombrie 2020

THE NICTEMERAL BLOOD PRESSURE VARIABILITY AND INTRARENAL HEMODYNAMICS IN PATIENTS WITH HEART FAILURE WITH PRESERVED EJECTION FRACTION

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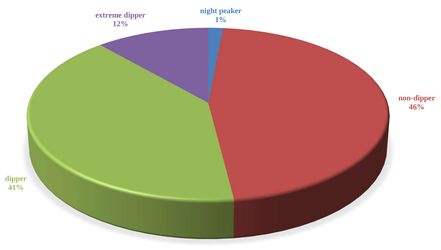
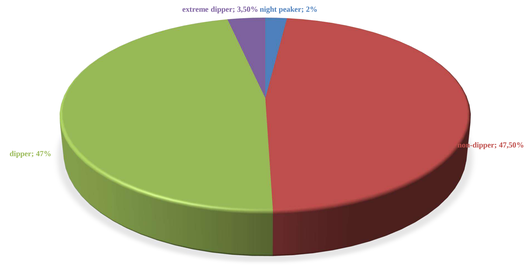
Introduction:

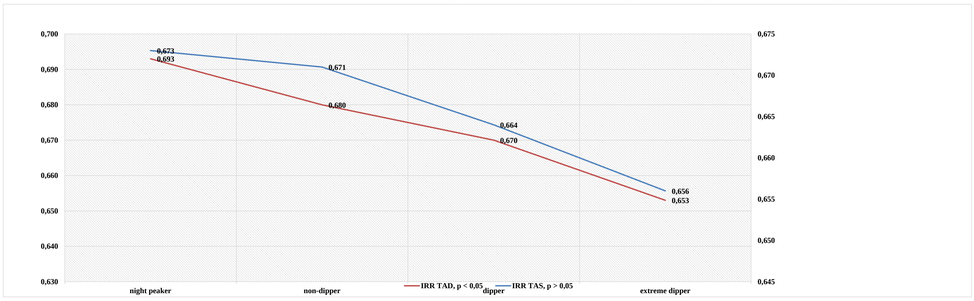
The prognostic impact of each determinant of blood pressure (BP) profile such as systolic BP, diastolic BP, pulse pressure (PP), BP variability (BPV) was essentially studied in patients with hypertension, but there is a lack of data in patients with HFpEF.





Purpose:

The assessment of the correlation of short-term BPV with intrarenal hemodynamics (IRH) in HFpEF



Keywords:

intrarenal hemodynamics, heart failure with preserved ejection fraction, nictemeral blood pressure variability

Material and methods:

The research included 60 patients with HFpEF aged 18-79 years, All subjects underwent physical examination, echocardiography, 24-hours ambulatory BP monitoring (ABPM) (with the evaluation of the nictimeral BP variability patterns), intrarenal Doppler ultrasound, obtaining the following IRH parameters: renal resistive index (RRI), renal pulsatile index (RPI), acceleration time (AT).

Results:

According to SBP data, 2% of the population were night-peakers, 47,5% non-dippers, 47% dippers and 3,5 % extreme dippers. The analysis of DBP variations included 1,5% night-peakers, 46,5% - non-dippers, 40,5% - dippers and 11,5% extreme dippers. The comparative analysis of nictemeral SBP and DBP variations with IRH parameters revealed that IRH parameter changes depend upon the detected HTN pattern. Thus, RRI recorded the highest values in night-peakers (0,68±0,0452), followed by non-dippers (0,674±0,0373), dippers (0,662±0,0321), whereas the lowest being in extreme dippers (0,642±0,0256), $p<0,01$). Similar correlations were assessed for RPI ($p<0,05$) and AT ($p<0,05$).

Conclusions:

IRH and ABPM, proved their importance as useful and multifunctional tools that for a deeper insight into cardiovascular continuum, overall cardiovascular risk and renal involvement not only in the context of HTN, but also in the setting of HFpEF.