

Blood Pressure Monitoring

1.8 Impact of Overweight on Nocturnal Blood Pressure Patterns in Untreated Essential Hypertensives

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Objective: We aimed to evaluate the impact of overweight/obesity and nocturnal blood pressure (BP) patterns (dipping non dipping) in untreated essential hypertensives.

Methods: A total of 658 consecutive outpatients with grade 1 and 2 hypertension (408 men, 250 women) underwent the following procedures: 1) repeated clinic BP measurements, 2) routine examinations 3) ambulatory BP monitoring over two 24-h periods within four weeks.

The dipping pattern was defined as a >10% reduction in average systolic and diastolic BP during night-time compared to day time values. The patients have been classified, with reference to the reproducibility or not of the nocturnal pattern: D-D (reproducible dipping), ND-ND (reproducible non-dipping) and VD (variable dipping). The relation between body mass index (BMI) and BP patterns has been analysed in the whole population and in a gender-based analysis.

Results: In the total population, the prevalence of overweight (BMI >25 > 30 kg/m²) resulted to be 40% and 12%, respectively and such conditions were associated to higher frequency of patterns ND-ND and VD compared to the pattern D-D ($p < 0.05$). Among men with a normal BMI (<25 kg/m²), the prevalence of DD pattern was significantly higher compared to that of subjects with overweight and obesity (58,6% vs 48,6%, $p < 0.01$); this was the case for lean women (53,3% vs 46,9%, $p < 0.05$) when compared to their overweight or obese counterpart.

Conclusions: Our findings are that prevalence and reproducibility of the dipping pattern profile are significantly higher in lean hypertensive patients, regardless the gender, as compared to their counterpart with an increased BMI. Therefore the phenotype overweight-obesity is a negative predictor for a physiological and stable nocturnal fall in BP.