

Objective: To analyse the circadian pattern in hypertensive patients and its relationship with risk factors and cardiovascular risk.

Methodology: Design: Transverse, descriptive study. **Subjects and setting:** 352 hypertensive patients included by consecutive sampling who have been included in ambulatory monitoring blood pressure program in a health centre mainly for the control of the efficiency of the treatment. 131 are women (51.4% women). **Measurements:** Age, sex, risk factors, cardiovascular risk with the 2003 scale of the European Society for Hypertension and Ambulatory Monitoring of the Blood Pressure (AMBP).

Results: The average age was 62.81 years (males: 60.88; females: 64.63, $p < 0.05$). The mean blood pressure for 24 hours was 125.33/74.44 mmHg, the BP of AMBP during activity periods was of 128.98/78.02 mmHg and the mean BP of the AMBP during rest periods was of 116.37/66.12 mmHg. We found that 162 patients (46 %) were DIPPERS (women 42.5%, males 49.7 %), 127 (36.1%) were NON-DIPPERS (females 40.3 %, males 31.6 %), 21 (6 %) EXTREME DIPPERS (females 5%, males 7%), and 36 (10.2%) were RISERS (females 9.4 %, males 11.1 %), with no significant differences between sexes. The DIPPERS have the lowest average age (58.4 years) and the RISERS the highest (69.7 years) ($p < 0.05$). 44 patients smoke (12.6%) with no significant differences in the circadian pattern between smokers and non-smokers. 25 patients (7.1%) present antecedents of ischemic heart disease associated with greater prevalence to the RISER pattern (27.8%). 13 patients present antecedents of heart failure (3.7 %) associated with greater prevalence to the RISER pattern (19.4 %). 18 patients present Left Ventricular Hypertrophy (LVH) studied with ECG (11.8 %) associated with greater prevalence to the RISER pattern (22.2 %). No associations have been found with the circadian patterns in diabetics, obese, increased waist perimeter or hyperlipemia patients. 33 patients (11.3 %) have a reference cardiovascular risk, 59 (16.8 %) a low risk, 117 (32.2%) moderate risk, 75 (21.3%) high risk, and 42 (11.9%) very high risk, with no significant associations to the circadian patterns.

Conclusions: We found an association of the circadian pattern with age. Patients with antecedents of ischemic heart disease and Left Ventricular Hypertrophy (LVH) present a greater proportion of RISER patterns. No circadian pattern association is found with estimated cardiovascular risk according to the scale of the European Society of Hypertension. The AMBP can be an effective tool to detect hypertensive patients under an added cardiovascular risk due to the circadian structure of the BP otherwise undetectable.