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CIRCADIAN VARIATION OF INTRAARTERIAL BLOOD PRESSURE IN COMATOSE PATIENTS
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The aim of this study was to evaluate any possible circadian variability in blood pressure (BP) in patients receiving medical treatment in a critical care unit, as well as any possible relationship between the parameters describing BP variability and the evolution of the patient. We studied 14 comatose patients (10 men). Seven were interned at the critical care unit due to post operation complications, while the other seven had cranium-encephalic traumatism. Four of the subjects died due to those complications. One subject was 2 years old; 6 subjects had between 17 and 25 years; the remaining 7 had between 54 and 84 years of age. Systolic and diastolic BP were monitored at the radial artery by the use of a telphon catheter number 20 every 20 minutes. The duration of sampling ranged from 2 to 24 days. Changes in parameters describing the circadian BP variability were studied by a method of serial section designed for analysis of both longitudinal and hybrid time series that allows the fit of multiple components [Fernandez & Hermida. Chronobiol Int. 1998;15:191-204]. All patients showed a statistically significant circadian rhythm in both systolic and diastolic BP, represented by a model with periods of 7, 3.5, and 1 days (P<0.001). From the population point of view, none of the groups studied (survivors, non-survivors, patients with traumatism, patients with post operation complications) showed a significant circaseptan rhythm, due to the lack of synchronism between the patients. The circadian amplitude (extent of predictable change along 24 hours) was always lower than at least one of the circaseptan or circasemiseptan amplitudes. The average ratio between the circaseptan and the circadian amplitudes was 3.6±0.6 mm Hg. The comparison between systolic and diastolic BP indicated that survivors presented similar values of orthophase (time of peak) and amplitude for both variables. On the contrary, non survivors showed large differences in their amplitude-orthophase pairs, indicating a lack of synchronism between systolic and diastolic BP. In comatose patients, BP is characterized by circaseptan variability desynchronized from the social week. The extent of circaseptan variability of radial and pulmonary BP in critical care patients is almost four times higher than the extent of circadian variability. The lack of synchronism between systolic and diastolic BP, that are highly correlated in normal subjects, could be a predictor of bad outcome for the patients, and should be taken into consideration in the prognostic evaluation of critical care patients.

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Key Words: Intraarterial Blood Pressure, Comatose Patients, Circadian

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FREQUENCY AND DETERMINANTS OF WHITE-COAT EFFECT IN PATIENTS REFERRED TO THE HYPTERTENSION CLINIC
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The prevalence of white-coat effect (WCE) varies according to the definition and population studied. We sought to determine the proportion of patients with WCE in a population of moderate to resistant hypertensive subjects referred to the hypertension clinic and to determine risk factors associated with WCE.

We performed a retrospective review of the complete medical records of 223 hypertension patients treated at our hypertension clinic. All patients had at least 3 office blood pressure (BP) readings and a complete 24 -hr ambulatory BP monitoring between March 1997 and October 2000. Charts were reviewed regarding demographic data and other patient characteristics. WCE was defined as the difference between the average clinic blood pressure and the daytime ambulatory BP. Initially, patients with and without WCE were compared with Chi-square tests and Wilcoxon rank-sum tests. Factors associated with WCE were determined by logistic regression analysis.

Of 223 patients referred to the hypertension clinic, 139 (62.3%) patients had WCE (mean age 69 years, 60.4% women,95% white).WCE was found to be more common in older patients(p=0.01), women (p=0.01) and in patients on antihypertensive treatment(p=0.02). Patients with WCE had higher office systolic BP(p=0.008) and mean arterial pressure(p=0.04) and lower 24-hr ambulatory diastolic BP (p=0.045) and ambulatory diastolic pressure at night(p=0.01) Covariates associated with WCE included older age (OR 1.04,95% CI 1.02 to 1.07, p=0.002), antihypertensive treatment ( OR 2.68, 95% CI 1.12 to 6.40, p=0.03),office systolic BP ( OR 2.33, 95% CI 1.49 to 3.65, p=0.0002) and ambulatory mean arterial pressure at night( OR 0.97, 95% CI 0.94 to 0.99, p=0.007).

In our sample of moderate to resistant hypertensives,there is a high frequency of white-coat effect.The diagnosis of WCE was independently associated with older age, antihypertensive therapy and high office systolic blood pressures.Therefore, in patients with uncontrolled hypertension, physicians should place greater emphasis on measuring BP outside

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