



POSTER

Change in blood pressure profile after stroke

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From the Lisbon Stroke Summit, Lisbon, Portugal. 6–7 April 2018.

Abstract

Introduction: Stroke remains the leading cause of long-term disability and the second most common cause of death worldwide. Twenty-four-hour ambulatory blood pressure monitoring (ABPM) is proven to be a useful scientific method to predict blood pressure related brain damage. There is controversy in changes in BP profile in stroke patients. Our aim was to evaluate changes in circadian rhythm of blood pressure after a stroke.

Methods: Consecutive patients admitted for acute stroke that had performed an ABPM in the previous six months, with a normal nocturnal dipper pattern, and on the next 6 months. The ABPM device was placed on the patient's unaffected arm. Besides ABPM these patients had clinical examination and blood study. We used models of chi-square and t-student and accepted significant values of $p < 0.01$ (two-tailed).

Results: We included 96 ischemic stroke patients, 94 (98%) with hypertension, 34 (35.4%) with diabetes, and 25 (25%) smokers. In 82 (85%) patients nocturnal "dip" was abolished (ND) and 36 patients (38%) displayed an "inverted-dipper" (ID) profile. Comparison of the two groups showed significant differences regarding pulse wave velocity (ND 13.6 ± 2.4 and ID 16.4 ± 2.7 , $p < 0.01$) and augmentation index (ND 29.1 ± 9.8 vs ID 24.6 ± 8.6 , $p < 0.01$). There was also a significant difference between the asleep SBP (ID 108.2 ± 10.4 versus ND 101.3 ± 9.6 , $p < 0.01$) and asleep DBP (ID 59.2 ± 6.2 versus 52.7 ± 7.4 , $p < 0.01$), regardless of other risk factors and history of hypertension.

Conclusion: The study detects a pathological alteration of blood pressure circadian profile after stroke occurrence, which may reflect severity in target organ damage. The ID had worse parameters than ND, which suggest that these patients may have a worse prognosis.

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Citation: Tornada et al. Change in blood pressure profile after stroke. International Journal of Clinical Neurosciences and Mental Health 2018; 5(Suppl. 1):P7

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Published: 06 April 2018



Open Access Publication Available at <http://ijcnmh.arc-publishing.org>

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