

Minimum Systolic Brain Perfusion in the Control of Systemic Hypertension

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Abstract

The recommended goal of a systolic pressure under 130 mmHg in hypertensive diabetic patients results in a significant drop in blood pressure that often causes neurological symptoms, a condition not always considered in the clinical practice. A controlled reduction in blood pressure should be achieved by using antihypertensive drugs to reach the minimum pressure without symptoms. Although in this evaluation the main variable must be the systolic pressure, the diastolic pressure should not be ignored.

Keywords: Systolic brain; Hypertensive; Control

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Letter to the Editor

The recommended goal of a systolic pressure under 130 mmHg in hypertensive diabetic patients results in a significant drop in blood pressure that often causes neurological symptoms, a condition not always considered in the clinical practice. Frequently these patients report that the rigid control of arterial pressure causes symptoms, such as dizziness, that only improve when they are placed in the decubitus position. On measuring the arterial pressure at this moment, it is generally less than 100 mmHg; when it rises to 120 mmHg or 130 mmHg, the symptoms improve. Research shows that sustained reductions in systemic blood pressure is correlated with a higher use of vasopressors and an independent, significantly higher risk of death of 45% at 5 years [1]. Another study identified a close association between reduced processing of pleasant stimuli and chronic low blood pressure in young adulthood [2].

Patients with type 2 diabetes and nephropathy have high morbidity and mortality rates despite treatment for cardiorenal syndrome, including angiotensin converting enzyme inhibitors or angiotensin receptor blockers [3].

As this frequently occurs in the clinical practice, we would like to propose that the recommended goal for the control of hypertension should include a minimum systolic pressure for functional stress and thus both minimum and maximum limits for the systemic arterial pressure should be established [4]. This

control would be based on the occurrence of individual symptoms that are alleviated by simple measures that improve brain perfusion such as placing the patient in the decubitus position.

The tissue perfusion pressure and other pressure variables that assess tissue perfusion may be useful, but they are not so simple to perform in the daily clinical practice. One warning sign that the systolic pressure should be higher is that, when seated and not exerting force, the patient feels neurological symptoms that improve on lying down. As patients have symptoms, such as dizziness, at different systolic pressures, there is a necessity to evaluate patients individually. A controlled reduction in blood pressure should be achieved using antihypertensive drugs to reach the minimum pressure without symptoms. Although in this evaluation the main variable must be the systolic pressure, the diastolic pressure should not be ignored.

The demand of large quantities of oxygen by the brain and the symptoms that appear immediately on reducing oxygen delivery, show the importance of neurological symptoms as markers and suggest that the minimum arterial pressure should be controlled in these patients. Thus, even the smallest amount of physical effort can cause symptoms when the systolic pressure is low.

References

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