

Supplement: Cardiology and Therapy

Alejandro de la Sierra

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INTRODUCTION

Ambulatory blood pressure monitoring (ABPM) is a tool of great value for the diagnosis and monitoring of hypertensive patients. Its principal advantages are, on the one hand, obtaining a greater number of measures in an environment closer to the individual's daily life, that better reflect the individual's real blood pressure, and, on the other hand, a better correlation with organ damage and cardiovascular prognosis [1]. ABPM is envisaged as a complementary tool in all clinical guidelines for treating hypertension and, in some cases, is obligatory for confirmation of the diagnosis [2, 3].

The role of ABPM is not limited to the diagnosis of patients, but also constitutes a

useful element in the assessment of treatment and in clinical monitoring [4]. The principal mean estimators during the 24 h over which the monitoring is usually performed, such as the two periods of activity (usually during the daytime) and of rest (usually at night), are prognostically important and enable the impact of the treatment to be targeted more precisely. Furthermore, differences with clinical measurement that result in the phenotypes of white-coat hypertension and masked hypertension enable treatment response to be better defined and allow the identification of patients who will require a different therapeutic approach [5, 6].

In addition to these mean estimators, the so-called "estimators of variability", which reflect the fluctuations in blood pressure over a 24-h period, are gaining ever greater attention. Among these, the nocturnal drop in blood pressure and the standard deviations during the diurnal and nocturnal periods can be highlighted. There are also indicators that provide information on the effects of medication on monitoring, such as the trough-to-peak ratio, the smoothness index or the treatment-on-variability index [7].

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A. de la Sierra (✉)
Head, Internal Medicine Department, Hospital
Mútua Terrassa, University of Barcelona, Terrassa,
Barcelona, Spain
e-mail: adelasierra@mutuaterrassa.cat;
asierra@ub.edu

All these variables proposed as diagnostic assessment indexes, and more specifically in assessing treatment, have been evaluated in various controlled studies in which the basis of antihypertensive treatment has been the angiotensin-receptor antagonist olmesartan. It has been observed in these studies that olmesartan and combinations of this drug with the calcium-channel blocker amlodipine, the diuretic hydrochlorothiazide or both, are able to reduce blood pressure over 24 h, diurnal and nocturnal, achieving high levels of ambulatory control [8].

Controlled clinical trials also show that treatment with olmesartan and its combinations has a duration of effect that covers the 24-h period, does not affect the circadian rhythm or nocturnal rest, regardless of whether it is administered in the morning or the evening, and effectively reduces morning blood pressure and the morning rise in blood pressure, parameters that are both related to cardiovascular and cerebrovascular prognosis [9, 10].

Other studies also show a reduction in the day-to-day variability of blood pressure, which is associated with effects such as arterial rigidity [11].

This accumulation of evidence about the pharmacological effects on ambulatory blood pressure, both mean estimators and estimators of variability, is a major step forward in the understanding of the action of antihypertensive drugs or procedures. It is to be expected that, in the future, changes in these estimators as assessed in clinical research will have a fundamental role in the selection of the most appropriate treatment(s) for hypertensive patients.

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