Assessment of antihypertensive efficacy by non-invasive ambulatory blood pressure monitoring

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The session devoted to the usefulness of non-invasive ambulatory blood pressure monitoring (ABPM) in the evaluation of antihypertensive therapy allowed us to discuss a number of important issues. ABPM emerged as a widely accepted technique to measure blood pressure in clinical trials. Actually, it was generally considered to provide more valuable information than do conventional blood pressure readings obtained sporadically by a doctor. However, still debated was the way of analysing ABPM recordings. This was particularly true with respect to the proposal of considering separately responders and non-responders when assessing the quality of blood pressure control achieved during treatment.

That ABPM results might differ greatly in the individual patient from clinic blood pressure has been firmly established. How then should one take into account this phenomenon when evaluating the efficacy of antihypertensive drugs? The most common view was that ABPM is more reliable than are clinic blood pressures, mainly because blood pressures recorded during everyday activities are more reproducible than are those measured by a doctor.

Blood pressure profiles recorded in ambulant patients allow one also to characterize the pattern of the drug-induced blood pressure changes. They make it possible for example to calculate the trough : peak ratio, which is a popular index used to assess whether a drug causes a smooth and sustained blood pressure reduction throughout the day. However, it was emphasized again that the definition of the optimal trough : peak ratio is arbitrary. This should be borne in mind when describing the pharmacodynamic properties of a given antihypertensive drug.

The availability of ABPM might influence the design of clinical trials. One reason is that the large number of blood pressures recorded during everyday activities allows one to reduce the number of patients required to detect significant blood pressure changes. Also, placebo usually has little effect on ambulatory blood pressure. This is an advantage because it is becoming increasingly difficult in most countries to include placebo periods in antihypertensive drug trials.

However, the problem of responders and non-responders has not been solved. It seems false to discriminate *a posteriori* between two subpopulations and to draw general conclusions on the basis of observations in good responders. Certainly, one has to be cautious not to extrapolate directly from the experience accumulated in a subgroup of patients to the whole studied population. However, one has also to admit that it is difficult to establish a correct dose-response curve and to measure a meaningful trough : peak ratio if responders are not evaluated separately. Maybe in the future the two ways of analysing data will be used in each study. This could be an acceptable solution for everybody.