

HYPERTENSION

YOUR QUESTIONS ANSWERED

hypertension, defined as a CBPM consistently above 150/90 mmHg in spite of treatment with three antihypertensive drugs, ABPM may indicate that the apparent lack of response is due, in fact, to the white coat phenomenon.

TO MANAGE ELDERLY PATIENTS IN WHOM TREATMENT IS BEING CONSIDERED

A number of ABPM patterns may be found in elderly subjects. As the elderly can be particularly susceptible to the adverse effects of blood pressure lowering drugs, identification of hypotension becomes particularly important.

TO IDENTIFY SUSPECTED NOCTURNAL HYPERTENSION

ABPM is the only non-invasive blood pressure measuring technique that permits measurement of blood pressure during sleep. The relevance of nocturnal hypertension has been controversial, but recent evidence has shown that a non-dipping nocturnal pattern is a strong independent risk for cardiovascular mortality. It has also been shown that absence of nocturnal 'dipping' of blood pressure to lower levels than during the day is associated with target organ involvement, and may be a useful (though non-specific) clue as to the presence of secondary hypertension.

TO GUIDE MANAGEMENT OF HYPERTENSION IN PREGNANCY

As in the non-pregnant state, the main use for ABPM in pregnancy is the identification of WCH, which may occur in nearly 30% of pregnant women. Its recognition is important so that pregnant women are not admitted to hospital or given antihypertensive drugs unnecessarily or excessively.

TO MANAGE HYPERTENSION IN TYPE 1 DIABETES

In subjects with type 1 diabetes, a blunted or absent drop in blood pressure from day to night is a predictor for increased risk of serious cardiovascular complications. An increase in systolic ABPM during the night may antedate the development of microalbuminuria in

young patients with type 1 diabetes, and the magnitude of the nocturnal dip in blood pressure predicts the development of microalbuminuria. These data suggest that use of ABPM in patients with type 1 diabetes and absence of microalbuminuria may be valuable in directing therapeutic strategies to prevent renal disease at a very early stage.

TO ASSESS SUSPECTED HYPOTENSION

ABPM may detect hypotension in young patients in whom hypotension is suspected of causing symptoms and it may also demonstrate drug-induced drops in blood pressure in treated hypertensive patients, which may have untoward effects in patients with a compromised arterial circulation, such as those with coronary and cerebrovascular disease.

TO GUIDE ANTIHYPERTENSIVE PRESCRIBING

The role of ABPM in guiding drug treatment is currently the subject of much research, and its place in this regard has not yet been fully established. However, recent reviews have highlighted the potential of 24-hour ABPM in guiding antihypertensive medication. ABPM gives the prescribing doctor an assessment of the response to treatment that CBPM cannot provide: the efficacy of treatment without the white coat effect can be ascertained, excessive drug effect and the occurrence of symptoms can be determined, the duration of drug effect over the 24-hour period and the consequences on blood pressure control by missing to take a drug as prescribed can be demonstrated.

THE ANSWER IS TAKEN FROM THE FOLLOWING EUROPEAN GUIDELINE:

O'Brien E, Asmar R, Beilin L, Imai Y, Mallion J-M, Mancia G, Mengden T, Myers M, Padfield R, Palatinin R, Parati G, Pickering T, Redon J, Staessen J, Stergiou G, Verdecchia P on behalf of the European Society of Hypertension Working Group on Blood Pressure Monitoring. European Society of Hypertension recommendations for conventional, ambulatory and home blood pressure measurement. J Hypertens 2003;21:821-848

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What are the indications for ambulatory blood pressure measurement (ABPM) in clinical practice?

TO IDENTIFY PATIENTS WITH SUSPECTED WHITE COAT HYPERTENSION

The importance of WCH rests on a curious haemodynamic phenomenon, which has quite profound clinical relevance: patients who appear to have hypertension when their blood pressure is measured by the traditional Riva-Rocci/Korotkoff method, have normal blood pressures when ABPM is used to record their blood pressures away from the medical environment. Put another way, conventional blood pressure measurement is misleading in people with WCH and if decisions are based on these measurements, **inappropriate diagnosis and treatment may result.**

The prevalence of WCH has been variably described as comprising 10 to 15% of clinic referrals for ABPM, with reports for prevalence in the population around 10 per cent. The clinical importance of WCH centers on the argument as to whether or not it carries an entirely benign prognosis. If WCH carries little or no risk, then establishing the diagnosis has significant implications, not just for those newly referred subjects in whom the diagnosis is suspected, and who can be reassured, but also for a large proportion of patients who have been labeled as 'hypertensive' with conventional measurement, and from whom the burden of unnecessary drug therapy may often be lifted, at least temporarily.

TO QUANTIFY THE WHITE COAT EFFECT

WCH must be distinguished from white coat effect, which is the term used to describe the rise in pressure that occurs in the medical environment regardless of the daytime ABPM level. In other words the term indicates the phenomenon found in most hypertensive patients whereby CBPM is usually higher than the

average daytime ABPM, which is none-the-less elevated above normal. The importance of the phenomenon is that patients diagnosed as having severe hypertension by CBPM may have only moderate or mild hypertension on ABPM because of a marked white-coat effect.

TO DETECT PATIENTS WITH MASKED HYPERTENSION

Recently, a group of patients have been identified in whom CBPM is normal but ABPM is elevated. This phenomenon denotes blood pressure elevation, which is hidden until ABPM is performed. If, as has already been shown, ABPM gives a better classification of risk than CBPM, then it follows that these people should be regarded as being genuinely hypertensive. The problem for clinical practice is how to identify and manage these subjects, who it is estimated may number as many as 10 million people in the US. The phenomenon might be suspected in subjects who have had an elevated CBPM at some time, in young subjects with normal or normal-high CBPM, who have early left ventricular hypertrophy, in subjects with a family history of hypertension in two parents, patients with multiple risks for cardiovascular disease and perhaps diabetic patients.

TO ASSESS RESISTANT HYPERTENSION

Combined systolic and diastolic hypertension is the most common form of hypertension, and ABPM allows for a more detailed assessment of the severity of elevation of systolic and diastolic pressures as well as the duration of elevation throughout the 24-hour period. In patients with resistant