Blood Pressure Monitoring

1.1 Agreement Between Office and 24-Hour Ambulatory Blood Pressure Control by Antihypertensive Treatment in General Practice: the 'Marle' Study

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Objective: The prognostic value of 24h ambulatory (A)BP control is superior to that of office BP control. However, in general practice, control of hypertension is mostly based on office BP measurements. This study compares control of office BP by antihypertensive treatment with control of 24h ABP in general practice.

Methods: Hypertensive adults under stable (>6 months) antihypertensive treatment, sequentially seen in GP offices, were recruited. Patients were subdivided into those with controlled (50%) or uncontrolled (50%) office BP. All subjects underwent ABP monitoring (M) applied by their GP after appropriate training making use of a validated device (A&D TM 2130). Subjects were then classified as having 24h ABP controlled or uncontrolled based on current guidelines. Concordance between office and 24h ABP control was assessed by k statistics. Positive (PPV) and negative (NPV) predictive value of office measurements in identifying ABP control was also estimated.

Results: Between July 2005 and November 2006, 190 GPs recruited 2059 subjects, of whom 1728 underwent 24h ABPM with 1524 valid recordings based on predetermined criteria. The overall ability of office BP control to predict 24h ABP control was poor (k=0.120), with good PPV (0.842) and limited NPV (0.278).

Conclusions: The finding of good office BP control is able to reflect satisfactory control of ABP over 24h in a limited number of cases only. This emphasises the need of a more frequent use of 24h ABPM in the management of hypertensive patients in general practice, in particular in patients with controlled office BP and a combination of ≥ 3 characteristics among male gender, diabetes mellitus, obesity, advanced age and heavy alcohol consumption. On the other hand, the finding of insufficient BP control by BP measurements performed in GP offices seems not to require confirmation by 24h ABPM.