

Ambulatory Blood Pressure Monitoring in Hypertension

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Ambulatory blood pressure monitoring (ABPM) provides distinct advantages over casual clinic blood pressure measurements by improving standardisation and reducing both observer bias and measurement error. Perhaps more importantly, blood pressure measured by ABPM correlates more closely with left ventricular hypertrophy than clinic blood pressure and evidence is emerging that it is a better tool for predicting cardiovascular risk than clinic blood pressure.

The highest risk group for adverse cardiovascular outcome is the elderly, however, no study has specifically targeted this group in determining the utility of ABPM for predicting cardiovascular events. ANBP2, therefore, offers an opportunity to determine the role of ambulatory monitoring in predicting subsequent cardiovascular events in subjects entering the main study.

An important related issue is the emerging role for ambulatory blood pressure monitoring in the diagnosis of 'white-coat hypertension'. This is the presence of elevated blood pressure in the clinic but lower blood pressure in their usual surroundings, usually documented by using ABPM. Population based studies show a prevalence of around 20-25% of this phenomenon. As ambulatory monitoring is not yet employed routinely in the diagnosis and management of hypertension, the natural history of this group is unknown, the assumption being that most are receiving antihypertensive medications. Against a possible "J shaped curve" relating low blood pressure to increased risk of myocardial infarction and stroke, it is unclear whether elderly subjects with white-coat hypertension who then receive antihypertensive medication will still have a better cardiovascular outcome.

Another phenomenon, 'white-coat effect' is usually present in those with white-coat hypertension but is more prevalent. It exists in subjects who have systolic blood pressure, measured in the clinic, at least 20 mmHg higher than that recorded outside the clinic by ABPM, or diastolic blood pressure at least 10 mmHg higher. Accordingly, some subjects exhibiting white-coat effect may still have normal blood pressure while others are hypertensive, as measured by ABPM.

Recruitment of 1200 elderly subjects for this study commences in January 1997 using lightweight, oscillometric ABPM units (generously provided by SpaceLabs). Subjects recruited from New South Wales, Western Australia and Victoria will have ABPM performed for 26 hours prior to receiving treatment and at 1, 2 and 5 years into the study. This recruitment will continue throughout 1997 and will enable questions to be answered regarding white-coat hypertension, white-coat effect and whether measurement of blood pressure by ABPM more closely correlates with cardiovascular outcome than clinic blood pressure.

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