Appendix K: Research recommendations (2011)

K.1 Out of office monitoring

In adults with primary hypertension does the use of out of office monitoring (HBPM or ABPM) improve response to treatment?

Why this is important

There is likely to be increasing use of home and ambulatory blood pressure monitoring for the diagnosis of hypertension as a consequence of this guideline update. There is however very little data regarding the utility of HBPM or ABPM for monitoring the quality of blood pressure control on treatment or as indicators of clinical outcome on treatment when compared to clinic blood pressure monitoring. The recommendation is for studies incorporating HBPM and/or ABPM to monitor blood pressure responses to treatment and their relationship to clinical outcomes.

K.2 Intervention thresholds below 40 years of age

In adults with hypertension below the age of 40, what are the appropriate intervention thresholds?

Why is this important

Outcomes: Progression of hypertension, intermediate risk markers of CV damage/structure (for example, LVH and vascular structure, renal damage, cerebral damage or cognitive changes)

There is genuine uncertainty about how to assess the impact of blood pressure treatment in younger people (aged <40years) with stage 1 hypertension and in particular, whether, if left untreated, younger people with untreated stage 1 hypertension without overt TOD or CVD, are disadvantaged by delaying treatment with regard to the likelihood of developing TOD. Also, whether any TOD that does develop is reversible. Such surrogate or intermediate disease markers are the only indicators that are likely to be feasible in younger people as traditional clinical outcomes are unlikely to occur is sufficient number over the time scale of a typical clinical trial. The data will be important to inform treatment decisions reading younger people with stage 1 hypertension who do not have overt TOD.

K.3 Methods for assessing lifetime CV risk

In adults with hypertension below the age of 40 years what is the most accurate method for assessing the lifetime risk of cardiovascular events and impact of therapeutic intervention on this risk?

Why is this important

Current short term risk estimates (i.e. over 10 years) are likely to substantially underestimate the lifetime cardiovascular risk of younger people with hypertension, because short-term risk assessment is powerfully influenced by age. Nevertheless, the lifetime risk associated with untreated stage 1 hypertension in young people with stage 1 hypertension could be substantial. Lifetime risk assessments may be a better way to inform treatment decisions and evaluate the cost effectiveness of earlier intervention with pharmacological therapy.

K.4 Optimal systolic blood pressure

In people with treated hypertension, what is the optimal systolic blood pressure target?
Why is this important

There is inadequate data about the optimal blood pressure treatment targets, particularly for systolic blood pressure. Current guidance is largely based on the blood pressure targets adopted in clinical trials but there have been no large trials that have randomised hypertensive people to different systolic BP targets with sufficient power to examine clinical outcomes.

K.5  Step 4 treatment – resistant hypertension

In adults with hypertension, which drug treatment (diuretic therapy versus step 4 treatments) is the most clinically and cost effective for step 4 treatment?

Why is this important

Although this guideline gives a steer towards the use of further diuretic therapy for treatment at step 4, i.e. resistant hypertension, this is largely based on post-hoc observational data from clinical trials and further data is needed to compare further diuretic therapy (and which diuretic – i.e. potassium sparing or higher dose thiazide-like?) with alternative treatment options at step 4 to define whether further diuretic therapy is the best option.

K.6  Blood pressure equipment

In people with hypertension, which automated blood pressure monitors are suitable for use in people with atrial fibrillation?

Why is this important

Atrial fibrillation may prevent accurate blood pressure measurement with automated devices. It would be valuable to know if this can be overcome.