WACARDIOLOGY

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SPRINT – THE TREATMENT OF HYPERTENSION

Family physicians would be forgiven for feeling somewhat bewildered at the back-and-forth of hypertension treatment recommendations over the past several years. Are lower goals really better, and how low is too low? **JNC 7** released in 2003, advised a treatment threshold of 140/90 mm Hg for most adults but included a lower target of 130/80 mm Hg for patients with diabetes or chronic kidney disease and also created the new category of "prehypertension" for healthy persons with blood pressures above 120/80 mm Hg. The lower targets were based on observational studies and expert consensus that treating to these would improve cardiovascular outcomes.

The **JNC 8** guideline took a different approach by relying primarily on evidence from randomized controlled trials. They only found strong evidence for treating to a BP of 150/90 mm Hg in adults aged 60 years or older and eliminated the lower targets for patients with diabetes and chronic kidney disease, making the goal 140/90 mm Hg for most people.

SPRINT was a study of 9361 participants with SBP≥130mmHg with 'high-risk' hypertension (ie age over 50 and one other risk factor such as known CVS disease, CKD with GFR 20-60, age over 75 or Framingham risk ≥ 15% over 10 yrs) were randomized to either a lower, more intensive goal of less than 120 mm Hg systolic blood pressure (SBP) compared with a goal of less than 140 mm Hg systolic. Patients with previous stroke or diabetes were excluded. Blood pressure was measured after 5 minutes of rest with 3 measurements and averaged.

The primary outcome in SPRINT was a combined cardiovascular outcome that included myocardial infarction, stroke, heart failure, or cardiovascular death.

The trial was stopped after 3 years (intended for 5 years) due to the strongly positive result. The primary endpoint occurred in 1.65%/yr in the intensively treated arm (average of 121 systolic) versus 2.19%/yr in the standard group (average of 136mmHg systolic), a 25% relative risk reduction. There was also a 25% reduction in all-cause mortality. The secondary endpoints are yet to be analysed.

However, 4.7% of the intensively treated arm developed symptomatic hypotension, abnormal electrolytes, acute kidney injury or syncope versus 2.5% in the standard arm. Falls with injury were not increased.

How this trial will affect the guideline committees remains to be seen. I suspect that the guideline writers will recommend a lower target for patients with 'high risk' hypertension if it can be achieved with minimal side-effects. The intensive treatment was fairly well tolerated and clearly the benefits outweigh the risks.

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