

Tip 26 (May 2016)

Implications of the Sprint Trial for hypertension management in general practice

Despite the fact that there is a continuum of cardiovascular risk associated with systolic blood pressures above 115mmHg¹, it has proven difficult in clinical trials to prove that lowering blood pressure below the long-standing target of 140/90 improves cardiovascular outcome. Even in high-risk populations like diabetics and those with chronic kidney disease, recent guidelines, including the influential JNC-8² (citing the body of available evidence) have moved the target back from the previous 130/80 to 140/90. Even more controversially perhaps, the target for individuals over 60 years has been increased from 140/90 to 150/90 in the recent JNC-8 guideline².

The recently published Sprint trial³ provides compelling new evidence for clinicians to consider. The investigators randomised nearly 10 000 hypertensive patients to treatment to a target blood pressure < 140mmHg systolic vs < 120 systolic. Participants had to be over 50 years of age with a (treated or untreated) systolic blood pressure of 130 - 180 mmHg, and at least one additional cardiovascular risk factor. Diabetics were excluded. It was up to clinicians judgement what medications or combinations of medications to use. The primary outcome was a composite of first occurrence of cardiovascular events (myocardial infarction, acute coronary syndrome, stroke, acute decompensated heart failure, and cardiovascular disease death.

The intensive treatment arm achieved a mean systolic blood pressure of 121.5mmHg vs 134.6mmHg for the less intensive arm. Mean antihypertensive drug use was 3.0 in the intensive arm vs 1.9 in the less intensive arm.

The trial was discontinued prematurely by the investigators after a mean of 3.26 years because was a substantial difference in cardiovascular events between the two arms. The primary outcome was 25% lower in the intensive vs the less intensive group and all-cause mortality 27% less in the intensive vs the less intensive group.

The results of this trial are already having an impact on clinical practice, and will no doubt influence future guidelines.

My take on this trial is that we should probably aim for lower blood pressures (< 130mmHg systolic) where these can be achieved safely and with regimens which are tolerable to the patient. It's really just a matter of appropriately uptitrating antihypertensive drug combinations - the intensive group in the Sprint trial requiring approximately 3 drugs to achieve the lower blood pressure vs two drugs in the less intensive group.

1. Impact of High-Normal Blood Pressure on the Risk of Cardiovascular Disease Ramachandran S. Vasan et al. N Engl J Med 2001; 345

2. 2014 Evidence-Based Guideline for the Management of High Blood Pressure in Adults. Report From the Panel Members Appointed to the Eighth Joint National Committee (JNC 8). *JAMA*. 2014;311(5):507-520.

3. A Randomized Trial of Intensive versus Standard Blood-Pressure Control. The SPRINT Research Group. *N Engl J Med* 2015; 373:2103-2116