



Prof. Giovanni de Simone about the SPRINT elderly sub-population

Intensive vs Standard Blood Pressure Control and Cardiovascular Disease Outcomes in Adults Aged ≥ 75 Years: A Randomized Clinical Trial.

In the March 2016 edition of the ESC Council on Hypertension newsletter, Prof. Cifkova reported on the SPRINT study, a trial that opened a wide discussion on optimal blood pressure control. The suggestion to reduce blood pressure to lower limits, already indicated by the Italian CardioSis study, and confirmed in a meta-analysis published in the July issue of Hypertension, is challenged by some scientific associations and geriatricians. There is some evidence of attenuated or even negative association between higher blood pressure (BP) and lower mortality in elderly individuals. Observational studies suggest that mortality might be even increased in elderly subjects with frailty and cognitive decline, who have tightly controlled blood pressure.

Recently, the SPRINT authors published a new analysis on the sub-population of patients aged >75 years, substantially confirming the results obtained in the whole cohort. At a median follow-up of 3 years, there was a significantly lower rate of the primary composite outcome (myocardial infarction, stroke, decompensated heart failure, and cardiovascular death). The authors observed a significant 34% hazard reduction for primary composite outcome in the intensive treatment group compared to the standard treatment group. All-cause mortality was also significantly reduced by 33%. The overall rate of serious adverse events was not different between treatment groups. Interestingly, there was no statistically significant difference in the rate of orthostatic hypotension assessed during the outpatient clinic visit.

Although the results are straightforward, this elderly SPRINT sub-population exhibits characteristics that might differ from real-world unselected elderly outpatients. Due to design, the investigators excluded patients with dementia, those who resided in assisted-living facilities or nursing homes, and those who had diseases estimated to limit survival to less than 3 years. These limitations were well recognized. At this time, the results of the elderly SPRINT sub-population should be safely reserved to individuals with characteristics similar to those of the SPRINT participants.

Another important caveat concerns diastolic BP. In the elderly SPRINT sub-population, diastolic BP during follow-up was 62 mmHg in the intensive treatment group and 67 mmHg in the standard treatment group, a difference that is certainly significant. A number of studies documented an inverse



relation between diastolic BP and incident coronary heart disease (CHD). In a recent meta-analysis, values below 80 mmHg were associated with increased mortality risk, substantially due to CHD.

Although the elderly SPRINT sub-study exhibit very high internal validity, it would be desirable to check for the external validity of these findings in large observational analyses or pragmatic trials.

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