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## Editorial

# Successful SPRINT hypertension trial does not cover all older patients



In this issue of as a Hot Topic in geriatric medicine, Gasowski and Piotrowicz review current views on hypertension in older patients [1]; is the paradigm really changing? In our comment, we focus on the central study in this discussion, namely the American Systolic Blood Pressure Intervention Trial (SPRINT [2]; not to be mixed with the European Sarcopenia and Physical Frailty in Older People: multi-component treatment strategies [SPRINTT] [3]), which tested whether lowering systolic blood pressure below 120 mm Hg vs. below 140 mm Hg would bring further cardiovascular benefits in hypertensive people without diabetes. The overall results of SPRINT showed this really be the case: important clinical cardiovascular endpoints including total mortality were reduced in the intensive-treatment group [3].

The results in SPRINT participants aged 75 years and older (mean age 79.9 years) [4] – a pre-specified subgroup – are useful to answering several concerns that geriatricians have had about potential adverse effects of antihypertensive treatment, especially if performed intensively. SPRINT provided several answers to these questions showing that cardiovascular disease outcomes and total mortality were reduced also among older patients with intensive treatment. Falls, orthostatic hypotension, and most other potential side effects were not different in the 2 treatment groups, with the exception of kidney side outcomes, which were increased in the intensive treatment group [4].

In addition to adverse effects, a further concern when treating older hypertensive patients has been that randomized trials would only include fit older persons and results could not be applied to older frail persons. A strength of SPRINT was that frailty status was assessed [5] and results were not different according to frailty level, supporting the HYPertension in the VERY elderly Trial (HYVET) which also showed similar outcome [6].

Still, we have to point out that, similarly to HYVET, SPRINT excluded the most frail subjects and several other subgroups of patients with very frequent age-related disease such as patients with type 2 diabetes, history of stroke, symptomatic heart failure prior to inclusion, dementia, orthostatic hypotension (systolic blood pressure of < 110 mmHg after 1 minute of standing), as well as patients living in nursing homes. Therefore, individuals aged 75 years and older without the above diseases and conditions – who nevertheless represent the majority of this age-group – are benefitting by these important new findings of SPRINT.

However, one final concern about antihypertensive treatment – and its intensity – in older people remains. As SPRINT investigators point out, the results cannot be extrapolated to very old, very frail individuals, such as those living in nursing homes and in those with several cardio-metabolic or cognitive disorders.

In addition to the current review, the specific problems of these patients have been recently highlighted in an expert statement [7]. But how to study them in a randomized trial setting? One possibility is a “reverse” trial, discontinue treatment in those with polypharmacy and low blood pressure levels and watch for outcomes such as mortality, cognitive function and quality of life. This type of studies are not without technical problems (antihypertensive drugs are used for several indications, competing mortality is high), but from an ethical and medical point of view they are supported by observational data of a significant interaction between low blood pressure and higher mortality among older, nursing home residents [8].

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## Disclosure of interest

The authors declare that they have no competing interest, but both authors have had various co-operation with companies marketing also antihypertensives. TES is the past president and AB academic director of the European Union Geriatric Medicine Society (EUGMS).

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