Schweizerische Hypertonie-Gesellschaft
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Hot from the hypertensive press
Short analysis of clinical studies that may change our practices in the field of hypertension
09/2021

A further STEP to lower blood pressure targets in older hypertensive patients?

With the aging population, treatment targets for systolic blood pressure (BP) in older patients with hypertension has become a focus of research. The current European guidelines recommend lowering systolic BP in older patients to <140/80 mmHg, but not below a systolic BP of 130 mmHg. An important consideration is frail, dependent older patients, including those with orthostatic hypotension, who usually have been excluded from randomized controlled trials. The SPRINT trial showed the benefits of BP lowering treatment being extended to patients who were at the frailer end of the spectrum, including those with reduced gait speed, suggesting that the benefit of treatment is not limited to fit and independent older patients. Nevertheless, the appropriate target for systolic blood pressure to reduce cardiovascular risk in older patients with hypertension remains unclear.
To further elucidate this question, the multicenter, randomized, controlled trial presented here, assigned Chinese patients 60 to 80 years of age with hypertension to an intensive BP lowering treatment with a systolic BP target of 110 to <130 mm Hg or a standard treatment with a BP target of 130 to <150 mm Hg. The primary outcome was a composite of stroke, acute coronary syndrome, acute decompensated heart failure, coronary revascularization, atrial fibrillation, or death from cardiovascular causes.
8511 patients were enrolled in the trial with 4243 randomly assigned to intensive and 4268 to standard BP lowering treatment. The mean age was 66.2 years, and 46.5% were men. Mean systolic BP at baseline was 146 mmHg. History of diabetes was present in 19.1%, dyslipidemia in 37.8%, renal dysfunction (defined as a GFR < 60 ml/min/1.73m^2) in 2.3% of the patients, 6.3% had a history of cardiovascular disease, and 64.8% had a Framingham Risk Score of ≥15%. At 1 year of follow-up, the mean systolic BP was 127.5 mm Hg in the intensive and 135.3 mm Hg in the standard-treatment group. During a median follow-up period of 3.34 years, primary-outcome events occurred in 3.5% in the intensive-treatment, and 4.6% in the standard-treatment group (hazard ratio [HR]: 0.74; 95% confidence interval [CI]: 0.60 - 0.92; p=0.007). The results for most of the individual components of the primary outcome also favored intensive treatment (stroke: HR 0.67 [95%-CI: 0.47 - 0.97]; acute coronary syndrome: HR 0.67 [95%-CI: 0.47 - 0.94]; acute decompensated heart failure: HR 0.27 [95%-CI: 0.08 - 0.98]; coronary revascularization: HR 0.69 [95%-CI: 0.40 - 1.18]; atrial fibrillation: 0.96 [95% CI: 0.55 - 1.68], death from cardiovascular causes: HR 0.72 [95%-CI, 0.39 - 1.32]. While safety and renal outcome parameters did not differ significantly between, the incidence of hypotension was higher in the intensive-treatment group.
Comment: In this trial, intensive treatment with a systolic BP target of 110 - <130 mm Hg in older patients with hypertension, resulted in a lower incidence of cardiovascular events than standard treatment with a target of 130 - <150 mm Hg, further supporting the notion expressed in recent hypertension guidelines that the previously suggested BP targets appear too conservative for many old and very old patients, especially for those who are active and independent.
Nevertheless, generalization of the results of this trial should be done with caution, since patients with conditions frequently found in older populations - such as systolic BP >190 mmHg and/or diastolic BP <60 mmHg, recent coronary revascularization, symptomatic heart failure, severe renal or liver disease, cognitive impairment, or a history of stroke were not included and results might be different in populations with different ethnic backgrounds.

References:

1. W. Zhang, S. Zhang, Y. Deng, S. Wu, J. Ren, G. Sun, J. Yang, Y. Jiang, X. Xu, T.-D. Wang, Y. Chen, Y. Li, L. Yao, D. Li, L. Wang, X. Shen, X. Yin, W. Liu, X. Zhou, B. Zhu, Z. Guo, H. Liu, X. Chen, Y. Feng, G. Tian, X. Gao, K. Kario, J. Cai, for the STEP Study Group. Trial of intensive blood-pressure control in older patients with hypertension. New Engl J Med 2021. doi: 10.1056/NEJMoa2111437.
2. B. Williams, G. Mancia, W. Spiering, E. Agabiti Rosei, M. Azizi, M. Burnier, D.L. Clement, A. Coca, G. de Simone, A. Dominiczak, T. Kahan, F. Mahfoud, J. Redon, L. Ruilope, A. Zanchetti. M. Kerins, S.E. Kjeldsen, R. Kreutz, S. Laurent, G.Y.H. Lip, R. McManus, K Narkiewicz, F Ruschitzka, R. E. Schmieder, E. Shlyakhto, C. Tsioufis, V. Aboyans, I. Desormais. 2018 ESC/ESH Guidelines for the management of arterial hypertension. Eur Heart J 2018; 39: 3021-3104. doi:10.1093/eurheartj/ehy339.

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21.10.2021