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Hot from the hypertensive press
Short analysis of clinical studies that may change our practices in the field of hypertension
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A pinch of potassium salt substitute for everyone?

The Salt Substitute and Stroke Study (SSaSS) is a prospective, open-label, cluster-randomized (1:1) trial which was designed to compare salt substitute against regular salt on the risk of stroke as a primary outcome[1]. Secondary outcomes were cardiovascular (CV) event and death. Hyperkalemia was a safety outcome. This study enrolled 20'995 persons from 600 villages in rural areas of 5 provinces in China. Participants had a history of stroke or were older than 60 years and had poorly controlled systolic blood pressure (SBP ≥ 140mmHg if treated or ≥160mmHg if untreated). In the intervention group (n=10'504), salt substitute was composed by sodium (75%) and potassium chloride (25%). Household with relatives having known kidney disease were excluded.

Across the median 5.1 years follow-up, the mean SBP difference between the salt-substitute and regular-salt group was -3.3 mmHg (95%CI: -4.5 to -2.2). The mean difference in 24-hour urinary sodium and potassium excretion between the salt-substitute group and the regular-salt group were -15.2 mmol (95% CI: −23.7 to −6.7), and 20.6 mmol (95% CI: 18.3 to 23.0), respectively. The rate of stroke was lower in the salt-substitute compared to the regular group: 29.1 vs 33.7 events per 1000 person-years with a Rate Ratio (RR) of 0.86 (95CI%: 0.77 to 0.96). The rates of major CV events and death of any cause were also lower in the intervention group: 49.1 vs 56.3 events per 1000 person-years (RR 0.87; 95%CI: 0.80 to 0.94) and 39.3 vs 44.6 events per 1000 person-years (RR 0.88; 95%CI: 0.82 to 0.95), respectively. There were no differences in hyperkalemia rates.

Comment: Based on SSaSS, another analysis estimated the effects of nationwide replacement of salt with potassium enriched salt substitute on morbidity and death[2]. The overall effects of salt substitution on SBP were estimated to prevent about 461'000 deaths from CV disease annually, 743'000 non-fatal CV events and 7.9 million disability adjusted life years related to CV disease. In addition, the authors estimated that the incidence of chronic kidney disease could be decreased by about 120'000 annually.
Some sodium substitutes are available in Switzerland. Why no use them!

References

[1] B Neal, Y Wu, X Feng, et al. Effect of Salt Substitution on Cardiovascular Events and Death. New Engl J Med 2021 Aug 29.. Online ahead of print

[2] M Marklundl, G Singh, R Greer, et al. Estimated population wide benefits and risks in China lowering sodium through potassium enriched salt substitution: modelling study. BMJ 2020; 369:m824

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