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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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Will there ever be a Swiss Polypill?

The International Polycap Study 3 (TIPS-3) is a recently published international 2-2 factorial study including adult participants with increased cardiovascular risk but no cardiovascular disease¹. Participants were randomized to a polypill containing 40 mg of simvastatin, 100 mg of atenolol and 25 mg of hydrochlorothiazide and 10 mg of ramipril) or placebo and aspirin 75 mg or placebo. The primary outcome was death from cardiovascular causes, myocardial infarction, stroke, resuscitated cardiac arrest, heart failure, or revascularization. More than 5700 patients were randomised and the mean follow up was 4.6 year. The primary outcome for the polypill comparison occurred in 126 participants (4.4%) in the polypill group and in 157 (5.5%) in the placebo group (hazard ratio, 0.79; 95% confidence interval [CI], 0.63 to 1.00). The primary outcome for the polypill plus aspirin comparison occurred in 59 participants (4.1%) in the combined-treatment group and in 83 (5.8%) in the double placebo group (hazard ratio, 0.69; 95% CI, 0.50 to 0.97).

Comment: This study with hard cardiovascular outcomes follows another recently published study with similar favourable outcomes of another polypill.² From a public health point of view these studies, which decrease the relative CV risk of about 30%, must be saluted. On the hand, one polypill does not fit all: a relative high proportion of the participants were not randomised mainly because of secondary effects of the polypill and lack of adherence to treatment in the run-in phase. This must not be underestimated, since lack of adherence is one of the main reason why blood pressure target are not reached in most countries. In Switzerland, some combinations of antihypertensive and lipid lowering drugs exist and can be prescribed in a selected number of patients. Dose related side effects, contra-indications to some drugs and patient preferences are certainly limiting factors for its actual wide use in Switzerland.

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References:

1. Yusuf S, Joseph P, Dans A, et al. Polypill with or without Aspirin in Persons without Cardiovascular Disease. *N Engl J Med* 2021; **384**(3): 216-28.
2. Roshandel G, Khoshnia M, Poustchi H, et al. Effectiveness of polypill for primary and secondary prevention of cardiovascular diseases (PolyIran): a pragmatic, cluster-randomised trial. *Lancet* 2019; **394**(10199): 672-83.

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