



Schweizerische Hypertonie-Gesellschaft
Société Suisse d'Hypertension
Società Svizzera d'Ipertensione
Swiss Society of Hypertension

Hot from the hypertensive press

Short analysis of clinical studies that may change our practices in the field of hypertension
01/2022

THINK OF STOPPING A DRUG BEFORE STARTING A NEW DRUG FOR BETTER HYPERTENSION CONTROL!

Vitarello JA et al. used the “National Health and Nutrition Examination Survey (NHANES)” data to determine the prevalence of medications, which are known to raise blood pressure (BP).¹ Furthermore, the authors used regression models to evaluate associations of these medications with antihypertensive drug use and uncontrolled hypertension.

Among a total of 27'599 study participants, 14'629 had known hypertension. Of these, 10'696 participants had uncontrolled hypertension. Among all study participants, 14.9% reported using medications that may raise BP. This proportion was significantly lower than in the subgroup of study participants with known hypertension (18.5%). The most frequently used drug classes were antidepressants in 8.7% of participants with hypertension, nonsteroidal anti-inflammatory drugs in 6.5%, and steroids in 1.9%. These proportions were significantly higher than in participants without hypertension. Estrogens were found in 1.7% of participants with hypertension, testosterone in 0.4%, decongestants in 0.4%, antipsychotics in 0.2%, and immunosuppressants in 0.2%. These proportions showed a trend towards higher values in participants with hypertension, but the differences were not statistically significant. Using logistic regression, the use of medications that may raise BP was associated with a greater use of antihypertensive drugs and a greater risk of uncontrolled hypertension.

Comment

Though this interesting study using a large U.S. database was published only as a research letter, it deserves wider attention due to emerging pandemic of polypharmacy. This study shows first that the use of BP raising medications is very common in hypertensive persons. The study then demonstrates that the use of these medications was presumably responsible for a higher BP given the fact that hypertensive persons used these medications more frequently than non-hypertensive subjects and given the fact that the use of these medications was associated with uncontrolled hypertension. Furthermore, the study suggests that a prescribing cascade may be the consequence of BP raising medications as shown by the association between these medications and a greater use of antihypertensive drugs.

So, what can we do in daily clinical routine? Always do a polypharmacy check before starting a new antihypertensive drug! Antidepressants were the most frequent drug class that potentially raises BP. It is important to denote that antidepressants are not a homogenous class of drugs, but that there are different mechanisms of action. Particularly serotonin-norepinephrine reuptake inhibitors (SSNRIs), such as venlafaxine, are known to lead to higher BP.² Monoamine-oxidase inhibitors (MAOI) may promote hypertensive crisis in conjunction with tyramine-containing food (e.g., cheese). Selective serotonin reuptake inhibitors (SSRIs), such as citalopram, have a lower impact on BP, and norepinephrine-serotonin modulators, such as mirtazapine, or serotonin-reuptake modulators, such as trazodone, have no or only minimal effects on BP (NB: these antidepressant drugs, on the other hand, frequently cause orthostatic hypotension). If a patient on a SSNRI experiences high BP, I recommend considering to replace it with another antidepressant before starting with an antihypertensive drug.



The same is true for all other medications that may raise BP: in most instances, the medication may be replaced by other medications or sometimes be stopped without replacement.

References:

- 1 Vitarello JA, Fitzgerald CJ, Cluett JL, Juraschek SP, Anderson TS. Prevalence of Medications That May Raise Blood Pressure Among Adults With Hypertension in the United States. *JAMA Intern Med.* 2022;182(1):90-93.
- 2 Calvi A, Fischetti I, Verzicco I, Belvederi Murri M, Zanetidou S, Volpi R, Coghi P, Tedeschi S, Amore M, Cabassi A. Antidepressant Drugs Effects on Blood Pressure. *Front Cardiovasc Med.* 2021;8:704281.

Prof. Dr. med. Andreas Schoenenberger, Swiss Society of Hypertension

20.01.2022