



Prescription architecture for better blood pressure control: smart strategies to manage polypharmacy

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Polypharmacy (multiple drug use) is a serious problem in modern medicine, especially among elderly patients. With the coexistence of multiple diseases, multiple drugs are prescribed, and drug-drug interactions, adverse drug reactions, and poor medication adherence have become problematic. In particular, the impact of polypharmacy in hypertension management has been attracting increasing attention in recent years.

Kumar et al. reported that the concurrent prescription of antihypertensive medications with blood pressure-raising drugs (e.g., NSAIDs, antidepressants, corticosteroids) is increasing, especially among women [1]. Under these circumstances, despite prescribing antihypertensive medications, blood pressure control is often difficult due to the blood pressure-raising effects of the other drugs. The negative impact of polypharmacy on blood pressure control is not merely a theoretical concern; Grossman et al. have noted that NSAIDs and some antidepressants interfere with the antihypertensive effect and increase the risk of treatment-resistant hypertension [2]. Given this background, it should be recognized that the problem of polypharmacy in hypertension management is not only the “large number of drugs” but also the “complex overlap of drug profiles” that is the essence of the risk. In particular, the continued use of drugs with blood pressure-elevating effects leads to an increase or addition of antihypertensive drugs, further exacerbating the vicious cycle of polypharmacy.

In response to this vicious cycle, recent attention has focused on “deprescribing”, which refers to the process of comprehensively assessing a patient’s clinical situation and

systematically reducing or discontinuing potentially unnecessary or harmful medication [3]. The introduction of this perspective is essential in the management of hypertension under polypharmacy, as the first consideration should be the discontinuation or reduction of blood pressure-elevating medications, rather than simply intensification of anti-hypertensive medications.

The practice of deprescribing is not easy. Because there is a legitimate therapeutic purpose for each drug behind multidrug use, it is necessary to carefully weigh the harms and benefits of each drug. Coordination among patients, their families, and multiple departments is also essential, and a team medical care system must be established. The risks associated with polypharmacy in renal and blood pressure management are manifold, including decreased renal blood flow with NSAIDs, dehydration, and electrolyte abnormalities with diuretics, especially in summer. We always refer to the STOPP/START criteria [4] to select appropriate medications and keep up to date with knowledge about medications that may raise blood pressure. Thus, in the field of hypertension treatment, (1) List drugs with blood pressure-elevating effects and conduct impact assessments, (2) Conduct periodic drug reviews and consider opportunities for deprescribing, (3) A multi-disciplinary approach is needed to optimize the overall pharmacotherapy.

Future hypertension treatment will require not only the addition or increase of antihypertensive medications, but also a comprehensive drug management strategy aimed at improving blood pressure control by reducing total drug dosage, as well as improving systemic outcomes. Polypharmacy control is expected to become increasingly important as a “second therapeutic strategy” in hypertension management.

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