PERSPECTIVE

LESS IS MORE

Diuretics and Diarrhea
A Dangerous Combination: A Teachable Moment

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A 52-year-old woman with a history of human immunodeficiency virus (HIV) infection receiving highly active antiretroviral therapy (HAART) and with a history of hypertension presented to my continuity clinic reporting several months of dizziness with standing. Her systolic blood pressure was in the high 80s, and daily medications included lisinopril, 80 mg daily; hydrochlorothiazide, 25 mg daily; and metoprolol, 25 mg twice per day. She reported chronic diarrhea from protease inhibitor use, having 3 to 4 loose bowel movements daily for many years. Maintaining adequate hydration had been problematic for her, and she had been hospitalized for orthostatic syncope and dehydration several times over the past year. At the time of her initial visit, her dosage of lisinopril was decreased by half and hydrochlorothiazide use was discontinued. She was referred to the clinical pharmacy for additional medication titration.

At her appointment with the clinical pharmacist, blood pressure was noted to be 146/102 mm Hg. Because this was above a presumed target of 140/90 mm Hg, she was once again prescribed a diuretic. After she started using it, she experienced recurrent episodes of dizziness and syncope, which led to hospitalization.

Blood pressure management is an essential component of reducing risk of cardiovascular morbidity and mortality.[1] Guidelines from the Seventh Report of the Joint National Committee on Prevention, Detection, Evaluation, and Treatment of High Blood Pressure[2] provide a framework for blood pressure targets and initial drug therapies. The challenge for clinicians is to individualize therapy and find the balance between optimal blood pressure control and the avoidance of adverse effects of medication. In light of our patient's chronic diarrhea and her propensity for dehydration and orthostasis, diuretic use was likely best avoided. But is there even an appropriate evidence-based blood pressure goal for our patient?

There are no specific guidelines for blood pressure control in patients with HIV. Studies have suggested, however, that blood pressure control is particularly important in those with concurrent HIV infection given the chronic inflammatory state of the disease.[3] In addition, there is concern that HAART, particularly protease inhibitors, can cause metabolic syndrome and may be associated with increased cardiovascular risk.[4] Although optimizing our patient's blood pressure would be preferred, a more liberal target may have prevented the reinitiation of diuretic therapy and the harms of recurrent symptomatic hypotension and hospitalization. In discussion with her about the risks and benefits of normalizing her blood pressure, she preferred a potential increase in long-term cardiovascular risk over the immediate prospect of harms from hypotension. Of note, it is unclear whether pharmacologically treating patients with mild hypertension but no history of cardiovascular events is beneficial at all, at least over the near term. A Cochrane review[5] from 2012 analyzing 8900 participants found that antihypertensive drug treatments over the course of 4 to 5 years did not reduce mortality, cardiovascular events, or stroke, compared with placebo. Nine percent of participants discontinued treatment because of adverse effects.[5] This suggests that the most urgent priority for our patient was to prevent the adverse effects of hypertensive medications rather than further lowering her blood pressure.

Although prescribing medications is as easy as the click of a button, we must always first consider the individual patient and our obligation to "first, do no harm." Although blood pressure control is a crucial component of primary care medicine, treating to targets without equal attention to the potential harms from overtreatment can be a risky endeavor.

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