

Hydralazine prn, should we really use it?

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Physicians commonly approach hospitalized patients with severe asymptomatic hypertension by treating a number rather than the patient as a whole. However, the use of intravenous hydralazine to acutely lower blood pressure (BP) in this setting can have its own risks. Besides having an unpredictable pharmacokinetic profile, it can be harmful in conditions such as myocardial infarction and aortic dissection.¹ Campbell, et al. performed an observational study describing the appropriateness, efficacy, and side effects of intravenous hydralazine doses given in hospitalized patients.² In this study only 2% of patients had evidence of hypertensive emergency symptoms justifying use of an IV antihypertensive medication. Physicians evaluated only 7.5% of patients prior to hydralazine dosing, and just 25% of them had an adjustment in their long-term BP medications. Furthermore, a significant proportion of patients (16%) experienced side effects, such as hypotension, dizziness, and lightheadedness. As an assessment of routine practices in the in-patient management of BP elevations, Weder, et al. performed a retrospective review of patients receiving prn doses of hydralazine and/or labetalol who were not admitted specifically for management of hypertension. Of the 2189 patients analyzed in this study, only 2.9% had a diagnosis for which rapid BP reduction with intravenous agents would be indicated. Hydralazine was commonly prescribed to be given every hour, which is not in agreement with the expert recommendation of 10-20 mg every 4 to 6 hours. Notably, the mean length of stay was significantly increased in patients who received prn IV antihypertensive (12.0 ± 15.9 days) compared to patients in whom medication was ordered but not given

(7.1 ± 10.4 days, $p < 0.001$).³ It should be noted that subjects receiving prn medications were significantly older (60.5 ± 16.5 vs. 54.4 ± 18.8 years, $p < 0.001$), and this could have affected the results.

Unfortunately, there are no guidelines or standard recommendations to guide the management of acute elevations of blood pressure in the hospital setting. Although hydralazine has proven useful in cases of pre-eclampsia, it is reasonable to prefer a slow titration of BP medications rather than frequent IV hydralazine doses in the absence of target organ compromise during hypertensive episodes in hospitalized patients.

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Received: 02/06/2015

Accepted: 04/09/2015

Reviewers: Vaqar Ahmed MD

Published electronically: 4/15/2015

Conflict of Interest Disclosures: None

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DOI: 10.12746/swrccc2015.0310.131