


RESPONSE TO LETTER TO THE EDITOR

Aneurysmal Subarachnoid Hemorrhage: A Look into Recent Guidelines



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To the Editor,

We thank Drs. Chowdhury, Mahajan, and Bindra for appreciating the importance of providing guidelines to aid clinicians managing patients with subarachnoid hemorrhage (SAH). We agree with the authors that the guidelines by the Neurocritical Care Society (NCS) [1] and those by the American Heart Association/American Stroke Association (AHA/ASA) [2] are concordant in almost all aspects. They, however, point out subtle differences related to the recommendations for the management of hyponatremia, specifically regarding the use of mineralocorticoids [3]. While at first glance the guidelines might appear to provide different recommendations, the two statements are not inconsistent.

Studies have shown that mineralocorticoids may reduce excess sodium excretion, urine volume, the occurrence of hyponatremia, and intravenous fluid administration when started early after SAH and continued for 10–14 days. However, results were not consistent across these studies, which also presented some methodological weaknesses. Thus, we considered the evidence inconclusive. More importantly, as further expounded in a narrative review by Busl and Rabinstein [4] providing clinical practice guidance, mineralocorticoids have not been shown to consistently reduce symptomatic vasospasm, delayed cerebral ischemia, or functional outcomes. Therefore, using a strict evaluation of available studies based on clinically relevant outcomes, our guideline

development group concluded that there is insufficient evidence to make a recommendation on the use of mineralocorticoids to improve outcomes in SAH.

Nonetheless, the AHA/ASA guidelines state that the “use of mineralocorticoids is reasonable to treat natriuresis and hyponatremia,” accounting for the need of potassium replacement during treatment (2A recommendation). However, studies on mineralocorticoids in SAH were not designed to treat but rather to prevent natriuresis and hyponatremia. Yet, the AHA/ASA guideline methodology provided more flexibility in the development of recommendations and allowed for the recommendation favoring the use of mineralocorticoids for the treatment of natriuresis to be offered. The NCS guidelines focused on patient-centered, clinically relevant outcomes. Therefore, because of the different end points considered in the two guidelines and the differences in their methodology, the recommendations on the use of mineralocorticoid diverge without being contradictory.

Regarding venous thromboembolism (VTE) prophylaxis, this topic was not addressed in the NCS guidelines for SAH because it was more globally addressed in the NCS evidence-based guidelines for VTE prevention in neurocritical care patients that include a section addressing patients with SAH [5]. Specifically, the 2016 guidelines recommend VTE prophylaxis with unfractionated heparin in all patients with SAH (strong recommendation), except in patients with unsecured ruptured aneurysms planned for surgical procedures, in whom VTE prophylaxis should be started at least 24 h after the aneurysm has been secured. All patients should have intermittent venous compression stockings as VTE prophylaxis as soon as admitted to the hospital.

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Sincerely,
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