Is the Use of Hypertonic Mannitol Appropriate in the Management of Intracerebral Hemorrhage?

To the Editor:

This letter comes in the wake of the analysis by Bereczki et al published recently in Stroke. The main rationale for the use of 20% mannitol solutions to reduce intracranial tension rests on the fact that mannitol does not cross the intact blood-brain barrier in adults. Indeed, a rise in brain mannitol space is evidence of breach of integrity of the blood-brain barrier. Thus, in a physiological sense, it is difficult for me to understand how hypertonic mannitol solutions could ever be used in patients known to have intracerebral hemorrhage because it would be associated with the obvious risk of expansion of cerebral hematomas. Yet it is equally possible that the benefits of reducing intracranial pressure (when it is raised) could outweigh this risk. I suspect that the balance between these 2 possibilities may to an extent explain why a randomized controlled study of mannitol in intracerebral hemorrhage found no evidence of benefit from administering mannitol, and why the confidence intervals of the odds ratio for case fatality at 30 days and 1 year were wide (with the likelihood of harm as well as benefit in some) in the subgroup of 111 patients with intracerebral hemorrhage treated with mannitol.

Disclosures

None.

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