Thunderclap Headache
CT and Lumbar Puncture But Occasionally More!

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In considering thunderclap headache, the immediate need is to exclude the possibility of subarachnoid hemorrhage. Both our protagonists agree on this point, that the minimum required is to perform a plain brain CT and, if there is no evidence of hemorrhage, lumbar puncture. We agree with Moussouttas and Mayer that spectrophotometry to detect xanthochromia should be mandatory. It is at this point where many clinicians diverge in their opinions, as to whether further investigations are needed. We agree with Savitz and Edlow that normality of these tests effectively rules out ruptured cerebral aneurysm, causing subarachnoid hemorrhage. We are not convinced that the remote, theoretical possibility of intramural hemorrhage within the wall of an aneurysm is a clinically significant cause of thunderclap headache.

Is the combination of CT and lumbar puncture enough for all patients with thunderclap headache? Here, we believe that the art of medicine should not be lost. There are a number of situations in which the clinician may suspect rarer alternative diagnoses based on a careful history and examination. From our perspective, extracranial or intracranial arterial dissection is the most important of these alternatives, because specific management would be indicated. Other diagnoses include cerebral venous thrombosis and vasculitis. In these settings, we would generally use MRI/MR angiography/MR venography, but CT angiography techniques may be a reasonable alternative.

Perhaps of equal concern in the diagnosis of aneurysmal subarachnoid hemorrhage is the occasional sole reliance on modern, noninvasive imaging (including MR angiography, CT angiography), in the false belief that negative results might obviate the need for lumbar puncture. We have certainly seen cases where routine lumbar puncture has not been performed for thunderclap headache, because it was considered that negative imaging was adequate, with subsequent catastrophic subarachnoid hemorrhage.1

Sudden severe headaches are common. Many are benign. For most, the simple algorithm of CT and lumbar puncture is all that is required. We should not forget that modern neuroimaging techniques are available to detect rare alternative pathologies, but these should be used judiciously. The art of clinical medicine is not dead!

Disclosures
None.

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