

LETTER

# Licorice consumption-associated thunderclap headache: posterior reversible encephalopathy syndrome or subarachnoid hemorrhage?

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See related research by van Beers *et al.*, <http://ccforum.com/content/15/2/R64>

van Beers and colleagues described a 49-year-old woman admitted to hospital for thunderclap headache, blurred vision and hypertension. Based on clinical manifestations, diagnostic work-up and follow-up, the authors diagnosed the case as posterior reversible encephalopathy syndrome (PRES) [1]. We agree that PRES should be considered in this case, while differential diagnosis such as subarachnoid hemorrhage (SAH) requires further investigation and exclusion.

PRES represents a clinicoradiological disease entity arising from failure of cerebrovascular autoregulation and ensuing disruption of the blood–brain barrier upon acute-onset hypertension [2]. The underlying pathogenesis of PRES is vasogenic edema, which requires apparent diffusion coefficient mapping by magnetic resonance imaging for confirmation [3].

In this reported case, the brain computed tomography (CT) showed hemorrhage in the left Sylvian fissure, which was highly suggestive of SAH. The condition of SAH may also present as thunderclap headache, hypertension and reversible cerebral vasoconstriction, appearing as bilateral hypointensity in CT images. Lumbar puncture is needed to identify SAH in suspected cases [4]. As another differential diagnosis, reversible cerebral vasoconstriction may also be associated with licorice [5] and ought to be excluded after performing cerebral angiography.

In summary, PRES and SAH share some clinical similarities. The case reported by van Beers and colleagues merits further investigation, especially to differentiate between PRES and SAH

## Authors' response

Eduard J van Beers, Jan Stam and Walter M van den Bergh

We thank Zhang and colleagues for their comment.

We disagree on the need for a lumbar puncture in this case. A diagnostic lumbar puncture in patients with a history suggestive of aneurysmal SAH is only needed if the brain CT scan does not show signs of bleeding [6]. Because of the acute onset of the headache and the finding of subarachnoid blood we did perform CT angiography (available on request), which did not show an aneurysm. CT angiography is an adequate imaging technique for detection of aneurysms and is the study of choice in patients suspected of aneurysmal SAH in our

hospital and in other tertiary referral centers [7]. An aneurysmal SAH was excluded in this patient.

We agree that a reversible cerebral vasoconstriction is a remote possibility in this case, which can only be fully excluded by conventional angiography. This vasoconstriction is a very rare condition, however, and was most unlikely in our patient with recent hypertension due to excessive licorice consumption, a favorable course and no signs of cerebral vasospasm on CT angiography.

### Abbreviations

CT, computed tomography; PRES, posterior reversible encephalopathy syndrome; SAH, subarachnoid hemorrhage.

### Competing interests

The authors declare that they have no competing interests.

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