

## Commentary

The occlusion of circulation of thalamus is a rare cause of acute ischemic stroke accounting for 10% of total stroke cases. Blood supply of thalamus is complex as it has a large number of feeding vessels.<sup>[1,2]</sup> There are significant variations in the blood supply of thalamic arterial circulation and the supply is mainly by perforators from posterior cerebral artery and posterior communicating artery.<sup>[3-5]</sup> The artery of Percheron occlusion, which supplies thalamus, is responsible for only 1 out of 10–30 cases of all posterior cerebral circulation strokes.

Ischemic thalamic stroke is characterized by bilateral paramedian thalamic infarcts, with or without mesencephalic infarctions. Clinical presentation includes altered mental state, amnesia, and vertical gaze palsy. This type of ischemic strokes involving artery of Percheron (a branch of posterior cerebral circulation) is rarely reported. Quick diagnosis and early intervention can have a favorable outcome.

A French neurologist Percheron was the first to describe possible anatomic variations about 40 years back. Artery of Percheron arises from first part of posterior cerebral artery and supplies bilateral thalami,<sup>[4]</sup> the blockade of which can lead to thalamic infarcts. Occlusion of artery of Percheron by embolism results in bilateral paramedian thalamic and rostral midbrain infarction in relatively symmetrical distribution. The presentation<sup>[6-8]</sup> can be variable with signs and symptoms ranging from motor deficits to behavioral and sensory alterations, but most commonly reported in available literature are vertical gaze paresis, memory impairment, confusion, and coma. Altered mental state, coma, or hypersomnolence, aphasia, dysarthria, amnesia, ocular movement disorders, and papillary abnormalities can occur. Hypersomnolence could be due to the fact that the structures (e.g., thalamus and midbrain) affected are associated with the regulation of alertness, consciousness, and sleep. The hypersomnolence could be attributed to bilateral lesions in the intralaminar nuclei which are part of the rostral extension of the midbrain reticular activity system.<sup>[9]</sup>

It is important for general/emergency care physicians and neurologists to be aware of artery of Percheron infarcts to properly diagnose and to initiate appropriate treatment and swift management of ischemic stroke symptoms. Hypersomnolence following bilateral

thalamic infarction<sup>[10]</sup> needs prompt recognition and hence the timely diagnosis and management in the “window period” of 4.5 h is critical as successful thrombolysis has been reported in artery of Percheron infarction.<sup>[11]</sup>

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<b>Quick Response Code:</b> 	<b>Website:</b> <a href="http://www.ruralneuropractice.com">www.ruralneuropractice.com</a>
	<b>DOI:</b> 10.4103/jnrp.jnrp_435_17

**How to cite this article:** Dhikav V, Anand KS. Commentary. *J Neurosci Rural Pract* 2018;9:169-70.

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