Pure lemniscal sensory stroke

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A 67-year-old hypertensive woman was seen in consultation after the sudden onset of left leg numbness. Neurologic assessment disclosed reduced perception of the left lower limb (under the knee) to light touch as well as to vibratory and proprioceptive stimuli.

Figure 1 Imaging

MRI (A: transverse; B-D: transverse, sagittal, and coronal fluid-attenuated inversion recovery, respectively) shows the hyperintense lacune in the right tegmentum at the midpons level.

Figure 2 Illustration of lacunar stroke

The lacune, which is located at the medial lemniscus (green), spares the spinothalamic tract (red), localized in a more posterior and lateral position. Figure adapted with permission: Ropper A, et al., Adams and Victor Principles of Neurology, 10th edition, McGraw-Hill Global Education Holdings, LLC, 2014.

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Brain MRI (figure 1) revealed a recent ischemic lesion of the right medial lemniscus. At the midpons level, the medial lemniscus is arranged horizontally, the lateral side corresponding to the somatotopic representation of the inferior limb.

Midpontine lemniscal stroke, distinct from thalamic lacunar infarcts, is an exceptional cause of pure sensory stroke¹ (figure 2). The 2 main features of this unique syndrome are (1) pure epicritic (discriminative touch, vibration) sensory deficits and (2) sparing of protopathic (pinprick and temperature) perception.²

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Dr. Carota: study concept and design. Dr. Knoepfli: acquisition of data. Dr. Bogousslavsky: critical revision of the manuscript for important intellectual content.

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