Teaching Neuro*Image*: Sensory level in parietal lobe lesion

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A 59-year-old man presented with a sensory level on the right trunk. He noted hypesthesia and tingling sensation on his right thigh and gluteal areas 5 days previously. Neurologic examination revealed that all primary sensory modalities including touch, pain, temperature, vibration, and position senses were markedly diminished below T10 on the right side. Mild weakness of the right proximal leg was also observed. During hospitalization, his sensory deficits extended to the upper body areas up to the face (figure 1), which was followed by progressive leg, arm, and facial paresis on the right side. Brain MRI performed when hemisensory loss occurred showed a mass lesion mainly involving the postcentral gyrus of the parietal lobe (figure 2). The lesion was proven to be a brain abscess caused by *Klebsiella pneumoniae* in the culture study from the burr-hole drainage specimen. Although the finding of a sensory level usually indicates a spinal cord or lower brainstem lesion,[1] it can result from a lesion in the parietal lobe.[2] The sensory level at the thoracic dermatome might be attributable to the parietal lesion involving the sensory areas for the leg and the lower part of the trunk sparing the remaining upper part of the trunk. As the lesion expanded to adjacent receptive areas for the upper trunk, arm, and face, the sensory level ascended gradually, and all hemibody was finally involved.

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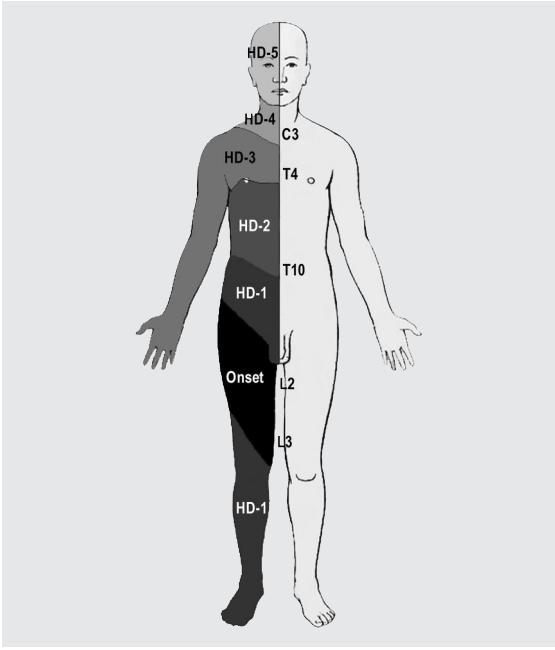
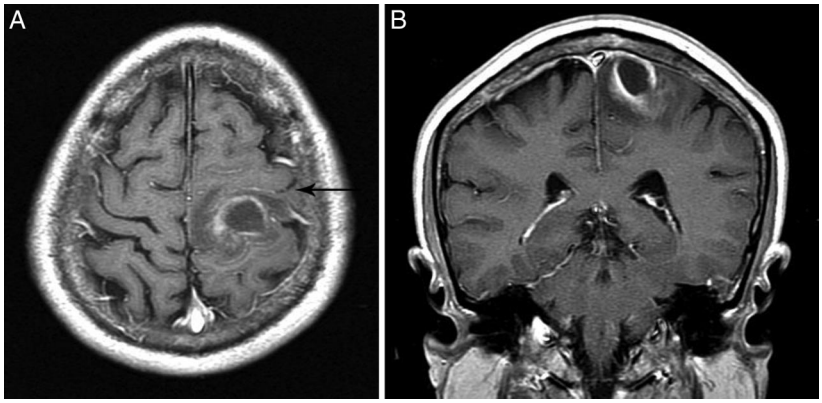
Figure 1 Features of the progressive sensory deficits



The patient developed hypesthesia and paresthesia along the L2–L3 dermatome followed by a sensory level to pain, temperature, vibration, and position sensation on the right trunk. The sensory level progressively ascended to the upper level of dermatome, finally leading to hemisensory loss. HD = hospitalization day.

Figure 2 Brain T1-weighted MRI



(A) Brain T1-weighted MRI with gadolinium enhancement shows a round shaped mass lesion with rim enhancement and perilesional edema mainly involving the postcentral gyrus of the left parietal lobe (the arrow indicates the central sulcus). (B) At the coronal view, the lesion is located in the upper medial portion of the left parietal lobe.

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