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LETTER TO THE EDITORS

# A misleading sensory level

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A 43-year-old previously healthy woman was referred for numbness and tingling in her left lower limb progressive over the past eight hours. Examination showed decreased sensation to light-touch, pinprick and temperature along the L2–L5 dermatomes on the left side, abnormal position sense of the left toes, decreased vibration sense at the left knee and ankle, and hyperalgesia and hyperesthesia below T8 on the left. Tendon reflexes were slightly increased in the left lower limb. Magnetic resonance imaging (MRI) showed an extra-assial mass lesion of the right parietal lobe (Fig. 1) and no lesions in the spinal chord. The tumour was completely removed. Histopathological examination demonstrated a psammomatous meningioma. Three months after surgery, examination showed decreased sensation to light-touch below T6 on the left side, hyperactive reflexes in the left lower limb and left Babinski sign.

In this patient with a parietal meningioma, the presence of a sensory level might mislead to suspect a spinal lesion. However, a careful interpretation of the clinical findings leads to the correct diagnosis.

In parietal lesions, two different sensory syndromes may be observed: the Verger-Déjerine syndrome, with contralateral impairment of discriminative sensory functions and substantial sparing of elementary sensation, and the Déjerine-Mouzon or pseudothalamic syndrome, with hypoesthesia for all sensory modalities sometimes associated with hyperpathia. The occurrence of circumscribed lesions producing sensory deficits with a radicular or truncular distribution is well known. Lesions affecting the postcentral gyrus mainly in the areas for the lower limb and the lower part of the trunk may virtually result in a peculiar distribution of the sensory deficit mimicking a thoracic level. This was the case for the patient we report and four similar patients previously described. About a century ago, Foerster reported the occurrence of a T12 sensory level in a patient with a contralateral parietal lobe lesion [3]. In 1981, Breuer and coworkers described a man who experienced "the sudden onset of prickly dysesthesia in the perineum followed by a heavy sensation in the left lower extremity". Examination showed a hyperpathic response to pinprick and temperature below T6, a decrease of light-touch below T10, and impairment of vibration and position sense of the big toe, all on the left. This man had a small ruptured arteriovenous malformation in the right parietal lobe, near the midline, involving the postcentral gyrus [2]. In their study of sensory syndromes in parietal stroke, Bassetti and coworkers reported a woman with a "subcortical hemorrhage underneath the superior part of the right postcentral gyrus" complaining paresthesia in the left side of the body up to the shoulder and showing a left sensory T3 level for all modalities and left lower limb palsy [1]. Song et al. [4] have recently described a man with a brain abscess involving the postcentral gyrus who presented with sensory disturbances along the L2–L3 right dermatomes followed by a sensory level for all primary sensory modalities on the right trunk. He also had mild proximal weakness of the ipsilateral lower limb. The sensory level progressively ascended finally resulting in hemisensory loss and was followed by ascending right hemiparesis.

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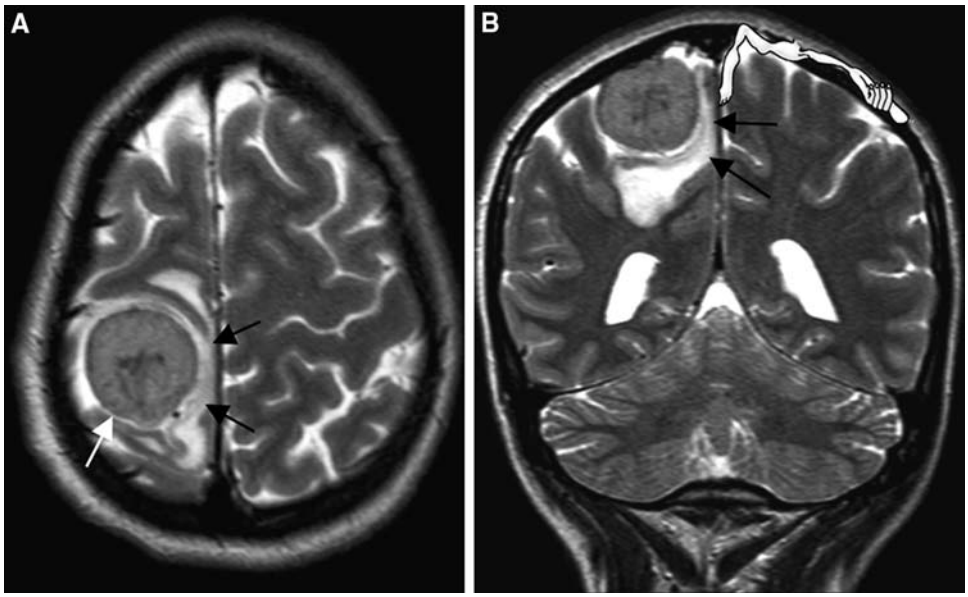


**Fig. 1** Magnetic resonance axial (**a**) and coronal (**b**) turbo spin-echo images demonstrating an extra-axial space-occupying lesion (meningioma) growing into the right post-central sulcus (*white arrow*) and compressing and displacing anteriorly and medially the post-central gyrus (*black arrows*). A scheme of the somatosensory somatotopy has been superimposed to the convexity of the left (healthy) hemisphere (**b**) to demonstrate the relationship between the tumor and the somatosensory cortex of the inferior limb

In spinal chord lesions involving the posterior column, pallesthesia and position sense are decreased whereas there is no or little impairment of pain and thermal sense. In more widespread lesions involving a half of the spinal chord, spinothalamic and lemniscal sensory modalities are impaired on opposite sides of the body, usually with important pyramidal signs (Brown-Sequard syndrome). On the contrary, in the present case and in the four similar patients previously reported all primary sensory modalities were involved on the same side of the body, and this was the key feature for the correct clinical localization of the lesion. These patients actually had a pseudothalamic syndrome with a partial distribution, with or without homolateral pyramidal involvement. Awareness of such a rare presentation of parietal lesions may help to avoid mistakes.

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