IMAGE CHALLENGE
Radial palsy in the emergency department

CLINICAL INTRODUCTION
A 73-year-old patient with a medical history of hypertension and hypercholesterolaemia presents to the emergency department with sudden onset of weakness in the right hand and numbness in the right forearm and hand that began 5 h prior to his arrival. There was no history of trauma, he did not drink or smoke and review of systems was otherwise negative.

On physical examination, there was right wrist drop with weakness of right wrist and finger extension (figure 1). Finger and wrist flexion were normal, reflexes were intact and there were no sensory alterations. The rest of the physical examination was normal. Due to the abrupt onset of symptoms, the physician requested a CT scan (figure 2).

Figure 1  Image showing right wrist drop with weakness of extensor muscles of right hand and fingers.

Figure 2  CT brain scan showing a hypodense lesion in the subcortical area near to the left precentral gyrus.

QUESTION
What is the diagnosis?
A. Peripheral neuropathy
B. Stroke
C. Brain abscess
D. Conversion disorder

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ANSWER: B

CT scan showed a hypodense lesion in the subcortical area near to the left precentral gyrus (figure 3).

Stroke causing pseudoperipheral neuropathy is very unusual, approximately 1.2% of strokes present as peripheral neuropathy, mainly involving upper limbs, with the most common aetiology being small vessel disease of the grey matter.

The precentral knob localised in the precentral gyrus is considered as the hand motor area.1 Within this area, it is thought that there is a distinctive anatomical distribution of the hand itself with medial lesions tending to cause involvement of the ulnar fingers and more distal areas involving the radial fingers. There are also reports of peripheral neuropathy in strokes involving the parietal lobe, white matter of the angular gyrus, ventroposterior thalamus and posterior arm of internal capsule.2

In this case the other possible diagnoses were excluded for the following reasons. First, there was no evidence in the history of trauma or direct pressure of the radial nerve innervation area, and the sudden onset would not be consistent with a compression neuropathy. There was no history of infectious disease or fever to suggest a brain abscess; CT scan does not show a ring-enhancing lesion with intravenous contrast or other space-occupying lesion. Conversion disorder often has a non-anatomical distribution; conversion disorder should not be considered until other organic explanations are ruled out.

The patient made a good recovery with complete resolution of the hand weakness and in 2 days was discharged with antiplatelet therapy and statins.

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Contributors JLCV and ERS were involved in writing the case and searching the literary review. CGA was involved in supervising the project.

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REFERENCES


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