VIDEO

Alien hand syndrome

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Figure. MRI of the brain DWI and FLAIR showing the acute stroke in the right parietal lobe and anterior corpus callosum (see file 1).

A 47-year-old right-handed man presented with sudden onset of left-sided weakness and incoordination of his left hand. The patient stated that he was not able to operate his left hand appropriately (video E-1). On examination, he had mild weakness in his left arm and leg. When asked to perform tasks with his right hand, his left hand would imitate the other (video E-2). An MRI showed acute ischemic strokes of the right parietal area and anterior corpus callosum (figure).

Alien hand syndrome (AHS) or alien limb sign includes failure to recognize ownership of one's limb when visual cues are removed, a feeling that one body part is foreign, personification of the affected body part, or autonomous activity which is perceived as outside voluntary control.¹ Although the hand is most frequently affected, any limb or combination of

limbs may fulfill the alien limb criteria.¹

Two types of AHS have been described. Frontal AHS occurs in the dominant hand and is associated with reflexive grasping, groping, and compulsive manipulation of tools. It is a result of damage to the supplementary motor area, anterior cingulate gyrus, and medial prefrontal cortex of the dominant hemisphere and anterior corpus callosum. Callosal AHS is characterized by inter-manual conflict and requires only an anterior callosal lesion. Callosal AHS is best explained by hemispheric disconnection manifested during behaviors requiring dominant hemisphere control.²

We hypothesize that the alien limb symptoms that our patient demonstrated were secondary to the lesion in the anterior corpus callosum; however, some of his behavioral manifestations may have

been exacerbated by the concurrent right parietal stroke. The latter may be associated with hemispatial neglect, typically characterized by directional hypokinesia for actions into and toward contralateral hemispace or failure to respond to stimuli on the left side.³ Anosognosia, or unawareness of the neurologic deficit, is frequent after right parietal lesions, and may compound the disability deriving from the neglect itself,^{3,4} although no characteristic features of neglect were observed in our patient.

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