

LEFT SIDED WEAKNESS AND "ALIEN HAND" SYNDROME (Slide CC14-8)

CASE 5: Answers and Clinical Course

Answers:

1. Recall that the primary sensory and motor cortex for the left leg lie on the medial aspect of the right cerebral hemisphere -- an area supplied by the right ACA.
2. The anterior cerebral artery gives rise to penetrating branches such as the recurrent artery of Heubner which are similar to the lenticulostriate arteries of the MCA. These penetrating branches of the ACA supply variable amounts of the internal capsule and corona radiata, including, in some cases the descending motor pathways for the hand and face.
3. Damage to the frontal lobe can produce a variety of release phenomena including grasp, suck and snout reflexes. This may partly account for the abnormal grasping seen in our patient. However, the striking loss of conscious control of contralateral limb movement and position sense seen in our patient suggests that damage to higher order motor areas such as the supplementary motor area may be playing a role as well. Recall that the supplementary motor area is located medially, just anterior to the motor cortex (Neuroanatomy Text and Atlas p. 266-277) and is, therefore, supplied by the ACA.

CT scan:

The patient's Clinical Course is described above in the initial case presentation. One day after admission the CT scan shown in the slide was done. Axial images from two different levels are shown. Note the striking hypodensity present in the right ACA territory consistent with CVA.