Case Report

The Disappearing Basal Ganglia Sign

* Dr. Suresh Chandran C.J

History

A 55-year-old hypertensive and diabetic gentleman presented with acute onset right hemiplegia with expressive aphasia. He reached the hospital 3.5 hours after the onset and had accelerated hypertension with a blood pressure of 210/110mmHg. The blood sugar on admission was 190mg/dL. Rest of the blood investigations including metabolic parameters was unremarkable. A non-contrast CT brain on admission showed the “disappearing basal ganglia sign” [figure 1]. Subsequent CT brain done 36 hours later showed a mature left MCA territory infarct involving anterior limb of internal capsule, lentiform nucleus (predominantly involving putamen), external capsule, claustrum, insular cortex and perisylvian areas [figure 2].

Discussion

The disappearing basal ganglia sign is an early infarct sign demonstrable on plain CT brain. It appears as a loss of the normal delineation of the basal ganglia with hypodensity and loss of normal contour [1,2]. This is best appreciated when...
Case Report

compared with the contralateral side. Normally, the lentiform nucleus and caudate nucleus are slightly hyperattenuated when compared with the surrounding white matter. In vascular insult the severe focal ischemia with resultant cytotoxic edema causes hypoattenuation [3]. The sign is usually caused by incomplete to complete occlusion of the MCA as a result of thromboembolic disease. If present bilaterally, diagnostic considerations include global hypoperfusion, respiratory arrest, near drowning, strangling, barbiturate overdose, methanol toxicity, cyanide poisoning, osmotic myelinolysis, hypoglycemia, Leigh disease and infectious causes [4].

Early CT signs of MCA infarction include hyperdense MCA sign, obscured sylvian fissure, loss of the gray-white matter differentiation in the cortical ribbon (particularly at the lateral margin of insula) or lentiform nucleus, disappearing basal ganglia sign and sulcal effacement [3]. Early CT signs within the basal ganglia have a sensitivity of 77% and specificity of 100% for demonstrating cerebral vascular accident [5]. In this era of thrombolysis, recognizing subtle changes within the basal ganglia, such as the disappearing basal ganglia sign, is important as an indicator of acute ischemic infarction.

References


