Case 11916

Acute infarction of the corpus callosum
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Section: Neuroradiology
Area of Interest: Neuroradiology brain
Procedure: Imaging sequences
Imaging Technique: MR
Special Focus: Ischaemia / Infarction
Case Type: Clinical Cases
Authors: Bahaa El Din Mahmoud
Patient: 57 years, female

Clinical History:
A 57-year-old female patient with slowly progressive headache, left-sided weakness followed by disturbed level of consciousness.

Imaging Findings:
Conventional MR imaging revealed an area of high T2 and FLAIR signal with restricted diffusion involving the right side of the splenium and body of the corpus callosum. No enhancement was noted after gadolinium IV administration. MR spectroscopy shows elevated lipid/lactate peak with reduced NAA peak and no choline elevation.

Discussion:
Infarcts of the corpus callosum are not common and are attributed to a rich blood supply from three main arterial systems: the anterior communicating artery, the pericallosal artery, and the posterior pericallosal artery. The splenium of the corpus callosum was affected more often than was the body and genu. This is attributed to the greater incidence of posterior cerebral artery infarcts compared with anterior cerebral artery infarcts. Infarcts of the corpus callosum may exhibit a variable degree of mass effect. Mass effect is commonly seen in stroke, but when it occurs in a region such as the corpus callosum where stroke is often not considered, it suggests other entities that would require biopsy. Enhancement may be seen in the subacute stage. [1]

Clinical conditions associated with transient splenial hyperintensity in diffusion images include: Epilepsy (seizures, AED overdose), infections (encephalitis, Rota virus), demyelinating (ADEM, SLE), vascular (PRES, infarction, hypertensive encephalopathy), metabolic (hypoglycaemia, renal failure), others (trauma, drug toxicity). [2]

Differential Diagnosis List: Acute infarction of the corpus callosum, Lymphoma, Glioblastoma multiforme

Final Diagnosis: Acute infarction of the corpus callosum

References:
Malhotra HS, Garg RK, Vidhate MR, Sharma PK. (2012) Boomerang sign: Clinical significance of transient lesion in
splenium of corpus callosum. Ann Indian Acad Neurol Apr;15(2):151-7 (PMID:22566735)
Description: Axial FLAIR images showed high signal within the right side of the body and splenium of the corpus callosum. Origin: alfa scan radiology center. Cairo. Egypt
**Description:** Sagittal T2 images showed high signal within the posterior aspect of the body and splenium of the corpus callosum. **Origin:** alfa scan radiology center. Cario.Egypt
Description: Axial T1 post contrast after IV gadolinium injection showed no enhancement within the lesion of the corpus callosum. Origin: alfa scan radiology center. Cairo. Egypt
**Figure 4**

Description: Axial Diffusion images (right) showed high signal of the lesion with corresponding low signal in the ADC map (left) denoting restricted diffusion. **Origin:** alfa scan radiology center. cairo. Egypt
Description: MR spectroscopic analysis of the lesion at long TE showed marked elevation of the lipid lactate peak, drop of the NAA peak and no significant choline elevation. Changes match with infarcted tissue. Origin: alfa scan radiology center. Cairo. Egypt
Description: Diffusion Images after 2 days of the previous images show newly developed acute infarcts along the same vascular territory of the right PCA. Origin: Alfa scan radiology center, Cairo, Egypt.