Viral meningitis

Initial Diagnosis

Review of System:

Initial Lab Results:

Blood and Metabolic panels: Within normal limits

Initial Diagnosis

Viral meningitis

MRI brain

Axial FLAIR image at the level of pons show abnormal signal in the pons, right brachium pontis, cerebellum and the cisternal segment of the bilateral trigeminal nerves (red arrows)

Axial T1 weight image at the level of midbrain after the administration of contrast (T1C+) shows enhancement of the cisternal segment of the left trigeminal nerve (red arrow).

Sagittal T1 C+ image at the level of the thalamus shows patchy enhancement of right thalamus (red arrow), midbrain and cerebellum (green arrow)

Imaging Differential Diagnoses

- Infectious etiology:
  1. Listeria monocytogenes
  2. Neuro-Lyme disease

- Autoimmune:
  1. ADEM
  2. Behchet disease

- Paraneoplastic

Imaging Differential Diagnosis (continued)

Listeria Monocytogenes:

Diffuse involvement of thalamus, midbrain, pons, medulla, cerebellum and upper cervical cord.

Involvement of cranial nerve V, VI and VII very common (VIth nerve is also considered the possible route of brain stem involvement).

Ring enhancing lesion in the region of T2/FLAIR signal abnormality.

Neuro-Lyme disease:

2-8 mm discrete T2/FLAIR hyper intense lesions (tumefactive lesions are rare)

Multiple enhancing cranial nerves (primarily the facial nerve).

Atypical MRI brain for Neuro-Lyme disease: Contiguous T2 signal abnormality in the brain stem.

Behavioral:

- Focal or multifocal T2/FLAIR hyperintense lesion in midbrain, pons, basal ganglia and thalami (in descending order) in a patient with viral and genital ulcers. Patchy enhancement is typical.

- Not present in our patient.

- Not present in our patient.

- Oral and genital ulcers.

- Not present in our patient.

- Tumefactive lesion in the patient with Cowden's disease (rsinosis).

Acute disseminated encephalomyelitis (ADEM):

Multifocal white matter and deep gray lesion 1-2 weeks following viral infection or vaccinations.

Unlike this case, supratentorial lesions 1-2 weeks after viral infection.

Cranial nerve involvement is unusual.

Not seen in our patient.

References