Teaching NeuroImages: Human Encephalitis Caused by Pseudorabies Virus Infection

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A 51-year-old woman presented with fever and loss of consciousness for 4 days. Images showed symmetrical lesions in bilateral cortex, limbic and basal ganglia (Figure). CSF analysis suggested viral infection. Next-generation sequencing (NGS) identified 349 unique sequence reads for pseudorabies virus (PRV). She was diagnosed with PRV encephalitis. Epidemiological survey revealed she was a pork dealer. PRV also called Suid herpesvirus-1 primarily infects swine. It’s reported that PRV can cause human infection through infected swine or pork \(^{1,2}\). This case suggests unexplained severe encephalitis with similar MRI and a history of relevant exposure should consider the possibility of PRV infection.
Figure. MRI feature of human PRV encephalitis
FLAIR (A-C) showed symmetrical hyperintensity in bilateral frontal, temporal, insula cortex (white arrow), hippocampus (blue arrow) and basal ganglia regions (red arrow) with restricted diffusion on DWI (D). T1WI with contrast demonstrated linear leptomeningeal enhancement (E). Follow-up images displayed improvement after 12 days combination antiviral and symptomatic supportive therapy (F).

References: