Blame it on the EBV:

Systemic lupus erythematosus presenting as limbic encephalitis, precipitated by EBV infection

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INTRODUCTION

- 50% of patients with SLE experience CNS involvement, however, less than 5% of patients have neurological symptoms at the onset of SLE.
- There is a known association between SLE and EBV.

CASE PRESENTATION

- 62 year-old woman
- PMHx: left occipital anaplastic meningioma s/p resection with recurrence and fibromyalgia
- Chief Complaint: altered mental status
- Presented after being found down by her son

Physical Exam:

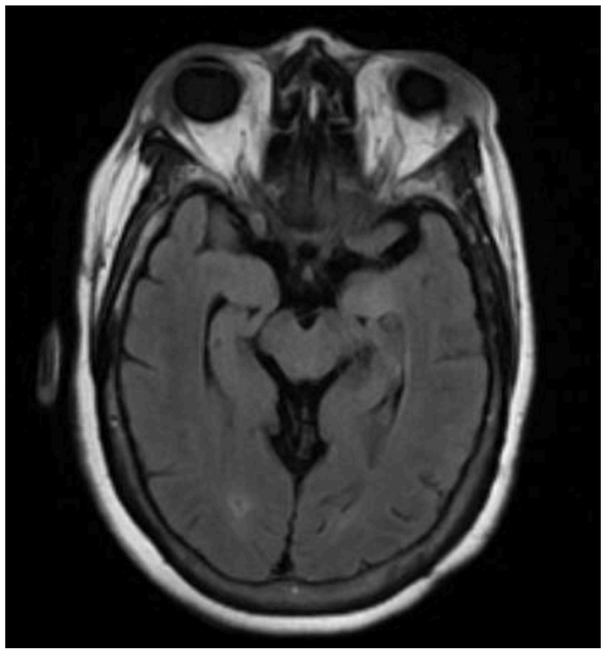
T 39.6°C, BP 126/81, HR 115, RR 27, SpO2 99%
Ill-appearing, non-verbal, no command following, withdraws to tactile stimuli in all extremities, PEERL, EOM intact

Labs:

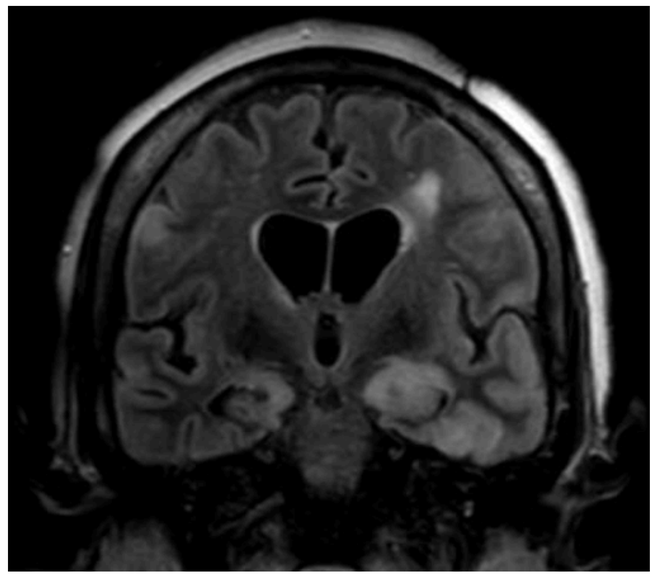
- CBC: WBC 2.6, Hgb 11.9, Plt 223
- Lumbar Puncture: Day 4
  - WBC 65 (85% lymphs), RBC 485
  - Glucose 33, Protein 100
  - **CSF EBV PCR: 8640 copies/mL**
- **Serum EBV PCR: 133,000 copies/mL**

HOSPITAL COURSE

- **Day 1-7:**
  - Initiated on broad spectrum antibiotics and Acyclovir
  - No improvement in mental status
  - Seizure activity
- **Day 9:**
  - Repeat Lumbar Puncture- similar cell counts
    - CSF Cytology, Paraneoplastic panel: negative
    - CSF Anti-NMDA Receptor Ab: negative
    - **CSF EBV PCR: 1,200 copies/mL**
  - Started Methylprednisolone 1 gm IV q24hr
- **Day 12:**
  - EEG: Recurrent seizures and persistent left hemispheric PLEDs
  - Transferred to Neuro ICU for burst suppression
  - **ANA: positive (1:1280)**
  - **Anti-Smith Ab: positive**
- **Day 24:**
  - Passed away on comfort care

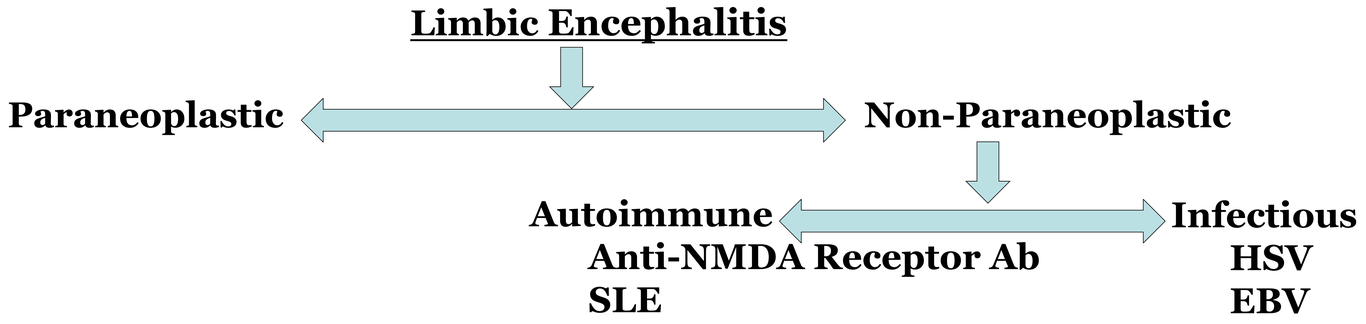


Day 3



Day 9

DIFFERENTIAL DIAGNOSIS



DISCUSSION

- It is possible that an earlier work-up for an autoimmune etiology could have prevented the delay in this patient's diagnosis and allowed for consideration of treatment prior to her clinical deterioration.
- There is a known association between SLE and EBV. Patients with SLE have:
  - Higher EBV viral loads AND
  - Impaired EBV-specific T-cell responses, resulting in more frequent EBV reactivation.
- Attempts to control EBV may precipitate systemic autoimmune conditions such as SLE.

TAKE HOME POINTS

1. Although SLE is unlikely to present initially with CNS involvement, it should not be ruled out in the correct clinical context.
2. We should consider autoimmune encephalitis in a patient with CSF lymphocytic pleocytosis and a negative HSV PCR.
3. Limbic encephalitis in a patient with a positive CSF EBV PCR should prompt evaluation for CNS lupus.

REFERENCES

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