West Nile Encephalitis: A Case Report

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LIFE CHANGING MEDICINE

INTRODUCTION

- **West Nile Virus**
  - Arbovirus from the Flaviviridae family
  - Originally isolated in 1937 in Uganda and first identified within the United States in 1999
  - West Nile Virus is found in birds and spread to humans from infected mosquitos
  - With no cure or development of a preventative vaccine in humans, West Nile viral infections have steadily spread across the country
  - Treatment is generally supportive, with fluid resuscitation, nutritional support and symptomatic management
  - Advanced age has been identified as the most important risk factor for developing encephalitis and these patients have higher mortality and morbidity

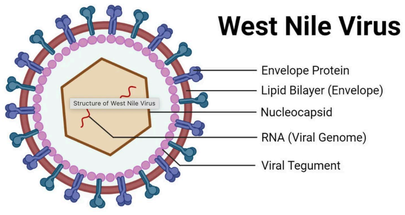

Figure 1

CASE DESCRIPTION

- **HPI**
  - 80-year-old Caucasian male with a past medical history of COPD, hypertension, coronary artery disease, myocardial infarction, diabetes, chronic renal insufficiency, chronic anemia, and anxiety

CASE DESCRIPTION

- **Presentation**
  - Presents to emergency department with complaints of dizziness, bilateral lower extremity weakness and shaking in extremities for the last month that had been getting progressively worse
  - Additionally complained of difficulty urinating with feeling of incomplete bladder emptying
  - Tremor that occurred at rest and with intention noted on exam
- **Hospital Course**
  - Patient admitted for fever, generalized weakness, dizziness and acute kidney injury secondary to urinary retention
  - Day 3 patient developed: altered mental status with visual hallucinations; thought to be due to sundowning and UTI
  - He further developed hallucinations, expressive aphasia and dysphagia; fever resolved
  - Progression of symptoms Initially thought to be delirium
  - Neurology consultation for delirium lead to lumbar puncture recommendation on day 12
  - CSF analysis up was ultimately positive for West Nile Virus
  - Continued with supportive care and patient gradually improved, eventually discharged to a skilled nursing facility with an indwelling urinary catheter for urinary retention and PEG tube due to severe oropharyngeal dysphagia after 25-day hospital stay
  - Patient showed improvement in cognition and speech, however, not at baseline

DISCUSSION

- This atypical presentation and subsequent progression to infectious encephalitis provides a useful reference which may help guide clinical decision making, and highlights challenges when symptoms develop during a hospitalization
- Delirium commonly develops in the inpatient setting, especially in the elderly. Cases like this illustrate the importance of considering less likely causes and ruling them out
- Consideration of epidemiology and regional prominence can help prompt early suspicion for an infectious etiology masquerading as delirium or progressive cognitive decline in patients with previous dementia or delirium

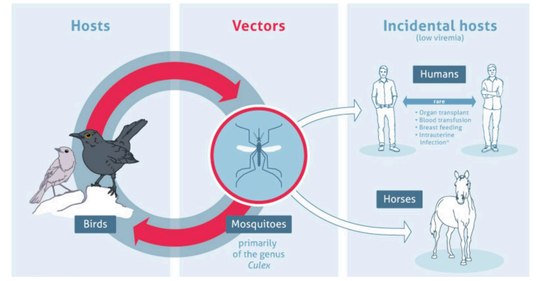

Figure 2

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- Figure 1 https://microbenotes.com/west-nile-virus/
- Figure 2 https://us.biogents.com/west-nile/