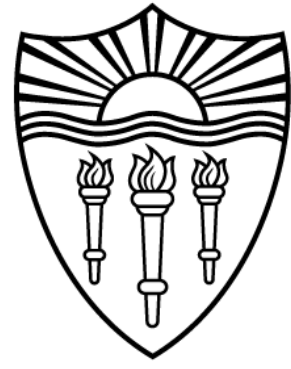


# A Case of West Nile Encephalitis in a Heart Transplant Recipient

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## OBJECTIVES

- To describe a case of a survivor of West Nile Virus (WNV) neuroinvasive disease in an immunocompromised heart transplant recipient

## HISTORY

Chief Complaint:

- 67-year-old male 15 years post-orthotopic heart transplant presented with dyspnea on exertion, RUQ pain, nausea and vomiting x 5 hours

Vitals

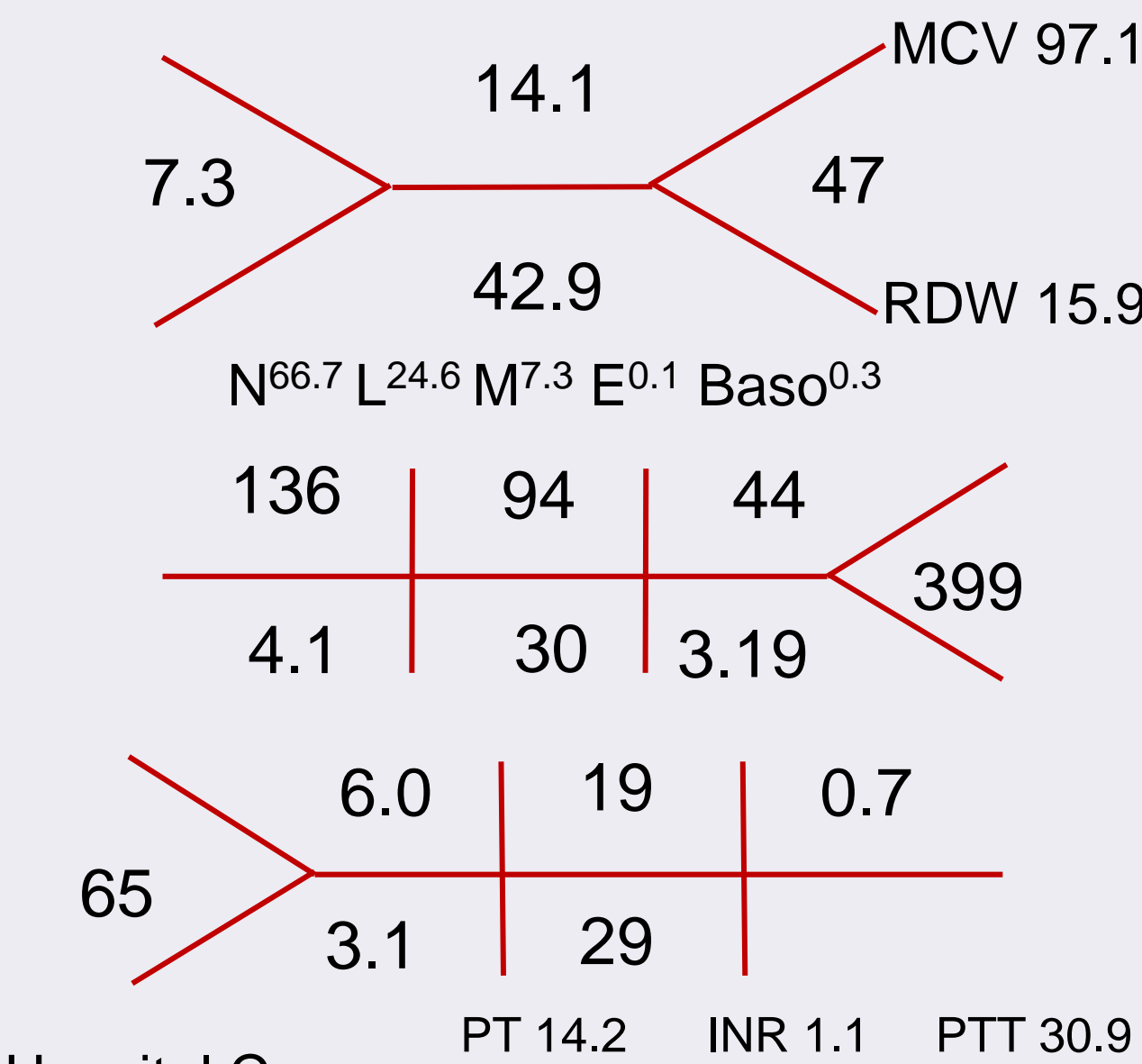
- T 38.4° BP 182/120 HR 133 bpm RR 25 SpO2 88%

Physical Exam

- Bilateral lower extremity edema, twitching of upper extremities with no spontaneous movement of lower extremities. Opened eyes to voice but not following commands

Labs

- ABG pH 7.41, PaCO<sub>2</sub> 47, PaO<sub>2</sub> 67 on 50% FiO<sub>2</sub>, BUN 84

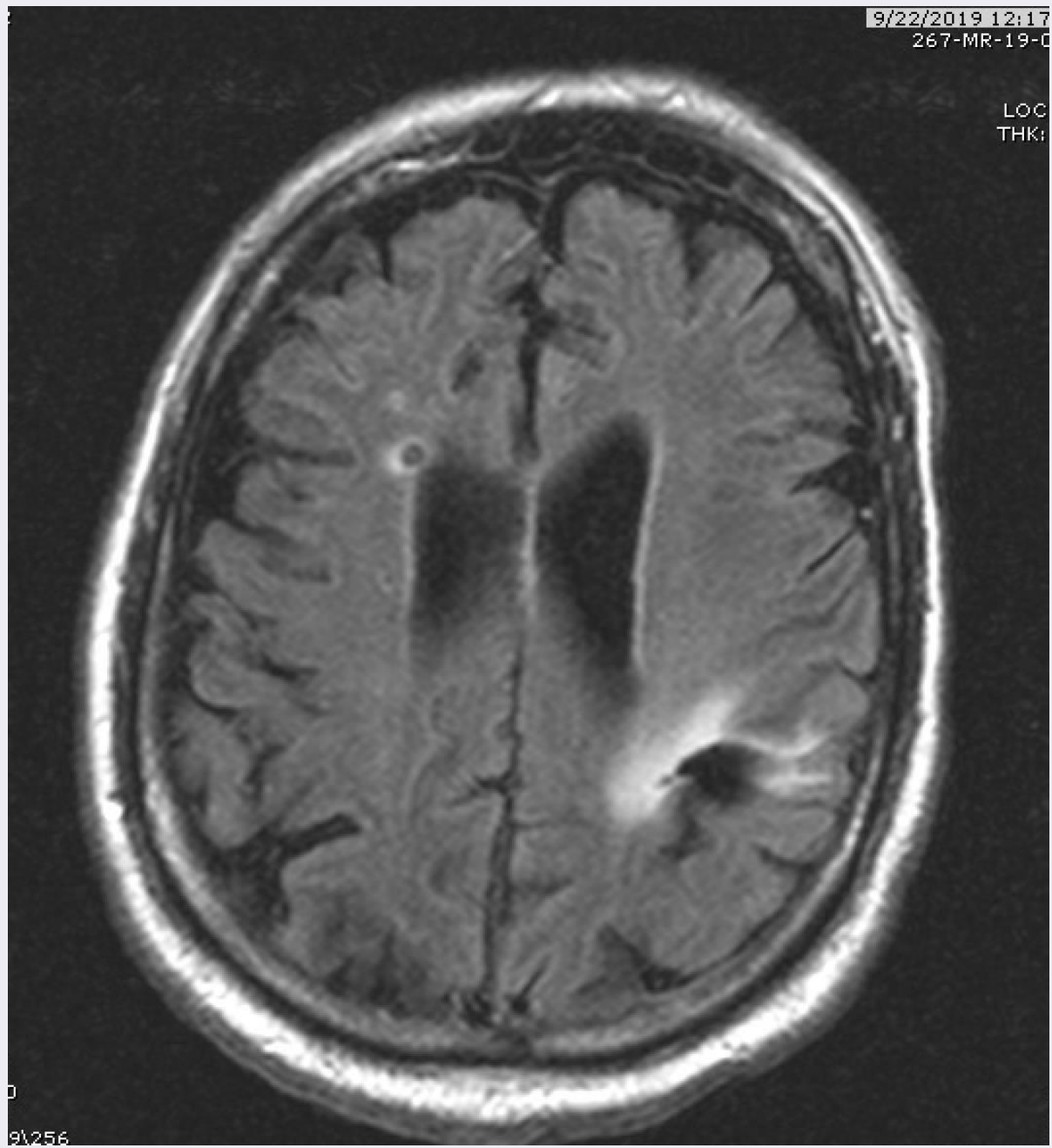


Hospital Course

- Developed acute encephalopathy and then transferred to the ICU where he had worsening pulmonary edema on CXR
- Intubated for declining mental status and respiratory failure

## INVESTIGATIONS

- CT head showed nonspecific hypoattenuation involving the deep and subcortical white matter that may be related to chronic microvascular changes
- Electroencephalogram showed diffuse slowing, a nonspecific finding consistent with a neuroinvasive viral infection
- MRI of the brain demonstrated punctate lacunar infarcts in the periventricular white matter of the right frontal lobe and right genu of the corpus callosum (image on right)



## DISCUSSION

- WNV is an arthropod-born RNA flavivirus transmitted by the *Culex sp.* Mosquito and first reported in the United States in the 1990s
- While it is mostly asymptomatic in immunocompetent patients with occasional flu-like manifestations, as much as 40-75% of immunocompetent patients with WNV experience neuroinvasive disease

## FOLLOW-UP

- Given a 5-day course of intravenous immunoglobulin, and he showed significant neurocognitive improvement and was extubated
- Transferred from the ICU to the medicine floor, he was able to follow commands, respond appropriately to questions, but remained profoundly weak requiring significant assistance, and was subsequently transferred to a long-term healthcare facility

## CONCLUSION

- This is a case of a survivor of WNV neuroinvasive disease in an immunocompromised heart transplant recipient, in whom we must maintain a high index of suspicion for WNV infection
- A pentad of fever, encephalopathy/meningismus, neurologic deficits, flu-like symptoms, and immunosuppression should prompt immediate assessment for WNV
- Although there is currently no consensus on therapy, our case demonstrates that recognition of neuroinvasive West Nile disease in heart transplant recipients can prompt early treatment with IVIG with potential for improved outcomes

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