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Section Editors

Sepsis-Associated Encephalopathy: Review of the Neuropsychiatric Manifestations and Cognitive Outcome

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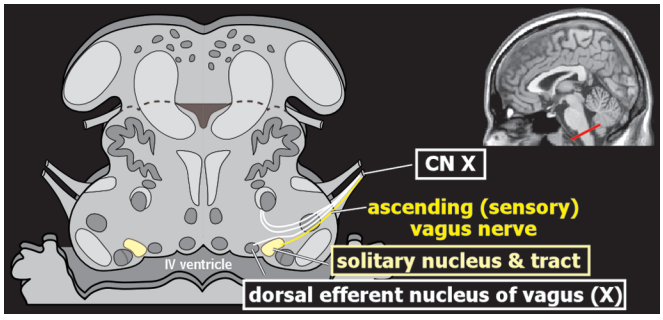
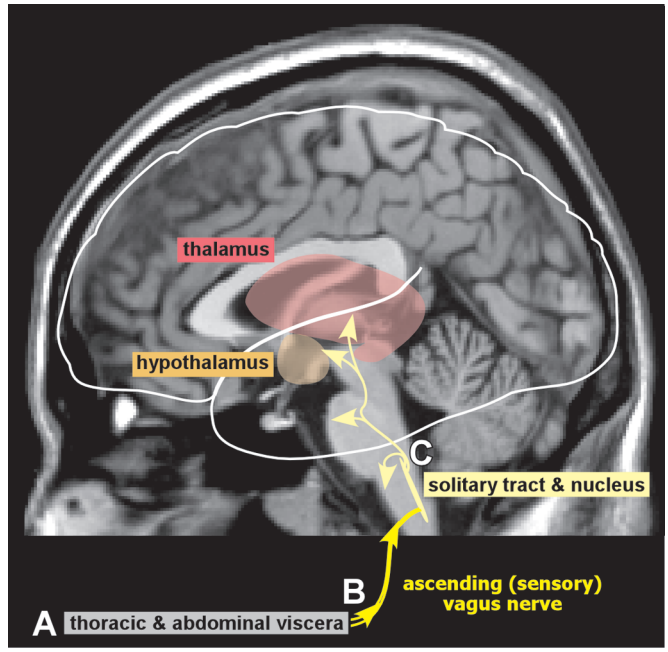
Figure 1. **Right** The parasympathetic nervous system plays an important role in signaling the presence of infection.[1,2] **A.** Infection induces secretion of inflammatory cytokines by peripheral macrophages. **B.** General visceral afferent fibers in the ascending (sensory) portion of the vagus nerve (dark yellow) are activated by the presence of inflammatory cytokines in the viscera. The major termination for this pathway is the nucleus of the solitary tract (light yellow). The viscerotopic organization within this nucleus may provide a highly localized map to infection. **C.** Ascending projections from this nucleus reach brain areas (e.g., parabrachial nucleus, hypothalamus, thalamus) with very widespread connections.[3,4] Direct projections to forebrain areas have been found in the rat, but not in primates. **Below** A simplified illustration in the axial plane of the upper medulla shows the approximate location of the solitary nucleus.





Cover and Figure 2. A middle aged white man with recent diagnosis of cryptococcal meningitis was admitted with an acute episode of altered mental status with febrile episodes of up to 102.3. The patient was ultimately found to have methicillin-resistant staph aureus. He progressed to septic shock later during his hospital course. His mental status continued to worsen, prompting an electroencephalography (EEG) examination to rule out subclinical seizures. Magnetic resonance imaging (MRI) was obtained four days prior to onset of septic shock and EEG was obtained on day one. **Right** The EEG showed generalized slowing consistent with a severe encephalopathy. **Below** MRI with and without contrast enhancement was performed. Areas of increased signal (arrows) were noted in the left temporal, posterior left frontal lobe and anterior left parietal lobe on T2 weighted (including FLAIR) sequences. Some leptomeningeal enhancement (arrows) was noted along the left sylvian fissure following contrast agent administration, indicating blood–brain barrier disruption.