Rapidly Growing Thalamic Abscess

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Figure 1. A, Cranial computed tomography shows slight hypodense changes in the thalamic region (arrow). B, Axial T1-weighted magnetic resonance imaging (MRI) with contrast (gadolinium) shows a hypointense necrotic center with ring-shaped enhancement at the level of the thalamus (arrow). C, The corresponding DWI (above) shows slightly hyperintense and isointense signal indicating edema (arrow), and the corresponding ADC (below) shows isointense and slight hypointense signal (arrow). D, ¹⁸F-fluoro-2-deoxyglucose–positron emission tomography, 3 days after initial presentation, shows diminished tracer uptake (photopenia, arrow) without uptake at the periphery. E, Axial T1-weighted MRI with contrast (gadolinium), 4 days after initial presentation, shows marked growth of the lesion (arrow). F, The corresponding DWI (above) shows marked hyperintensity, and the corresponding ADC (below) marked hypointensity indicating abscess cavity (arrow) and increase in the surrounding edema. Abbreviations: ADC, apparent diffusion coefficient; DWI, diffusion weighted imaging.

A 54-year-old woman presented with a right-sided sensory and motor syndrome without headache. She was not immunocompromised or febrile. Two weeks earlier, she had undergone an uncomplicated tooth extraction. The laboratory results were normal. A cranial computed tomography scan revealed a hypodense lesion in the left thalamic region (Figure 1A). Magnetic resonance imaging (MRI) performed the next day showed a contrast-enhancing lesion in this region (Figure 1B) and signs of edema (Figure 1C). Whole-body ¹⁸F-fluoro-2-deoxyglucose (FDG)–positron emission tomography performed 3 days later demonstrated

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an FDG-negative round-shaped lesion without wall uptake (Figure 1D) compatible with an abscess. As the patient's neurological findings deteriorated (psychomotor slowing, deteriorating hemisindrome), an MRI 4 days later showed a markedly growing thalamic lesion. The calculated volume increased within 4 days from 1 to 11 cm³ (Figure 1B and E).¹ Neurosurgery was consulted and stereotactic abscess drainage was performed, combined with initiation of an antibiotic regimen. A causative pathogen, *Streptococcus intermedius* (*Milleri*), was isolated. Within 6 weeks, the patient recovered appreciably.

This case vignette of thalamic brain abscess is notable for the observation of the rapid growth documented by serial imaging procedures. Within 4 days, the calculated abscess volume increased nearly 10-fold. ¹⁸F-fluoro-2-deoxyglucose-positron emission tomography contributed to the diagnosis of abscess with an "empty zone" that represents a hypometabolic photopenic area within the abscess cavity.² The pathogen *S. intermedius* (*Milleri*) is a well-known pathogen that is part of the normal human oral flora but has the ability to form cerebral and even epidural abscesses after transient bacteremia as presumably occurred in our patient during her dental extraction.³⁻⁵

Authors' Note

Patient consent to publish was obtained.

Declaration of Conflicting Interests

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