Teaching NeuroImages:

Diffuse cerebral vasospasm and multiple intracranial abscesses from *Bacillus cereus*

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A 34-year-old woman with acute lymphocytic leukemia undergoing chemotherapy developed sepsis from *Bacillus cereus*. She suddenly became confused and was found to have multiple brain abscesses on MRI (figure, A). No evidence for endocarditis was seen on echocardiography; however, transcranial Doppler performed as part of possible cardioembolic workup revealed unexpected severe intracranial vasospasm (figure, B). She died of intractable intracranial pressure, and from autopsy

(figure, D and E) it was concluded that *B cereus* was the cause of the abscesses and probably the vasospastic vasculopathy.

This case adds to the previously described *B cereus* infections with presumed hematogenous spread in immunocompromised hosts.¹

AUTHOR CONTRIBUTIONS

Dr. Kara Melmed: acquisition of data, analysis and interpretation, manuscript concept and design. Dr. Tapan Kavi: critical revision of the manuscript for important intellectual content.

Figure Radiographic and autopsy features

Fluid-attenuated inversion recovery showed multiple lesions with central hyperintensity, and peripheral hypointensity (A). Transcranial Doppler showed elevated velocities and pulsatility indices for bilateral MCAs, ACAs, and BA (B). CT angiography showed diffuse severe vasospasm of intracranial circulation (C). Autopsy revealed multiple hemorrhagic-necrotic lesions, and organisms consistent with *Bacillus cereus* (D and E). ACA = anterior cerebral artery; BA = basilar artery; MCA = middle cerebral artery.

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REFERENCE

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