

Letter to Editor

Acinetobacter lwoffii brain abscess in a post-COVID-19 patient

Lakshmi Krishnasamy¹, Indiran Venkatraman², Santhanam Rengarajan³

Departments of ¹Microbiology, ²Radiology and ³Neurosurgery, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research, Chennai, Tamil Nadu, India.

Dear Editor,

A 71-year-old man who recovered from COVID-19 pneumonia presented with seizures without any neurological deficits. Contrast magnetic resonance (MR) imaging scan brain revealed a rounded thin walled peripherally contrast-enhancing lesion in the left frontal lobe with perilesional edema, mass effect, and midline shift with few eccentric nodular areas without restriction on diffusion-weighted images with lipid lactate peak in MR spectroscopy [Figure 1].

Possibilities of neoplastic versus fungal abscess were considered. The hemorrhagic aspirate revealed *Acinetobacter lwoffii* sensitive to cefoperazone and meropenem. Follow-up scan showed complete resolution of the abscess [Figure 2].

Meningitis, ventriculitis, and brain abscess caused by *Acinetobacter baumannii* species have been reported earlier.^[1,2] This is the first ever report of brain abscess caused by *A. lwoffii*. The radiological features of this case were also peculiar, though not characteristic. Absence of restriction on

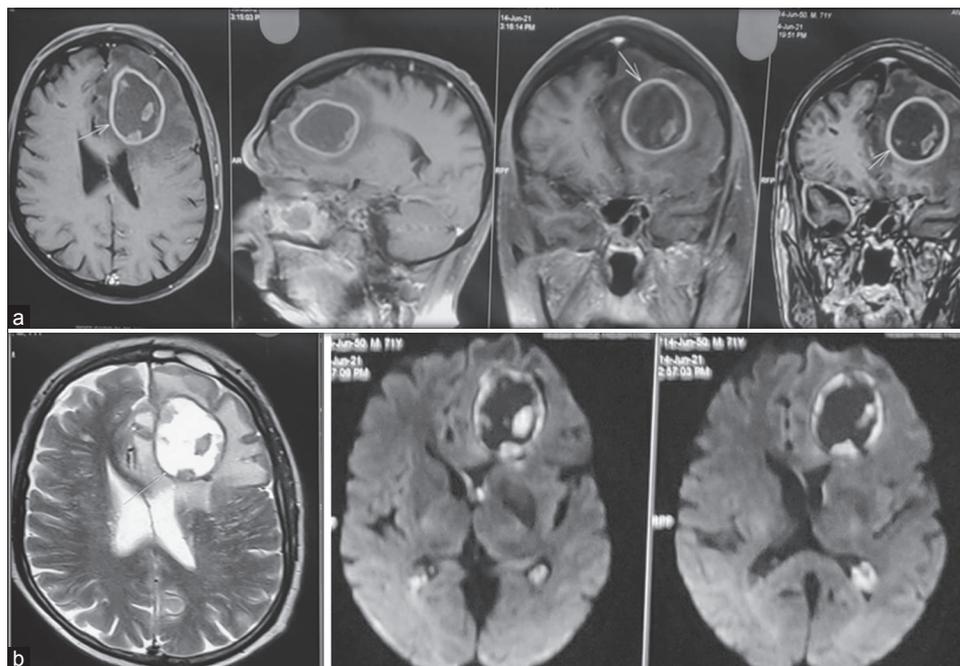


Figure 1: (a) Contrast magnetic resonance imaging brain showing the left frontal peripherally enhancing cystic lesion with central non-enhancing areas and focal isointense particulate material in the walls (b) T2-weighted image showing hyperintense cyst with hypointense rim and nodular foci; Diffusion-weighted image showing lack of restriction in the contents with hemorrhagic areas in the wall of the cyst.

*Corresponding author: Santhanam Rengarajan, Department of Neurosurgery, Sree Balaji Medical College and Hospital, Bharath Institute of Higher Education and Research, Chennai, Tamil Nadu, India. santhanamrengarajan@gmail.com

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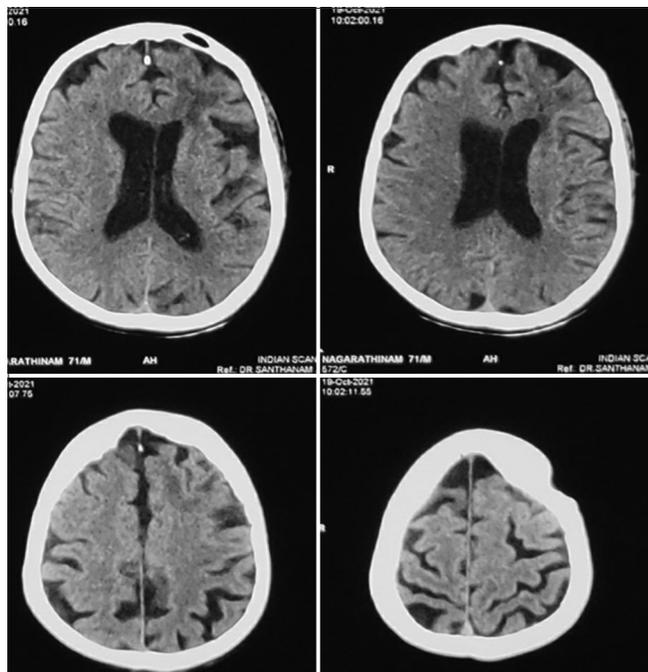


Figure 2: Eight-week follow-up computed tomography showing complete resolution of the abscess with minimal left frontal gliosis.

diffusion-weighted images in the contents of the cyst with hemorrhagic areas in the wall favored the possibility of either a neoplastic cyst or a fungal abscess and not consistent with pyogenic abscess.

Although abscesses classically show restricted diffusion in the central portion, a dual rim sign on susceptibility-weighted imaging and increased flow in perfusion imaging, exceptions have been seen in the form of low diffusion signal comparable with brain tumors. Newly formed thin vessels seen in the abscess wall may rupture with rising intracranial pressure, resulting in hemorrhage within the abscess. Thus, even though hemorrhage in brain abscess is rare, the diagnosis needs to be considered when appropriate.

Multidrug resistance among the *Acinetobacter* species makes the treatment of cases a great challenge. In our case, the

response to cefoperazone and meropenem was good and resulted in complete clearance of the infection. The rarity of brain abscess being caused by a commonly found organism such as *A. lwoffii* along with peculiar radiological findings makes this case report interesting as a good learning material. The surgical strategies would be different for neoplastic lesions and obtaining the correct diagnosis early helped in avoiding major surgical interventions in this patient who was recovering from COVID pneumonia along with multiple comorbidities.

Brain abscess in humans due to *A. lwoffii* is being reported for the first time. The peculiar radiological features signal the possibility of alternative and uncommon diagnosis. Early diagnosis of *A. lwoffii* infection and appropriate antibiotic therapy based on the culture and susceptibility report is essential in preventing the emergence of antibiotic resistance.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Nil.

Conflicts of interest

There are no conflicts of interest.

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