

Brain abscess due to the Mucoraceae in a renal transplant recipient; successful endoscopic treatment

Sir,

A 67-year-old male admitted to the Al-Zahra hospital, Isfahan, Iran, due to the pain in the left temporal and occipital area, proptosis of the left eye, and also, 6-month history of reduced vision. He was diabetic and 5 years ago, he underwent renal transplant. Brain magnetic resonance imaging (MRI) showed sphenoidal sinusitis. Because of suspected giant cell arteritis (temporal arteritis), he underwent a temporal artery biopsy. It revealed a little calcification in the artery wall, without any arteritis. At this stage, he left the hospital with personal satisfaction. After 2 months, he referred to the hospital due to complete blindness. Brain MRI with contrast revealed pansinusitis, involvement of left infratemporal and nasopharyngeal fossa, left-sided mastoiditis, and left temporal lobe abscess with rim-enhancing lesions [Figure 1a and b]. An endoscopic sinus surgery was performed, and the left ethmoid and sphenoid sinuses were debrided. Furthermore, temporal lobe abscess was drained using endoscopic surgery, and clinical specimens were applied for pathology. Necrosis, infiltration of neutrophil and lymphoplasmic cells, and broad aseptate hyphae were seen in histopathological examination [Figure 1c]. Amphotericin B deoxycholate (1 mg/kg/day) was started for him due to the lack of access to liposomal amphotericin B and continued for about 2 months. Because of kidney transplant, antifungal therapy was changed to posaconazole oral solution (400 mg PO bid with meals) for 1 month, and finally, high dose itraconazole (200 mg BD) was prescribed for him owing to the high cost and scarcity of the posaconazole in Iran. He followed up for 5 months and cured without any evidence of recurrence [Figure 1d].

Invasive fungal infections (IFIs) are a common complication among solid organ transplant recipients.^[1] Mucormycosis is associated with high morbidity and mortality, ranging from 65% for rhinocerebral involvements to nearly 100% for the disseminated infections.^[2] Organ transplantation, hematological malignancies, trauma, uncontrolled diabetes, ketoacidosis, iron overload, and desferrioxamine therapy predispose an immunocompromised patient to mucormycosis. Central nervous system mucormycosis is described in 16% of the cases and is generally caused by expansion of the disease from the sinuses to the eyes and brain.^[3] Intravenous drug abuse has been considered as a significant predisposing factor for *Mucor* cerebral abscess;^[4] however, the current case was not addicted to any narcotics. Main diagnostic approaches for mucormycosis include direct microscopy, culture, and histopathology. In connection with this disease, the identification of the fungus to the species level is not the concern of physicians because the treatment strategy is the same for almost all species.^[5] Although classical management of cerebral mucormycosis relies on immediate surgical debridement and antifungal therapy, nevertheless, endoscopic surgery is a good procedure in cases where open surgery is not possible.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

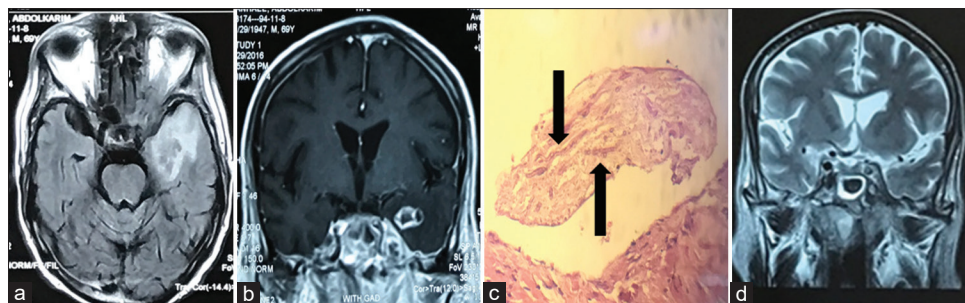


Figure 1: (a and b) Abnormal signal intensity in the left temporal lobe with ring like enhancement due to mucormycosis, (c) Broad and aseptate hyphae in necrotic tissues (black arrows) (H and E, $\times 40$), (d) Five month after treatment, there is no evidence of edema or pathologic lesion in left temporal lobe

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REFERENCES

1. Lanternier F, Sun HY, Ribaud P, Singh N, Kontoyiannis DP, Lortholary O, *et al.* Mucormycosis in organ and stem cell transplant recipients. *Clin Infect Dis* 2012;54:1-8.
2. Skiada A, Lanternier F, Groll AH, Pagano L, Zimmerli S, Herbrecht R. Diagnosis and treatment of mucormycosis in patients with haematological malignancies: Guidelines from Proceedings of

the 3rd European Conference on Infections in Leukemia (ECIL 3). *Haematologica* 2013;98:492-504.

3. Binder U, Maurer E, Lass-Flörl C. Mucormycosis--from the pathogens to the disease. *Clin Microbiol Infect* 2014;20 Suppl 6:60-6.
4. Verma A, Brozman B, Petito CK. Isolated cerebral mucormycosis: report of a case and review of the literature. *J Neurol Sci* 2006;240:65-9.
5. Elzein F, Kalam K, Mohammed N, Elzein A, Alotaibi FZ, Khan M, *et al.* Treatment of cerebral mucormycosis with drug therapy alone: A case report. *Med Mycol Case Rep* 2019;23:4-7.

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