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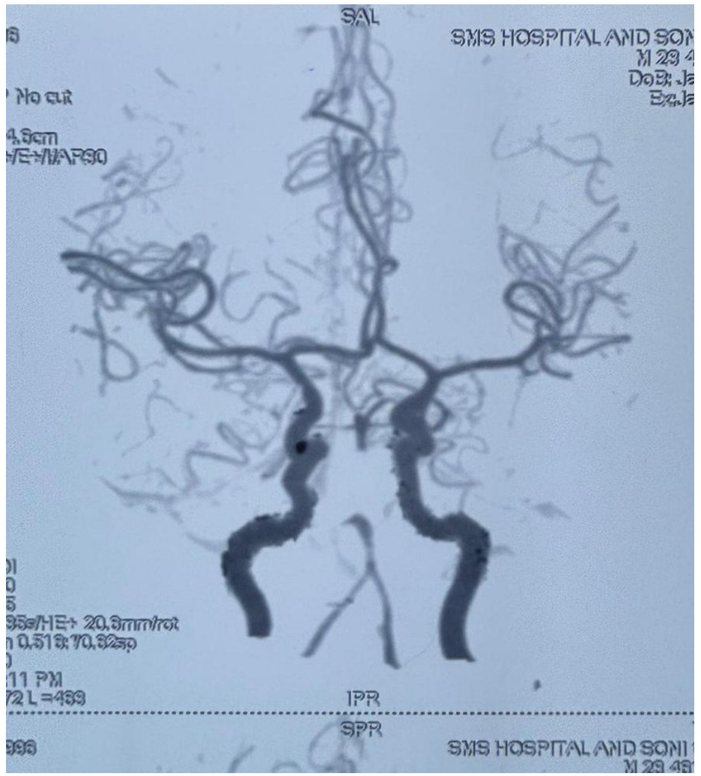
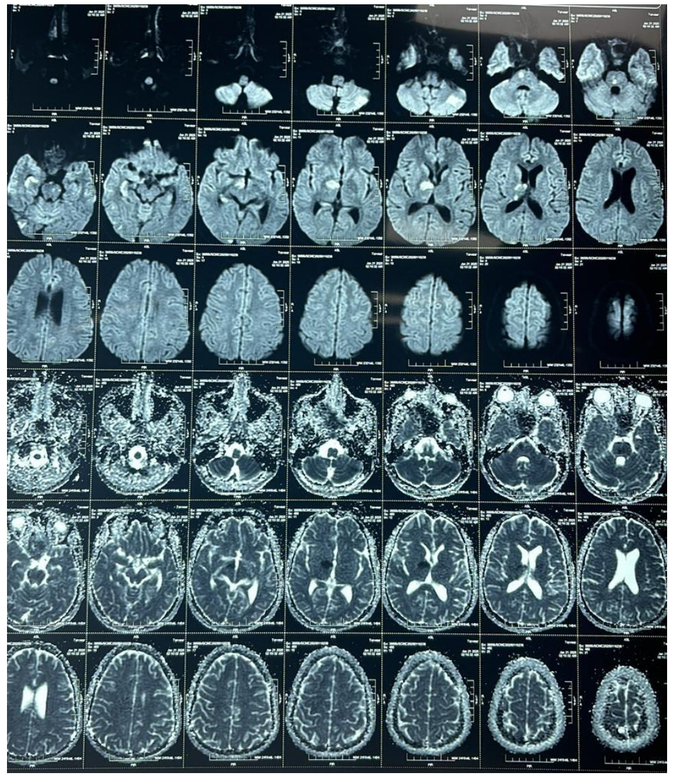
The Fungal Impostor: How Invasive Fungal Infections Can Simulate Stroke

Background: Stroke due to fungal infections is rare. Cerebral invasive fungal infection may present with meningism, focal neurological signs, hemiplegia & cranial nerve deficits depending on the type of fungus.

Angioinvasion is known to occur in all cases of aspergillus hence stroke & stroke-like syndromes are most likely to occur with aspergillus.



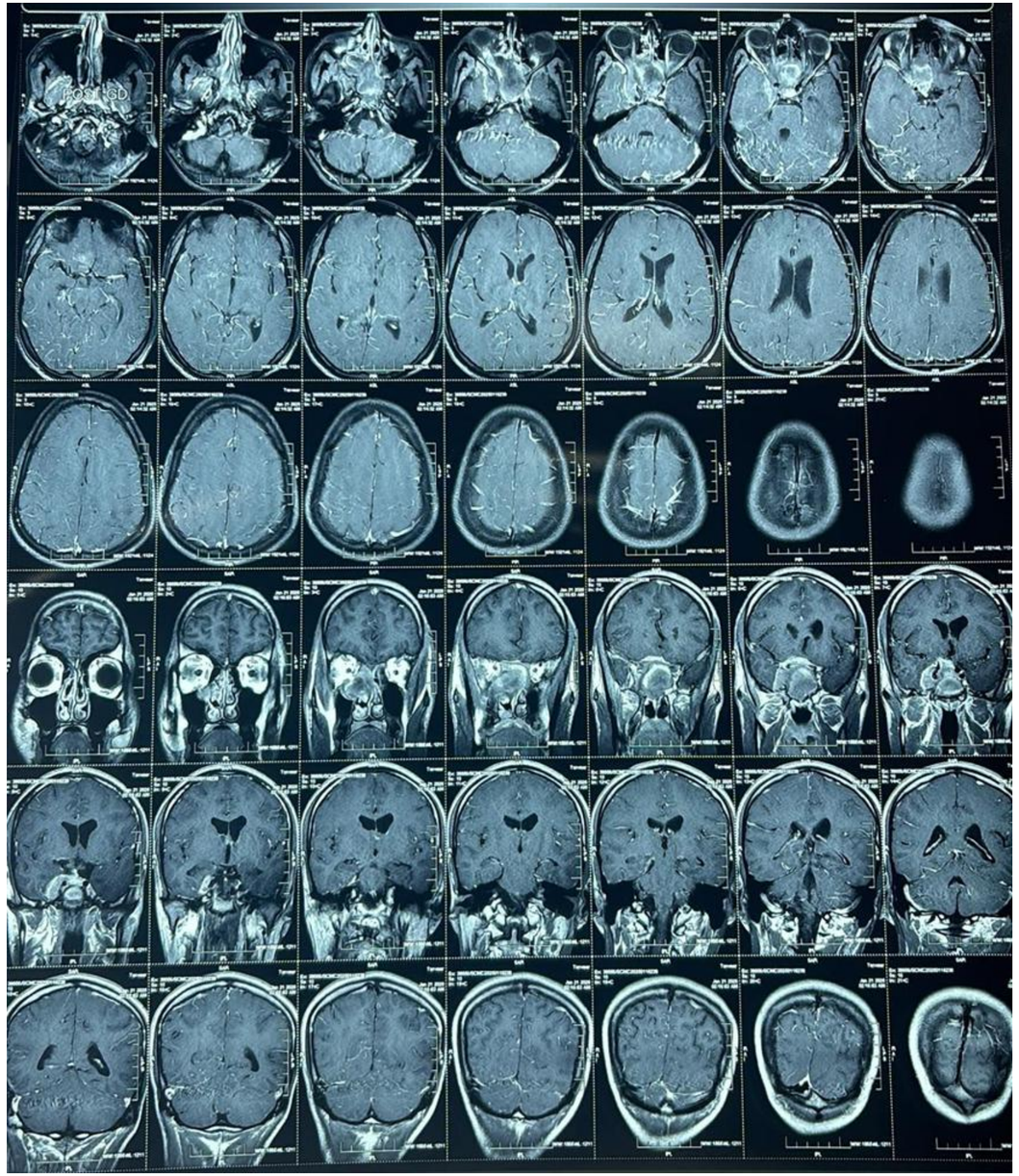
CT Angio of brain



MRI DWI

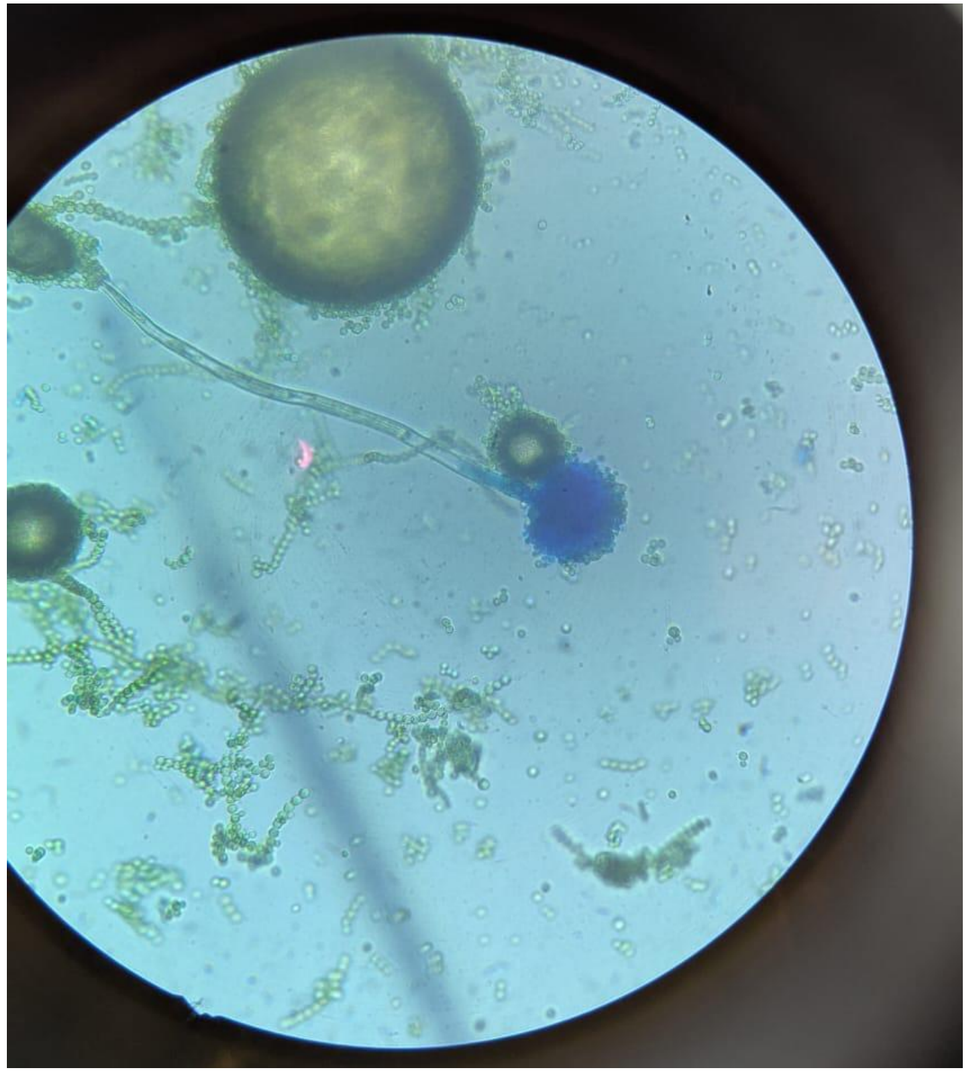
Case Presentation: We report a case of 18 year old male with no known comorbidities who presented with 1 month history of right eye progressive blurring of vision which was treated by ophthalmologist with oral steroids, 10 day history of headache, vertigo and vomiting, acute left hemiparesis since 6hrs due to pontine infarct on presentation. Clinical findings include right eye PL+, left power 3/5, neck rigidity+

- MRI-DWI showed bilateral multiple acute posterior circulation infarcts. CT angiography - thrombosis of the basilar artery.
- Patient was febrile with signs of meningism on admission — CSF analysis— lymphocytic pleocytsosis with raised protein & glucose ratio <0.6.
- CE-MRI — invasive fungal sinusitis ,meningitis with fungal mass - confirmed with CECT PNS- 43*42*45mm sphenoid sinus mass— bony erosion & extending into parasellar,suprasellar region, breach into pituitary fossa & encasing right ICA, right superior orbital fissure & optic foramen.



CE-MRI

Diagnosis: Biopsy showed aspergillus flavus (PAS+ve septate fungal hyphae, epitheloid cell granuloma). Total IgE 1059Iu/ml, GM index 0.64(+ve >0.5), 1,3-BDG >523.3pg/ml.



Aspergillus flavus

Management & Conclusion: Initial medical management with iv liposomal amphotericin-b 10mg/kg/day and later in combination with iv voriconazole 4mg/kg q12hr combination with dual antiplatelets. He underwent paranasal sinus debridement surgery after which liposomal amphotericin was stopped after confirming voriconazole therapeutic trough levels. Thorough evaluation for any immunodeficiency states was negative. Patient had improvement in right eye visual acuity to 6/12, power was 5/5 in all 4 limbs. Plan for lifelong voriconazole therapy in view of bony invasive disease.

Discussion Points:

- Cause of invasive aspergillosis in immuno-competent patient
- Should thrombolysis/mechanical thrombectomy be considered?

References: 1. Acute Stroke as First Manifestation of Cerebral Aspergillosis.Anciones, Carla et al. Journal of Stroke and Cerebrovascular Diseases, Volume 27, Issue 11, 3289 - 3293

2. Uncommon Causes of Stroke, 2nd edition, ed. Louis R. Caplan. Published by Cambridge University Press. Chapter 8