



Brain abscess caused by dematiaceous fungi in an apparently immunocompetent hosts: A case series

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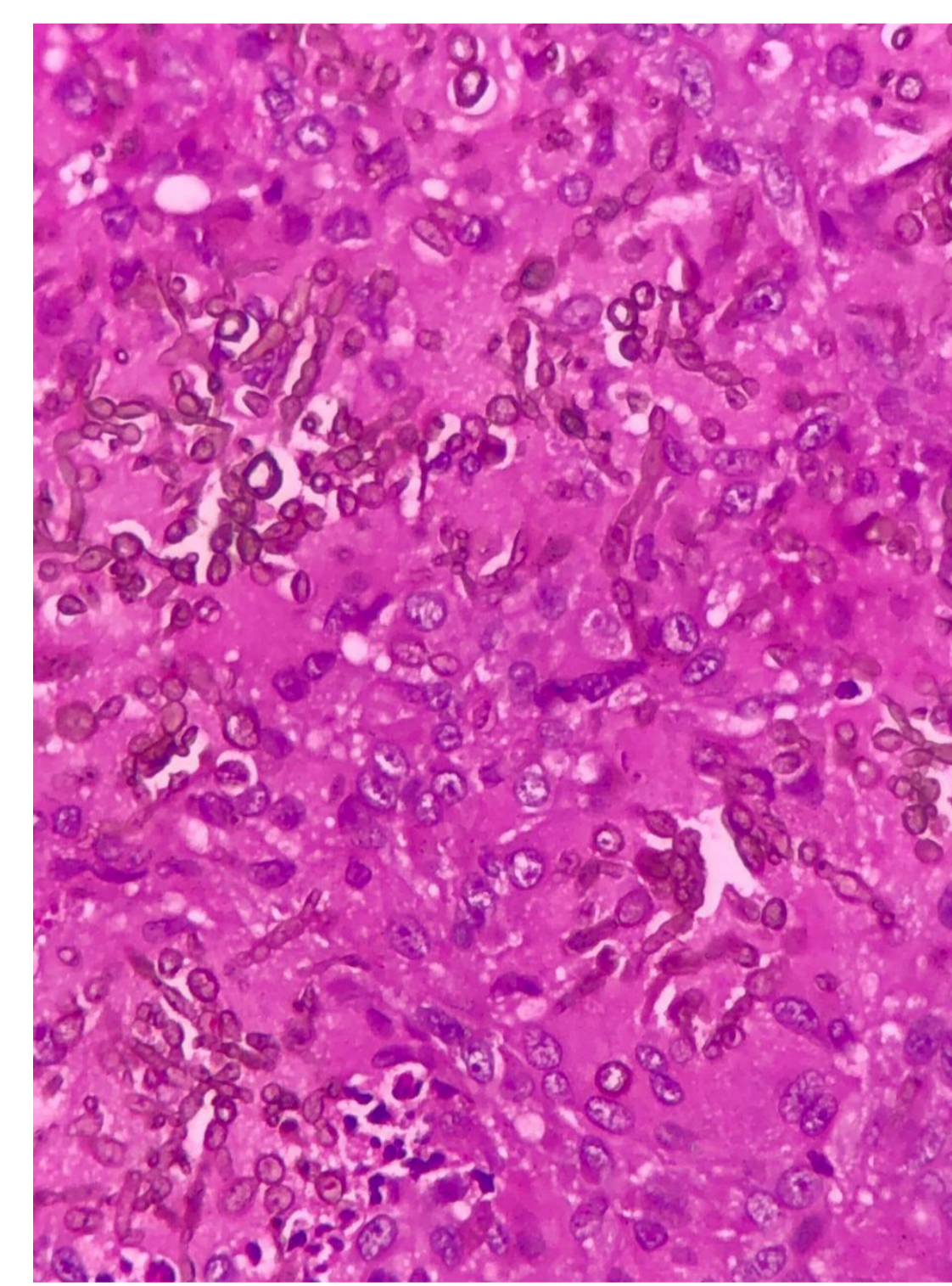
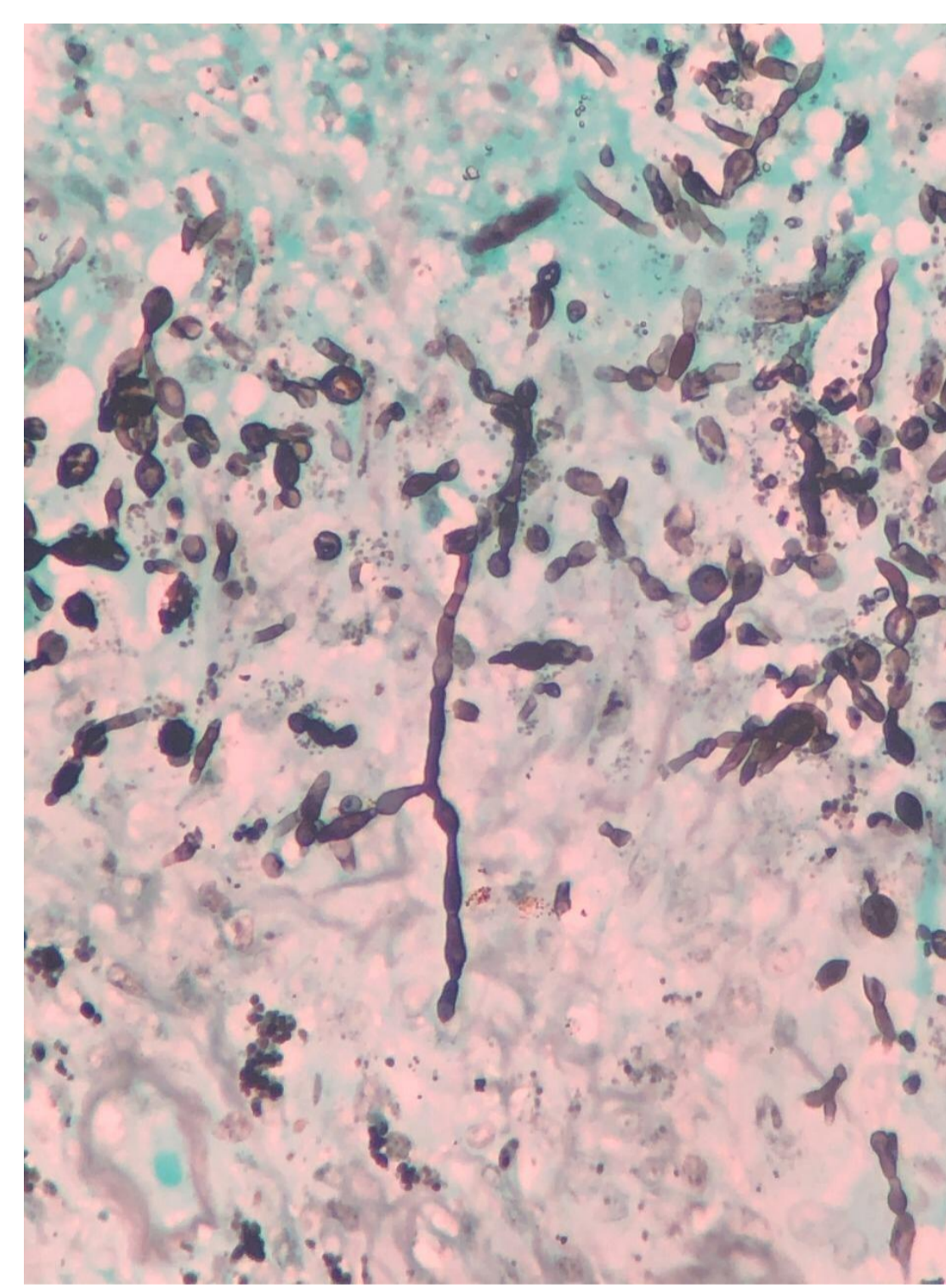
Introduction

- ❖ Dematiaceous fungi also known as melanized fungus can cause wide varieties of infections.
- ❖ CNS involvement is rare but serious, since it commonly occurs in immunocompromised hosts.
- ❖ We present 4 cases of brain abscess caused by this fungus in apparently immunocompetent hosts.

Cases

No	Age /sex	Symptoms	Reported radiological findings	Species identification	Treatment given	Surgery performed	Outcome
1	60/ M	Headache followed by left sided hemiparesis	Well demarcated, intra-axial, irregular space occupying lesion in right frontal lobe s/o malignancy	Cladophialophora bantiana (day 31)	Liposomal Amphotericin B (L-AMB) + voriconazole for 21 days. Therapeutic drug monitoring (TDM) not done	Complete resection	Repeat MRI showed relapse at the end of 21 st day of treatment. Patient took discharge and lost to follow-up
2	45/ M	Headache	Hyper-intense lobulated, intra axial in deep sub cortical white matter of right parietal lobe suggestive of malignancy	Cladophialophora bantiana (day 35). Anti-fungal DST done at PGI Chandigarh	L-AMB for 60 days Voriconazole + 5FC for 3 months. Voriconazole for 6 months. Itraconazole was for 1 year. TDM for voriconazole and itraconazole done	2-time surgery done. Both the time complete resection done	Survived
3	42/ M	Headache followed by left sided hemiparesis	Well demarcated, irregular margin, space occupying lesion in right fronto-parietal region	Cladophialophora bantiana (Day 45)	L-AMB given for 3 days	Complete resection	Took discharge in a view of cost constraints and lost to follow-up
4	11/ M	Headache, low grade fever, recurrent vomiting No improvement with AKT + steroids	left ganglio-capsular multiple conglomerated ring-enhancing lesions s/o tuberculomas	Cladophialophora bantiana (day 85)	Not given as fungal infection was not suspected and by the time report came, he succumbed to his illness	Decompressive craniectomy with external ventricular drainage was done and the lesion was aspirated	Expired

Sample ID:	IL-3960	
Identification:	Cladophialophora bantiana	
Method of Identification:	Microscopy (phenotypic)	
Antifungal susceptibility method:	CLSI method (M38, A2)	
S.no.	Antifungal	MIC(µg/ml)
1	Amphotericin B	1
2	Voriconazole	0.12
3	Itraconazole	0.25
4	Posaconazole	0.25
5	Caspofungin	0.5
6	Anidulafungin	0.03



Anti fungal DST

MRI Brain

GMS stain

Hematoxylin & Eosin stain

Discussion

- ❑ The diagnosis of the disease is challenging due to its rarity, lack of specific sign & symptoms and radiological findings of the disease. Radiologic report should give a DD rather than name a specific condition. This prevents a biopsy procedure & leads to the use of empiric, ineffective, toxic, expensive therapy & disease progression .
- ❑ In our case series the mean days to diagnosis from symptom onset was 49 days. Although, less than what is reported in literature which is 115 days, it is still late to be of meaningful value to the patient .
- ❑ There are many factors like antifungal DST, interpretation of MIC when there are no BP available , cost of antifungal therapy, therapeutic drug monitoring, need of repeat surgery, active follow up and awareness among surgical colleagues remains major concern in Indian settings.
- ❑ Combination of antifungal drugs for life long along with wide surgical resection with frequent follow-ups which includes TDM, radiological assessment, need of repeat surgery and management of adverse drug reactions of antifungal drugs are the unmet clinical needs.

References

1. Master R et al. Brain abscess due to *Cladophialophora bantiana* in an immunocompetent child: A case report. J Pediatr Crit Care 2022;9:15-8
2. Gopalakrishnan et al. *Cladophialophora bantiana* brain abscess: A report of two cases treated with voriconazole. Indian J Med Microbiol 2017;35:620-2