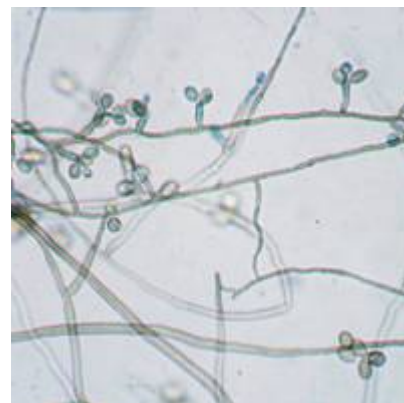


# Rhinocladiella mackenziei



Rhinocladiella mackenziei is a pigmented [fungus](#).

Primary cerebral [phaeohyphomycosis](#) due to Rhinocladiella mackenziei is an extremely rare infection carrying more than 80% [mortality](#), with most cases reported from the Middle East region. This darkly pigmented black yeast is highly [neurotropic](#), aggressive and refractory to most [antifungal](#) agents.

[Cerebral abscess](#) due to pigmented moulds are a rare but usually fatal [infection](#) occasionally seen in [transplant](#) recipients.

Rhinocladiella mackenziei was believed to be endemic solely to the Middle East, due to the first cases of infection being limited to the region. However, cases of R. mackenziei infection are increasingly reported from regions outside the Middle East. The agent is dissimilar to typically opportunistic agents of fungal disease in that the majority of cases have been reported from immunologically normal people.

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A 67 year old male of [Iraqi](#) origin underwent a deceased donation renal transplant for [renal failure](#) and 2 months later was diagnosed with an [abscess](#) in the left posterior [frontal lobe](#) of his brain. Subsequent [biopsy](#) proved this to be due to the mould Rhinocladiella mackenziei. Further interventions included two operations to aspirate the lesion, [voriconazole](#), then liposomal [amphotericin B](#), then a combination of [posaconazole](#) and [flucytosine](#) which he continued for over four years. He also suffered from right ankle pain and was diagnosed with septic [arthritis](#); R. mackenziei was isolated from pus aspirated from the ankle joint. He responded well to the treatment and has had little loss of function, and on CT the cerebral lesion has stabilised. Beta-D-glucan, initially at very high levels proved useful to monitor response over the 5 years and the latest sample was negative (38 pg/mL). This case is notable for the first disseminated case of this infection, its favourable outcome on a novel antifungal combination and a new approach to monitoring the course of disease <sup>1)</sup>.

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Barde et al. analyzed posaconazole concentrations in plasma and multiple CNS specimens taken from a patient who received posaconazole because of cerebral phaeohyphomycosis. Low posaconazole concentrations were obtained in CNS specimens, with sample-to-plasma ratios between 5% and 22%. This case highlights the role of neurosurgery during cerebral phaeohyphomycoses, even those caused by posaconazole-susceptible black fungi. <sup>2)</sup>

Yusupov et al. presented an immunocompetent elderly male, presenting with multiple brain abscesses, with *R. mackenziei* confirmed by nuclear ribosomal repeat region sequencing, who was successfully treated by surgical debridement and intravenous voriconazole. To our knowledge this is the first case reported from the United Kingdom. We also present a review of all such cases so far reported in the English literature world-wide, which we believe is a step further to understanding the pathogenesis and establishing effective treatment of this rare, yet often fatal disease <sup>3)</sup>.

Cristini et al. described the case of a native Afghan woman living in France who presented with brain abscesses due to *R. mackenziei* <sup>4)</sup>.

## References

<sup>1)</sup>

Hardman N, Young N, Hobson R, Sandoe J, Wellberry-Smith M, Thomson S, Barton R. Prolonged survival after disseminated Rhinocladiella infection treated with surgical excision and posaconazole. Transpl Infect Dis. 2020 Feb 13:e13264. doi: 10.1111/tid.13264. [Epub ahead of print] PubMed PMID: 32053285.

<sup>2)</sup>

Barde F, Billaud E, Goldwirt L, Horodyckid C, Jullien V, Lanternier F, Lesprit P, Limousin L, Cohen JF, Lortholary O. Low Central Nervous System Posaconazole Concentrations during Cerebral Phaeohyphomycosis. Antimicrob Agents Chemother. 2019 Oct 22;63(11). pii: e01184-19. doi: 10.1128/AAC.01184-19. Print 2019 Nov. PubMed PMID: 31427294; PubMed Central PMCID: PMC6811437.

<sup>3)</sup>

Yusupov N, Merve A, Warrell CE, Johnson E, Curtis C, Samandouras G. Multiple brain abscesses caused by Rhinocladiella mackenziei in an immunocompetent patient: a case report and literature review. Acta Neurochir (Wien). 2017 Sep;159(9):1757-1763. doi: 10.1007/s00701-017-3141-0. Epub 2017 Apr 1. Review. PubMed PMID: 28365816.

<sup>4)</sup>

Cristini A, Garcia-Hermoso D, Celard M, Albrand G, Lortholary O. Cerebral phaeohyphomycosis caused by Rhinocladiella mackenziei in a woman native to Afghanistan. J Clin Microbiol. 2010 Sep;48(9):3451-4. doi: 10.1128/JCM.00924-10. Epub 2010 Jun 30. PubMed PMID: 20592148; PubMed Central PMCID: PMC2937739.

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