

Epidemiology Maps for Histoplasmosis According to Statehood of Authors

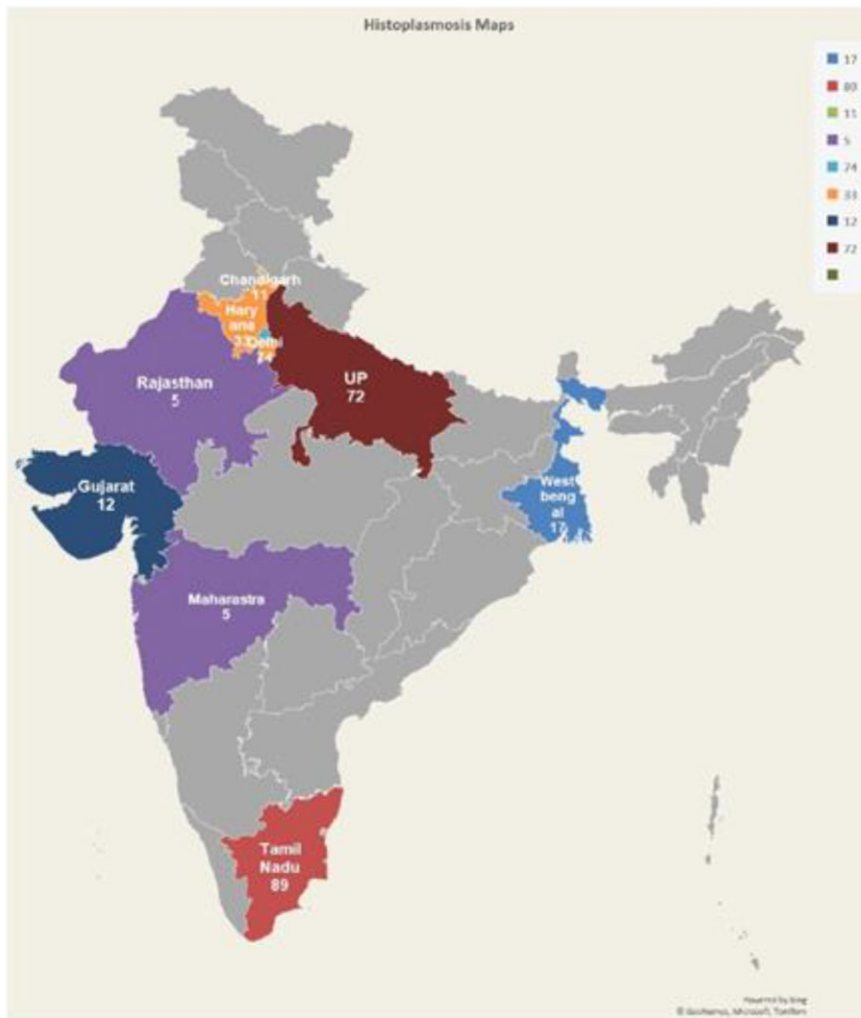


Figure 2 B

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Invasive fungal infection in hematopoietic stem cell transplant recipient from an Indian oncology setting

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Poster session 1, September 21, 2022, 12:30 PM - 1:30 PM

Objectives: Invasive fungal infections (IFI) are one of the major causes of morbidity and mortality in post-hematopoietic stem cell transplant (HSCT) recipients. Data from India are limited. The objective was to analyze the incidence, risk factors, and outcomes associated with IFI in our center.

Methods: Adult patients, who underwent marrow/stem cell transplantation between 2014-2018, in an oncology center in India, were included in this retrospective observational study. The revised consensus definition of IFI by the European Organization for Research and Treatment of Cancer/Invasive Fungal Infections Cooperative Group and the National Institute of Allergy and Infectious Diseases Mycoses Study Group (EORTC/MSG) in 2008, was considered to define cases. Incidence, risk factors, and outcomes associated with IFI were analyzed.

Results: Out of the 126 patients who underwent HSCT between 2014-2018, 56 (44.4%) had Allo HSCT, 64 (50.8%) had auto HSCT and 6 (4.8%) had haplo-identical HSCT. A total of 83 (63%) were males and 43 (34%) females, 113 (83.9%) Asians, and 13 (10.3%) Africans. Total 111 (88%) patients received myeloablative conditioning and 24 (19%) received total body irradiation. The hematological conditions were acute myeloid leukemia (AML) $n = 23$ (18.25%), acute lymphoblastic leukemia (ALL) $n = 16$ (12.69%), chronic myeloid leukemia (CML) $n = 4$ (3.17%), Hodgkins lymphoma (HL) $n = 17$ (13.4%), non-Hodgkins lymphoma (NHL) $n = 11$ (8.73%), Myeloma $n = 35$ (27.7%), sickle cell disease $n = 13$ (10.31%), etc. Most patients received fluconazole 78 (61.9%) followed by micafungin 23 (18.25%), posaconazole 20 (15.87%), voriconazole 4 (3.17%), and liposomal amphotericin B 1 (0.79%) as antifungal prophylaxis. The overall rate of IFI (possible cases included) was auto-HSCT $n = 5$ (7.81%), and Allo-HSCT $n = 5$ (8.92%). Among auto-HSCT, the IFI was Proven = 0, Probable $n = 1$ (1.5%), and Possible $n = 4$ (6.25%), and among Allo-HSCT Proven = 0, Probable $n = 2$ (3.57%), and Possible $n = 3$ (5.35%). These cases had IFI lung based on imaging and serological tests. None of the cases had a lung biopsy. There were no incidents of candidemia. No patients in Haplo-HSCT had IFI. The 1-year survival rate among the IFI cases was 8/10 (80%). As the number

of patients with IFI was very low, a meaningful comparison of the risk factors, and the impact of prophylactic regimens were difficult.

Conclusions: The overall rate of IFI in HSCT patients in our setting was low compared to global data.

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Expanding VGVI—evidence for distinct *Cryptococcus gattii* (*decagattii*) endemic to the American Southwest

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Poster session 1, September 21, 2022, 12:30 PM - 1:30 PM

Objectives: We aimed to understand the nature of autochthonous *Cryptococcus gattii* clinical and veterinary cases identified in Arizona, a state in the American Southwest, a locale well outside of the known endemic regions.

Methods: Whole-genome sequencing and phylogenomic comparative analyses were conducted on four unrelated isolates collected from recent cases along with other relevant *C. gattii* genomes.

Results: Phylogenomic analysis grouped the Arizona genomes with a previously known set of Mexican isolate genomes, labelled as VGVI or *C. decagattii*. These genomes are clearly delineated from the nearest major molecular type (VGIII), but show no recombination with other molecular types or species of *C. gattii*.

See Figures below.

Conclusion: These findings expand VGVI into a definitive clade and establish this molecular type as a clinically important and distinct population. These findings also expand the known *Cryptococcus* ecological range into a previously unrecognized endemic area, typified by extreme heat and aridity.