

P1184 A restrict genetic population of *Histoplasma capsulatum* isolates identified in Ceara/Brazil by GA(n) microsatellite typing

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Background: *Histoplasma capsulatum* is a dimorphic fungus that presents a high genetic diversity among isolates from different geographic areas. In Northeast of Brazil, the Ceará State has highlighted to describe a high number of cases of disseminated histoplasmosis mainly in AIDS-patients.

Materials/methods: In the present study it was included 51 clinical isolates of *H. capsulatum* obtained from 40 patients with disseminated histoplasmosis hospitalized at São José Hospital of Infectious Diseases located in Ceará/Brazil. All isolates were primarily identified according to standard morphologic criteria in culture in Potato Dextrose Agar at 25°C and their ability to grow at 37 °C in ML-Gema. In addition, sequencing of ITS region of rDNA was performed to confirm *H. capsulatum* specie by BLASTn analysis using G217B reference strain. The HSP-TC microsatellite PCR was performed using specific primers: HSP-TC/U (5'-GACGACGAGTGGTCCCGAA-3') and HSP-TC/L (5'-GAAGCCCTGGAGGTAGACGA-3'). Automated sequencing was done using the Sequencing Platform at Fundação Oswaldo Cruz, Brazil. Phylogenetic analysis was performed using 8 fungal strains [EH-53 (GQ223268.1), EH-374 (GQ223271.1), EH-655P (GQ180985.1), EH-384P (GQ180982.1), EH-575B (GQ131797.1), 01869 (GQ131798.1), 156-05 (FJ977625.1), and 376-04 (FJ977619.1)] retrieved from GenBank database. Nucleotide sequence of G217B strain (L11390.2) was used as outgroup. The phylogenetic analyses were conducted by Maximum Likelihood in PhymI ver. 3.1 and Neighbor Joining in Mega 6.06.

Results: Of 40 patients, 39 were HIV positive and only one case occurred in immunocompetent patient. The fungal isolates were obtained from clinical specimens including buffy coat, bone marrow, blood and trachea-bronchial secretion. Results of phylogentic analysis of (GA)n microsatellite by both methods identified three majors clusters: Cluster I (bt=63/73) represented for isolates from Argentina (bat and human isolates) and São Paulo/Brazil (bat isolates); Cluster II (bt=100/92) represented for bat strains from Mexico; and Cluster III (bt=93/94) which contained two sub-cluster – IIIa (bt=92/87) represented for isolates from Mexico (bat and human isolates) and IIIb (bt=93/97) represented for isolates from Ceará/Brazil. Furthermore, eleven haplotypes was identified in the fungal sequences of this study.

Conclusions: Typing of (GA)n microsatellite marker suggested a unique and specific *Histoplasma* populations in this region of Brazil.

