Proceedings of the XXXVI GIRI meeting

In vitro evaluation of Sporothrix brasiliensis biotherapic: complete results

Amanda Ribeiro Ricardo Brito 1, Paloma Barbosa da Silva Moura 2, Camily da Silva Faria 1, Lais Cavalcanti dos Santos Velasco de Souza 2, Leandro Machado Rocha 1, Andrea Regina de Souza Baptista 2, Gleyce Moreno Barbosa 1

1 – Pharmacy Faculty, Federal Fluminense University
2 – Biomedical Institute, Federal Fluminense University

*gleycemorenobarbosa@id.uff.br - https://orcid.org/0000-0002-2395-5083

Abstract

Background: Sporothrix brasiliensis is a fungus that affects animals, mainly felines, and humans. The infection can present as subcutaneous or disseminated form in the organism. Rio de Janeiro, Brazil, is a state with high prevalence of cases in felines. Currently, the standard treatment is realized during a long period and using itraconazole, that causes important adverse effects. Objective: The aim of this research was to evaluate in vitro effect of Sporothrix brasiliensis biotherapic in the fungus used to prepare this medicine, also considering the association to itraconazole. Methodology: Yeast cells of S. brasiliensis (ATCC MYA 4823) were cultured in Brain Heart Infusion (BHI) during 3 to 5 days. The biotherapic 30 dH was prepared according to Brazilian Homeopathic Pharmacopoeia, using 5 x 10^7 yeasts/mL. Two biotherapics were prepared: using inactivated fungus by autoclave (Sb1) and viable yeasts (Sb2). Both biotherapics were evaluated individually and associated to itraconazole. The control groups were: water, diluted water, water 30 dH, and dimethylsulfoxide (vehicle to dissolve itraconazole), and itraconazole. The minimum inhibitory concentration (MIC) experiments were carried out, considering the CLSI (Clinical & Laboratory Standards Institute) guidelines. Results: The treatments using only biotherapic did not reduced the yeast viability, as observed in the controls. However, the higher concentrations of itraconazole and of this drug associated with biotherapic reduced the viability of S. brasiliensis. Then, the observed effect was attributed to itraconazole. Conclusion: As expected, it was not detected the effect of both biotherapic in the viability of microorganism itself, due to the integrality aspects of homeopathy, because the homeopathic medicine emphasizes the whole organism’s response to the symptoms presented. Then, the next step is to evaluate the biotherapic in an in vivo model, that will be a complete organism representing the host to this infection.

Keywords: Sporothrix brasiliensis, biotherapic, in vitro.