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Poster Session I

Animal models: pathophysiology

VIRULENCE OF THE DIMORPHIC FUNGUS PARACOCCIDIOIDES SPP IN GALLERIA MELLONELLA MODEL

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Objective: The aim of this work is evaluate the virulence of *Paracoccidioides* spp, dimorphic fungi endemic throughout Latin America, in *Galleria mellonella*, an alternative animal suitable to study fungal virulence, antifungal efficacy and toxicity of new compounds.

Methods: A survival assay with *Galleria mellonella* model was used to study virulence of *P. lutzii* (Pb01-like) and *P. brasiliensis* (isolate 18). Larvae were inoculated with crescent concentration of the yeast cells, incubated at 37°C and the death was daily monitored during 7 days. Other parameter studied associated to virulence in *G. mellonella* is the haemocyte density. The haemolymph of infected larvae was collected in 1.5 mL tubes and diluted 1:20 in PBS. The cells were counted using a haemocytometer.

Results: Our results show that the killing of the larvae depended on the pathogen dose. Moreover, the death of larvae infected with *P. brasiliensis* is faster than that caused by *P. lutzii* suggesting higher virulence of this specie. Other parameters of virulence are the haemocyte density: more virulent fungus causes decrease in the concentration of the haemolymph. In our study the haemocyte density had a strong reduction after 1 and 3 hours of infection with *P. lutzii* or *P. brasiliensis*.

Conclusions: Virulence of this pathogenic dimorphic fungus has been poorly characterized, mainly because it presents low virulence in mammalian models, such as mice. Despite of the need for using animal models to study the 'in vivo' behavior, nowadays the use of mammalian animal models is restrict and depends on ethical committees and good laboratory practices. *G. mellonella* is a convenient model to investigate *Paracoccidioides* spp virulence as well as antifungal treatment *in vivo*. Fellowship: CNPq-RENAMA and FAPESP.