Biological activity of lipids extracted from two isolates of *Fusarium oxysporum* (environmental and clinical) in *Galleria mellonella*

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INTRODUCTION

Fusarium oxysporum (Hypocreales: Nectriaceae) is a pathogen trans-kingdom species complex. The lipids role in *F. oxysporum* pathogenesis is poorly understood but these macromolecules are important for fungal development and virulence [1]. We evaluate the virulence of conidia, the chemical composition and the biological activity of lipids extracted from two *F. oxysporum* isolates (environmental and clinical) in the *G. mellonella* invertebrate model.

METHODS

Lipid extraction

Lipid characterization

Mono and bidimensional TLC, HPLC-MS, FAMES

Biological assays

F. oxysporum (environmental and clinical) isolates

CONIDIA: 10^4 , 10^5 , 10^6 , 10^7 conidia/mL
 LIPIDS: 10^2 , 10^3 , 10^4 µg/mL
 CO-STIMULUS: Sub lethal concentrations

G. mellonella caterpillars injection

RESULTS

1. Conidia from *F. oxysporum* environmental isolate are more virulent than conidia from the clinical isolate

2. Methanol extracts from *F. oxysporum* isolates have different acid methyl esters concentrations.

3. Only methanol lipids extracted from *F. oxysporum* environmental isolate caused mortality in caterpillars injected.

4. Co-stimulus of conidia and lipids from the environmental isolate increases the caterpillars mortality compared with individual treatments.

CONCLUSIONS

- Mortality of *G. mellonella* caterpillars was greater when conidia from *F. oxysporum* environmental isolate were injected to them.
- Methanol lipids extracted from *F. oxysporum* isolates have different acids methyl esters composition and the lipids extracted from the environmental isolate caused mortality of caterpillars injected.
- The mortality with the co-stimulus of conidia and lipids from the environmental isolate was approximately 100% compared with individual treatments.