Aspergillus flavus: Structural and Immunological Studies on Polysaccharides Cell Wall

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Aspergillus infections have grown in importance in the last years. After *Aspergillus fumigatus, Aspergillus flavus* is the second leading cause of invasive aspergillosis. Outbreaks of aspergillosis envolving the skin, oral mucosa or subcutaneous tissues are more often associated with *A. flavus* and this is quite distinct from which is observed for *A. fumigatus.* Possibly surface characteristics are important determinant of this localization. Few studies on *A. flavus* surface antigens have been described(1,2). A 35-KDa glycoprotein antigen reacted strongly with rabbit hyperimmune and patient sera in ELISA and WB. The carbohydrate moiety showed to be responsable for the antigenicity(3). In this work, a crude polysaccharide extract was obtained from mycelium of *A. flavus* (2% KOH/2h/100ºC). This extract (6,5% protein and 52,5% neutral sugar) was fractionated by gel filtration chromatography on a Superdex-200 colunm (HPLC system) yielding two major fractions (Fr1 and Fr2, respectively). The content of neutral sugar (25 and 22,5 %, respectively) and protein (3,12 and 0,31%, respectively) were determinated by colorimetric assays. Qualitative and quantitative analysis of monosaccharide composition were done by high thin layer chromatography (HPTLC) and gas chromatography (GC), after acid hydrolisis (3M trifluoroacetic acid/3h/100ºC). Glucose, mannose and galactose were the main sugars present in both fractions at 1,0:1,3:1,7 and 1,6:1,3:1,0 proportion, respectively. In order to give continuity of this work, the antigenicity of this fractions is being carried out using rabbit hyperimmune serum in immunological assays.

Key words : *A. flavus* , polysaccharides, GC, ELISA

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