

Title: PROFILE OF CRYPTOCOCCOSIS IN SAMPLES ANALYSED AT THE HERMES PARDINI INSTITUTE

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Summary:

Cryptococcosis is a systemic mycosis which can affect humans and animals. This yeast belongs to the genus *Cryptococcus* and penetrates the human body most commonly as the form of not encapsulated cells by inhalation. Once it reaches the respiratory tract, asymptomatic and pneumonic forms of the disease can occur. At this stage, the infection might be controlled by the host immune system, otherwise the yeast can be disseminated and frequently reaches the central nervous system. As the cells proliferate they are dispersed to the brain by crossing the blood-brain barrier. As a consequence, the *Cryptococcus* can cause meningoencephalitis by adapting to oxygen levels and to the nutritional brain conditions. Its pathogenicity is always correlated to capsule production. Its etiologic agent is found in nature, usually in pigeon and other birds droppings. The species of major clinical importance are *Cryptococcus neoformans* and *Cryptococcus gattii*, which are characterised by globular to oval yeast with mucopolysaccharide capsule. This study investigated the occurrence profile of Cryptococcosis cases isolated from lower respiratory tract specimens and cerebrospinal fluid (CSF). This research was conducted in the Mycology field, Microbiology department of the Hermes Pardini Institute, in Vespasiano, Brazil, during the period of December 2013 to November 2014. A survey was carried out to evaluate the results for fungi detected from direct microscopic examination, additionally, fungal culture of lower respiratory tract specimens and CSF samples were assessed. A total of 2004 samples were evaluated, being 1444 fungal cultures and 560 fungal researches. 1985 negative specimens were identified and 19 positive for *C. neoformans*. The positivity for *C. neoformans* occurred on seven direct microscopic examination (1 tracheal secretion, 1 sputum and 5 cerebrospinal fluid) and 12 tests were positive for fungal cultures (11 of CSF and 1 of sputum). Meningitis caused by *C. neoformans* is an opportunistic fungal infection which is currently seen most often in patients with some other diseases, such as neoplasm, diabetes, transplant recipients, severe blood disorders, among others. The highest incidence of positive cases for *C. neoformans* was observed in male, with the average age of 38 years. The majority of positive cases were notorious for cerebrospinal fluid. Indeed, these findings are relevant because they provide important data for the epidemiological knowledge of Cryptococcosis.

Keywords: Cryptococcus, occurrence, meningitis.