

Title: Yeasts prevalence in pigeon droppings obtained from hospital area and public square in Natal city, Brazil

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Abstract: Pigeons have been considered as one of the main reservoir for pathogenic yeasts, including *Cryptococcus neoformans*, an opportunistic yeast that mainly affects immunocompromised patients. This study aims to evaluate the prevalence of yeasts obtained from pigeon droppings collected in public urban areas of Natal city, Brazil. We collected 13 samples of pigeon droppings from external areas of a university hospital between April 2012 and February 2014, while three samples of the same material were collected in a public square, in March 2013. Yeasts were isolated and identified by CHROMagar Candida®, microculture in cornmeal agar added tween 80, evaluation of capsule production using India ink, urease test and classical methods (assimilation and fermentation of carbohydrates), besides evaluation of melanin production in Agar Niger by *Cryptococcus* spp. strains. We obtained 191 yeast isolates from samples of the surroundings of the hospital, identified as *Trichosporon* spp. (n=46; 24.1%), *Rhodotorula* spp. (n=41; 21.5%), *Candida parapsilosis* species complex (n=23; 12%), *Candida tropicalis* (n=21; 11%), *Candida krusei* (n=17; 9.9%), *Candida* spp. (n=19; 9.9%), *Cryptococcus* spp. (n=13; 6.8%), isolates suggestive of *Sporobolomyces* spp. (n=3; 1.6%), *Exophiala* spp. (n=3; 1.6%), *Candida glabrata* (n=3; 1.6%), *Candida rugosa* (n=1; 0.5%), and *Geotrichum* spp. (n=1; 0.5%). Among the 74 yeast isolates obtained from the square samples, there were 17 isolates of *Exophiala* spp. (23%), 13 isolates of *Cryptococcus* spp. (17.6%), 12 of *Trichosporon* spp. (16.2%), 12 isolates of *Candida* spp. (16.2%), 11 isolates of *Rhodotorula* spp. (14.9%) and 9 isolates suggestive of *Sporobolomyces* spp. (12.2%). The proportion of species and genera of yeasts varied greatly among the different sites evaluated, although strains of *Cryptococcus* spp. were present in relatively high proportions in both locations. Our data confirm that pigeons are a source of several pathogenic yeasts, which can cause serious systemic infections with high mortality rates.

Keyword: pigeon, *Cryptococcus* spp., opportunistic yeast, immunocompromised patients.

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