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Thesis title: Isolation and identification of *Cryptococcus neoformans* from parrot feces in Urmia.

Abstract

Parrots are one of the most common birds that are kept as pets. Cryptococcosis is a common fungal disease between humans and birds, which is caused by the entry of the fungus *Cryptococcus neoformans* from the body and feces of birds into the human respiratory system. Cryptococcosis is the most important life-threatening fungal infection in immunocompromised people such as AIDS patients, which is caused by *Cryptococcus neoformans*. Many studies have confirmed the importance of bird feces as a suitable substrate for the growth of yeasts and fungi. Bird feces, including parrot droppings, can be a potential vector for the spread of pathogenic fungi such as *Cryptococcus neoformans* in the environment. The aim of this study is to isolate, identify and investigate the frequency of *Cryptococcus neoformans* in the faeces of parrots in Urmia and compare the prevalence of *Cryptococcus neoformans* in the feces of cockatiels, Brazilian pygmy, and lovebirds (Budgerigar) and green chigs to raise awareness about the possibility of transmission of *Cryptococcus neoformans* from feces. In order to perform the test, 200 stool samples were taken from bird shops in Urmia. The samples were removed using sterile forceps and placed in a sterile bag. Then the samples were transferred to the mycology laboratory of Urmia Veterinary Faculty and placed in a place away from sunlight. The samples were suspended with a solution of distilled water containing chloramphenicol at a ratio of one to ten and homogenized with a shaker. Then it was left aside for 30 minutes and after that, the supernatant was removed and cultured on yolk agar medium. Then the plates were incubated aerobically at 32°C and evaluated daily for 10 days. Yeast colonies were identified based on macro and micro morphological characteristics and physiological characteristics. From a total of 200 samples of dry parrot feces, isolates suspected of being *Cryptococcus neoformans* were isolated from 47 cases. The temperature of 37°C was evaluated. Due to the importance of cryptococcosis and the significant contamination of parrots in Urmia city, this matter should be considered by public health officials, parrot sellers, parrot owners and breeders, and the accumulation of parrot feces for a long time should be prevented. Immunocompromised people should avoid contact with parrot droppings.

Keywords: *Cryptococcus neoformans*, feces, cockatiel, love bird, budgerigar, Urmia.