

The epidemiological characteristics of otomycosis in Monastir: A 5 years retrospective study (2016-2020)

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Introduction and purpose:

Otomycosis is a subacute or chronic external otitis caused by various of fungus. It often occurs due to *Aspergillus* sp or *Candida* sp. This disease is a worldwide in distribution. Approximately 5-25% of total cases of otitis externa are due to fungal agents.

The aim of this study is to determine the epidemiological characteristics of otomycosis and study the species incriminated in this type of infection. This descriptive retrospective study was conducted at the laboratory of mycology at the university hospital of Fattouma Bourguiba, Monastir, Tunisia from February 2016 to December 2020. Inclusion criteria are a positive direct microscopy examination and/or positive culture.

Results:

In this study 197 positive samples were collected. The prevalence of otomycosis during the period we investigated was increasing. The prevalence of aspergillosis, candidosis as well as combined infections changed during the period of study with aspergillosis rising from 6 cases in 2016 to 26 cases in 2020. A total of 178 patients with otomycosis were enrolled in this study, 98 were female sex (55%) and 80 were male sex (45%), with a sex ratio 0.8. Otoaspergillosis and combined otomycosis were more prevalent in female patients than male patients as opposed to otocandidosis. The mean age of patients was 44.5 years and the standard deviation was 23.3. We noticed that the percentage of otoaspergillosis is higher in the age range 21-60. Most otomycosis episodes (32%) were observed during autumn. 139 out of 197 (70.5%) samples were positive for fungal infection on direct microscopy examination while on Sabouraud chloramphenicol medium culture, 178 cultures were positive for fungal infection (90.5%). Otoaspergillosis (47.1%) was found to be more prevalent than otocandidosis. For *Aspergillus* genus the most present was *Aspergillus flavus* (42%) followed by *Aspergillus niger* (40%). For *Candida* genus, *Candida parapsilosis* was the most present. Overall, 18 patient had a recurrence of otitis. The relapse of diseases was slightly higher in women (89%) than in men and the majority were due to *Aspergillus* genus (77.8%).

Discussion:

Many species of fungi have been identified as the etiological agents of otomycosis but species of *Aspergillus* and *Candida* are the most commonly identified (1). Women in the present study were more often affected by otomycosis and such results were closer to those observed by (2). *Aspergillus* species are reported as the most common etiologic agent compared to *Candida* species (2) which is consistent with our results. In addition *Candida albicans* was reported as the most common species of otomycosis (3). However in this study we showed that *Candida parapsilosis* was the most common yeast of otomycosis

References:

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Table I. Distribution of *Aspergillus* species

Species	Frequency (%)
<i>A flavus</i>	43 (42,5%)
<i>A niger</i>	41 (40,5%)
<i>A sp</i>	11 (10,8%)
<i>A fumigatus</i>	2 (1,9%)
<i>A terreus</i>	2 (1,9%)
<i>A ochraceus</i>	1 (1%)
<i>A flavus+ A nidulans</i>	1 (1%)
Total	101

