DOI: https://doi.org/10.53350/pjmhs2115102578

ORIGINAL ARTICLE

Prevalence of Otomycosis: An Evaluation among patients Visiting ENT Clinics

NASIR WAKEEL[1], AASMA TARIQ[2], IQRA GUL[3], WAJAHAT HUSSAIN[4]
[1]Assistant Professor, ENT, Quaid e Azam Medical College, Bahawalpur
[2]Women Medical Officer, ENT Department, Quaid e Azam Medical College, Bahawalpur
[3]Women Medical Officer, THQ Hospital, Khairpur Tamewali, Bahawalpur
[4]Demonstrator, Community Medicine, Quaid e Azam Medical College, Bahawalpur
Correspondence to: Dr. Wajahat Hussain, Demonstrator, Community Medicine,

ABSTRACT

Aim: To look at the relative frequency and prevalence of the otomycosis in individuals visited ENT department of Bahawal Victoria hospital, Bahawalpur.
Methodology: It was a cross-sectional study conducted at ENT department of Bahawal Victoria Hospital, Bahawalpur during 2019-2020. Forty-Two individuals (27 males and 15 females) with a diagnosis of otomycosis on clinical basis were mycologically investigated. To diagnose the condition, ear samples were taken and immediately examined using 10% KOH, followed by culture on Saburo dextrose agar plus Saburo dextrose agar also having chloramphenicol. Different laboratory approaches and differential testing were utilized to determine the kind of fungal species. Ethical approval was taken from Ethical review board of Bahawal Victoria Hospital, Bahawalpur. SPSS version 25 was used for data analysis.
Results: Only 42 individuals (66.6%) were identified with otomycosis in this research based on laboratory data, out of 63 people undergoing a clinical diagnosis of otomycosis There were 27 male participants (42.8%) and 15 female participants (23.8%) among them. Penicillium, Aspergillus glaucous, Aspergillus fumigates, Candida albicans and Aspergillus niger have 1 (1.5%), 3 (4.7%), 3 (4.7%), 9 (14.6%) and 26 (41.2%) cases respectively.
Conclusion: The most prevalent fungus identified was Aspergillus and Candida species.
Key Words: Otomycosis, Aspergillus niger, Candida albicans

INTRODUCTION

Fungal spores are present in the air to inhale. Thousands of fungus spores per cubic meter of surrounding air atmosphere are found on usual. Every minute, around 250,000 different fungus spores reach the individuals airway via breathing[1]. Such spores mostly exist in air and create complications during eye, ear, orthopedic, nasal, and throat surgical procedures[2]. Outer ear infection is one of the most prevalent issues that doctors, particularly ENT experts, encounter. Outer ear infection (otitis externa), which causes painful inflammation of the outer duct and earlobe, can be fatal in persons who are immune compromised[3]. Meyer initially reported a fungus in the external auditory canal in 1884[4], which accounts for even more to 20% of outer ear infections in various regions of world. Manipulation as well as cleaning of the ears by the individual may be main risk factors in certain situations[5].

METHODOLOGY

It was a cross-sectional study conducted at ENT department of Bahawal Victoria Hospital, Bahawalpur. There were total 63 patients included and 42 were chosen for study with a diagnosis of otomycosis have been investigated mycologically in this one-year study that took place between July 2019 and July 2020 on referred cases to the ENT department. Clinical symptoms and otoscope examination of fungal components in the outer ear were used to establish the diagnosis. A sterile cotton swab soaked with sterile normal saline was used to collect ear samples. Fungal components such as spores, hyphae, plus germinated yeast were observed using direct tests with 10% KOH. Sabouraud dextrose agar and Sabouraud dextrose agar containing chloramphenicol (0.05 mg/ml) were used to culture the samples. For fungal propagation & species confirmation, the inoculated plates being maintained at temperature of laboratory (25˚C) for four weeks. To detect yeast species, fertility plus morphological tests performed on Corn Meal agar medium along Tween 80. Corn Meal Agar along Tween 80 is usually used to determine the capacity of Candida species to generate chlamydospores.

Received on 22-05-2021
Accepted on 27-10-2021

RESULTS

The detail of results is given in tables 1,2,3

Table 1: Positive cases WRT Gender

Gender	+ve Cases (n=42)	%age
Males	27	42.8
Females	15	23.8
Total	42	66.6

Table 2: Distribution of cases

Cases	n	%age
+ve cases	42	66.6
-ve cases	21	33.4
Total	63	100

Table 3: Frequency distribution of the fungal types

Type of Fungus	%age	n
Penicillium	1.5	1
Aspergillus glaucus	4.7	3
Aspergillus fumigatus	4.7	3
Candida albicans	14.6	9
Aspergillus niger	41.2	26
Total	66.6	42

DISCUSSION

Humidity, temperature, and dust within environment all contribute to the prevalence of otomycosis in Pakistan and also other places. People who labour outside and are introduced to fungal spores are more likely to acquire the illness. The majority of these persons are youth to middle-aged[6], as verified by the current study. In 2003, the most frequent fungal species identified from otomycosis patients were Candida albicans plus Aspergillus niger[7]. In addition, a research published by Kaur et al., (2000) found the presence of Candida albicans, Aspergillus fumigatus and Aspergillus niger[8]. In this research, the most prevalent fungus identified from individuals were Candida and Aspergillus species, which are consistent with previous findings. The high frequency of Aspergillus species is due to the increased presence of dust and also the acidity of ear canal, since Aspergillus species thrive better at pH 5-7[9]. The most common species found during investigation of Aspergillus was Aspergillus niger[10].

After Aspergillus species, Candida species were most common fungus in our investigation, which is consistent with previous research[11]. According to studies, a protease secreted by Candida species is involved in the pathogenesis of Candida-caused otomycosis. This enzyme is implicated in Candida genus colonisation of the ears and skin[12].

CONCLUSION

Candida and Aspergillus species were the most prevalent fungus identified from otomycosis patients in this investigation. Otomycosis cannot be identified only on the basis of clinical complaints, but requires lab tests also.

Conflict of interest: Nil

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