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PREVALENCE OF OTOMYCOSIS IN CMA HOSPITAL, LAHORE: A COMPARATIVE STUDY BETWEEN PATIENT RATIO IN RAINY SEASONS VS DRY SEASON AT LAHORE

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ABSTRACT:
Aims and objectives: This study aimed to see the prevalence of Otomycosis at CMA Hospital Lahore and compare of prevalence between rainy vs - dry season.
Study design: This is a comparative study on 300 patients of otomycosis coming to CMA Hospital Lahore from July to December, 2023.
Results: The prevalence of Otomycosis was 30 % in the rainy season as compared to non-rainy season where the prevalence was 15%.The main symptom was itching present in 195 (65%), Ear blockage was present in 150 (50 %) and ear discharge was present in 120 (40%) patients. Conclusion: Otomycosis is twice as common in hot and rainy seasons as compared to dry season.

Keywords: Otomycosis, Itching, Rainy season.

INTRODUCTION:

Otomycosis is a term used to describe a superficial fungal infection of the external ear. It mostly affects patients who live in warm and tropical areas. Other factors are weather changes (moisture and heat) and some religious, cultural, or ethnic practices causing external ear canals to be wet (ablutions, wearing a scarf or veil) [2]. The excessive cleaning of ears using cotton buds or unadapted tools such as sticks, hair pins, or poultry feathers also contributes to Otomycosis. It often affects people who swim frequently, are diabetics, or have other chronic skin diseases. The patients typically present with pain, localized pruritus (itchiness) of the ear canal, decreased hearing, ringing sounds sometimes, discharge, and a feeling of fullness in the ears [3]. Nearly 60 different species of

fungi may be responsible for this infection. Common fungi include Aspergillus and Candida. Sometimes bacteria can combine with the fungi and make the infection more complicated. Candida appears to have a thick, white, creamy discharge. Aspergillus appears to have yellow-green colonies, and Aspergillus Niger seems to have black mold.

On the contrary, prevalence rates that are higher or lower have been reported across the continent: 30.4% in Poland, 19.4% in Brazil, 28.4% in Spain, and 69% in Iran 4. It is more commonly seen in females who cover their heads with a head tie commonly called head handkerchiefs. Some wear veils, and others wear long synthetic wigs or real-hair ones. These hairstyles, by keeping the ears tight, favor the moisturizing of the hair, which becomes more conducive to the development of mycosis, especially during the hot and damp seasons of the year. These weather conditions could explain the highest prevalence rates noticed during the rainy season when the conditions of heat and moisture are gathered. The rainy season in Lahore is between July and to end of September, when humidity is at their peak. The dry season at Lahore is between October to December when the weather is dry and moderate.

MATERIALS AND METHODS:

This was a Prospective, comparative study. This study was carried out on 750 patients presenting in the ENT OPD of the CMA hospital between July –September,2023and then October –December 2023 with a history of itching ears, decreased hearing, and otorrhea. The sample size was calculated by Rao Soft.

Inclusion Criteria: The 300 patients with Otomycosis as confirmed by otoscopy and microscopy were included for analysis.

Exclusion criteria: patients with mixed infections due to ASOM or CSOM were excluded from the study. The duration of the study was 6 months between July to December 2023. The patients were divided into two groups, one group coming between July to September (Rainy season) and the other group coming between October to December (Dry season). The history was taken in which the patient's symptoms were noted, and a thorough examination, including ENT examinations like otoscopy and microscopy, for data collection, a questionnaire was filled out for every patient. The results of the study were analyzed by SPSS version 18.

RESULT:

In 300 patients, the most common presenting symptoms were itching, which was present in 195 patients (65%), blockage in 150 patients (50%), and ear discharge in 120 patients (40%).

. Symptoms (N-300)

symptom	No	Percentage
Itching	195	65%
Ear blockage	150	50%
Ear discharge	120	40%

Regarding the prevalence of Otomycosis in 750 patients seen in ENT OPD, 300 patients were diagnosed with Otomycosis, with a prevalence of 22.5 %. The prevalence of Otomycosis in patients rainy season was 30% (200 patients) while in dry season was 15% (100 patients), which shows a significant difference in the prevalence of Otomycosis between these two groups of patients and effect of humidity on prevelance of Otomycosis.

Prevalence of Otomycosis (Rainy vs Dry season).

Group	No of patient	Prevalence %
Rainy Season	200	30%
Dry Season	100	15%

DISCUSSION:

Otomycosis is a superficial fungal infection of EAC, mostly in tropical countries due to humidity and heat. One of the important environmental factors responsible for the increasing number of fungal infections of the ear is the high content of suspended dust particles in the air and the high relative humidity during the rainy season. Most of the cases of Otomycosis are reported in warm, humid weather. So the six months selected for this research were July to December 2023 the duration from July to September was rainy and humid, whereas the period from October to December was mostly cold and dry in Pakistan. Our study population was mainly comprised of patients presenting in outdoor with Otomycosis. The higher prevalence of Otomycosis in the study can be explained by factors such as humidity wearing a scarf, women's higher tendency to visit physicians than men, and daily house work, which exposes house wives to fungal spores in the dust[7]. In our study, we tried to exclude patients with a history of chronic otitis media, tympanic membrane perforations, ear surgery, or other aural procedures. Our aim was to study the primary pathogenic status of fungal agents in the causation of Otomycosis in the patients. The anatomical position of EAC provides ideal conditions for fungal and bacterial growth, as its small meatus inlet helps in retaining moist conditions in EAC[8]. The prevalence was calculated based on the most common occurring symptoms, which were pruritus, ear discharge, and ear blockage, further divided into two groups, patients coming in rainy vs. dry season[9]. The symptoms were confirmed by otoscopy and microscopy. According to this research, the most commonly occurring symptom was pruritus in (65%) of patients, ear blockage was present in (50%) patients, and ear discharge was present in 40% patients. According to a study in Attock, Pakistan, the most commonly presenting symptom was hearing loss (77.7%), followed by pruritus (68.8%), and otalgia (40%) [10]. According to another study in Nigeria, pruritus was present in (73%), followed by otalgia (66.5%), and the sensation of a blocked ear (57%) of patients [11]. On the contrary, prevalence rates that are higher or lower have been reported across the continent: 30.4% in Poland, 19.4% in Brazil, 28.4% in Spain, and 69% in Iran [12, 13, 14]

This condition is caused by a variety of fungi, with Aspergillus and Candida being the most common culprits. Sometimes bacterial co-infections can exacerbate the fungal infection, leading to more complex cases.

Notably, the prevalence of Otomycosis seems to be higher among patients coming between July and September [15, 16, and 17]. The humid and rainy season provides favorable environment to promote the growth of Candida and aspergillus[18, 19, 20]. This may explain the noticeable spike in prevalence during the rainy season when heat and moisture levels are elevated.

The study conducted at CMA Hospital involved 750 patients presenting with ear symptoms, and 300 of them were diagnosed with Otomycosis.

The analysis showed a prevalence rate of 22.5% among the patients. Interestingly, patients coming in rainy season had a prevalence rate of 30%, which was higher when compared to those in dry season where prevalence was15%.

Conclusion: It is concluded that Otomycosis thrives in warm, humid climates, making Pakistan's hot and humid months of July, August and September ideal for the fungus growth in ears. The research excluded patients with pre-existing ear conditions to focus on the primary cause of fungal ear infections in patients. Moreover, the anatomical structures of the ear canal, along with factors like scarf-wearing and daily house hold activities, were identified as contributors to the higher prevalence among females. The study also emphasized the importance of preventive measures to reduce recurrence and prevalence, suggesting strategies like keeping the ears dry and implementing ear protection methods especially in women wearing Hijab, but all these measures are not 100% fool proof to prevent Otomycosis.

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