ORIGINAL ARTICLE

EFFICACY OF TOPICAL CLOTRIMAZOLE IN TREATMENT OF OTOMYCOSIS

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Background: Otomycosis is a common condition affecting external ear and ears with chronic suppurative otitis media, and has a tendency for recurrence. Objective of this study was to determine the efficacy of topical clotrimazole in the treatment of otomycosis. **Methods:** This descriptive study was conducted at the outpatient department of ENT, Ayub Teaching Hospital Abbottabad, from Jul 2012 to Dec 2012. A total of 101 patients were included in this study. The results were compared and analysed regarding age, gender, presenting complaints and efficacy of clotrimazole. **Results:** A total of 101 patients of otomycosis were included in the study. Male to female ratio was 0.71:1. Patients of 15 years and above were included in the study. Adults were more affected by otomycosis than the younger age group. The efficacy of clotrimazole in treatment of otomycosis was observed in 89 (94.12%) while in 12 (5.88%) patients no efficacy was seen. Age and gender have no role in efficacy of Clotrimazole in treatment of Otomycosis. **Conclusion:** Topical clotrimazole is effective in the treatment of Otomycosis.

Keywords: Otomycosis, Clotrimazole

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INTRODUCTION

Otomycosis also known as fungal otitis externa has typically been described as fungal infection of the external auditory canal.[1,2] The prevalence of otomycosis has been reported to be as low as 9% of cases of otitis externa, and as high as 30.4% in patients presenting with symptoms of otitis or inflammatory conditions of the ear. Prevalence is also influenced by the geographical area, as otomycosis is most commonly present in tropical and subtropical humid climates.[3] Otomycosis occur more commonly in female than in male. Moreover it usually occurs most frequently in adults, and less in children.[4]

The most common fungal agents causing otomycosis are *Aspergillus niger*, *Candida albicans*, *Actinomyces*, *Trichophyton*, *Aspergillus fumigatus*, and *Candida tropicalis*.[5] Several predisposing factors have been reported which include bacterial infections, use of hearing aid or a hearing prosthesis, self inflicted trauma, swimming in contaminated pools, broad spectrum antibiotic therapy, steroids and cytostatic medication, neoplasia and immune disorder.[6] It is seen more frequently in immunocompromised patients compared to immunocompetent persons. Recurrence rate and complications are higher in otomycosis patients and they need longer duration treatment and complications. The infection is usually unilateral and characterised by inflammation, pruritus, scaling and severe discomfort such as pain and suppuration.[7]

Treatment options for otomycosis include elimination of predisposing factor, thorough canal cleaning and antifungal agents. Topical antifungals are specific (clotrimazole, miconazole, econazole, nystatin, tolnaftate, potassium sorbate), and non-specific (acetic acid, alcohol, boric acid, m-cresyl acetate, and gention violet).[8] Efficacy of clotrimazole has been reported to be 50%[9], 83%[10].

Otomycosis requires prompt treatment and has recurrence tendency. The objective of this study was to see efficacy of clotrimazole in treatment of otomycosis.

MATERIAL AND METHODS

This descriptive study was conducted at the ENT Department, Ayub Medical College and Hospital Complex, Abbottabad from Jul 2012 to Dec 2012. All patients presenting to OPD meeting the inclusion criteria were included in the study. The inclusion criteria were patients of either sex, aged above 15 years and having otomycosis. Patients with history of chronic suppurative otitis media, otitis externa due to other causes and history of trauma to external auditory canal were excluded from the study. The diagnosis of otomycosis was based upon patients presenting with ear discharge green/grey or black in colour and microscopic examination showing fungal spores and hyphae. Informed consent was obtained from all patients.

After detailed history and ENT examination all patients were put upon clotrimazole lotion 5 drops thrice a day for 2 weeks. Patients were followed at the end of 2 weeks to assess the efficacy of treatment in terms of total absence of fungal hyphae on microscopic examination and improvement of symptoms.

Data were collected using the approved proforma designed for the study. All microscopic examinations were conducted by a single expert microbiologist. The data were analysed using SPSS-11.

RESULTS

A total of 101 patients were included in the study from July to December 2012. The results were compared and analysed regarding age, sex and efficacy of clotrimazole.

Patients of 15 years and above were included in the study. A total of 44 (43.6%) patients were above 35 years, 40 (39.6%) were 26–30 years old, while 17 (16.8%) patients were in the age range of 15–25 years. There were 42 (41.6%) males, and 59 (58.4%) females. The most common presenting complaint at the time of diagnosis was otalgia, followed by aural fullness, itching, and otorrhoea and hearing loss (Table-1).

The efficacy of clotrimazole in treatment of otomycosis was observed in 89 (88.1%) while 12 (11.9%) cases showed no efficacy. Age and gender had no effect on the efficacy of clotrimazole (Table-2).

Table-1: Presenting complaints on diagnosis

Complaint	Number	%
Otalgia	50	49.5
Aural fullness	35	34.6
Itching	31	30.7
Otorrhoea	26	25.7
Hearing loss	20	19.8

Table-2: Age and gender distribution of efficacy of clotrimazole [n (%)]

Variables	Efficacy		Total
	Yes	No	
Age (Yrs)			
15–25	15	2	17 (16.8)
26–35	35	5	40 (39.6)
>35	39	5	44 (43.6)
Total	89 (88.1)	12 (11.9)	101
Gender			
Male	54	5	59 (58.4)
Female	35	7	42 (41.6)
Total	89	12	101

DISCUSSION

Otomycosis is frequently encountered by otolaryngologists and can usually be diagnosed on clinical examination. Although pruritus has been frequently cited as one of the hallmark symptoms, up to 93% in one study, it was reported among the chief complaints in only 23% of the current study population.[11,12]

Otomycosis occur more commonly in female than male. In our study, we found that otomycosis was more common in adults which is similar to the findings of the other researchers.[13,14] The females in the present study were more often affected by otomycosis, which is consistent with study of Ho *et al*[15]. In our study Otomycosis was more common in patients aged above 26 years. We had 16.8% of the cases in patients 15–25 years of age compared to Kaur *et al*[13] who reported 41.1% occurrence of otomycosis in patients in the age range of 16–30 years.

Treatment of otomycosis includes local debridement, discontinuation of topical antibiotics, and local/systemic antifungal agents.[15] In our study, all patients were put on clotrimazole lotion thrice a day for 2 weeks. Although multiple in vitro studies have examined the efficacy of various antifungal agents, there is no consensus on the most effective agent.[1,16]

Analysis of patients' complaints investigated in this study showed that the most common symptom was otalgia followed by aural fullness and itching, while in a study done by Kurnatowski and Filipiak showed that the most common symptom is pruritus followed by sensation of fullness and ear discharge.[17]

The efficacy of azoles seems to depend on the duration of treatment. Youssef YA *et al*[18] reported that 2 weeks of treatment with oxiconazole cured only 27% of patients. One week of treatment with clotrimazole cured only 35% of patients whereas 4 weeks of treatment cured 70%. Azole group has been shown to be quite effective in treating otomycosis.[18]

Clotrimazole is the most widely used topical azole.[1,19] It is available as powder, a lotion, and a solution. It is considered free of ototoxic effects.[1,10,20] Some studies showed that clotrimazole was one of most effective agents for management of otomycosis, with reported rate of effectiveness that varies from 90% to 100%.[18]

CONCLUSION

Otomycosis is common in females than males and has a tendency for recurrence. Clotrimazole is quite effective in the treatment of otomycosis and is a better choice due to its lower cost and better patient compliance.

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