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Research article

Clinical profile of Otomycosis: a hospital based study at central terrain region of Nepal

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ABSTRACT

Background and Objectives: Otomycosis is the fungal infection of ear with some complications involving middle ear cavity and mastoid cavity. It is one of commonly encountered problem in otolaryngology clinics. It is commonly present in hot, humid with moisture, high temperature. So, this research is to study the clinical profile of otomycosis in central terrain region of Nepal.

Material and Methods: The study was conducted in department of ENT- head and neck surgery in Janaki medical college and teaching hospital from August 2015 to June 2016. All the clinically diagnosed cases were enrolled in the study with typical symptoms and characteristics fungal debris in the external auditory canal (EAC). All the data regarding age, sex, occupation, presenting complaints, type of fugal debris, presence of acute otitis externa, findings of tympanic membrane (TM) taken.

Results: Total of 77 patients were enrolled. Among them 27(35.1%) were male and 50(64.9%) were female. The most common presenting complaint is itching followed by earache, ear discharge, hearing loss. Itching was present in 77.9% of the cases followed by earache in 72.7%, aural fullness in 29%, ear discharge in 46.8% and hearing loss in 31.2%. Based on type of fungal debris on otoscopy, blackish was the commonest with frequency of 38 patients (49.4%) followed by whitish debris in 27 patients (35.1%) and yellowish among 12 patients (15.6%).

Conclusion: Otomycosis is one of the most common presenting problems in otorhinolaryngology OPD. Females are affected more. Aspergillus niger implicated the most and ear itching is the most common presenting symptom.

Key Words: Otomycosis, Fungal debris, Aspergillus, Candida, ENT

INRODUCTION

Otomycosis is the fungal infection of ear with some complications involving middle ear cavity [1] and mastoid cavity [2]. Otomycosis is a superficial mycotic infection of the outer ear canal. The infection may be either subacute or acute and is characterized by inflammation, pruritus, scaling, and severe

discomfort. The mycosis results in inflammation, superficial epithelial exfoliation, masses of debris containing hyphae, suppuration, and pain.

It is one of commonly encountered problem in otolaryngology clinics. It is commonly present in hot, humid with moisture, high temperature, the entrance of water into the ear during swimming or sweat secretions, increased use of topical antibiotics, weak immune function [3]. Molds and yeasts are common in the auditory canals of otomycosis patients. The molds mostly isolated from the ear are *Aspergillus niger*, *Aspergillus fumigatus*, *Aspergillus flavus*, *Aspergillus nidulans*, *Aspergillus terreus*, *Mucor*species, and *Penicillium* species [4] and yeast commonly candida species implicated. Common presentations of otomycosis are ear itching, ear discharge, earache, aural fullness and less commonly decreased hearing [5]. On examination aspergillus niger appear as blackish, aspergillus flavus appear as yellowish and candida as whitish creamy colonies which also referred as wet newspaper appearance. Pathologically, fungal infection of the EAC and TM lead to small intradermal abscess. Hemorrhagic granulations can cause thrombosis of adjacent blood vessels leading to avascular necrosis and perforation of TM [6]. Very less literature are found regarding the clinical profile of otomycosis in Nepal and almost nil literature are available in terrain region of Nepal. So this research is carried to study the clinical profile of otomycosis in central terrain region of Nepal

MATERIALS AND METHODS

The study was conducted in department of ENT- head and neck surgery in Janaki medical college and teaching hospital from August 2015 to June 2016. All the clinically diagnosed cases were enrolled in the study with typical symptoms and characteristics fungal debris in the EAC. All the data regarding age, sex, occupation, presenting complaints, type of fugal debris, presence of acute otitis externa, findings of TM were taken and analysed. The data is presented in result section.

RESULTS

Total of 77 patients were enrolled in the study. Among them 27(35.1%) were male and 50(64.9%) were female.

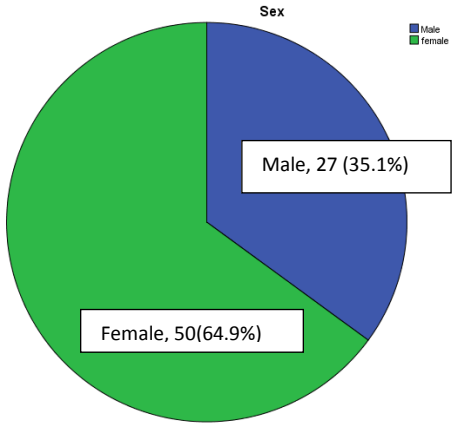
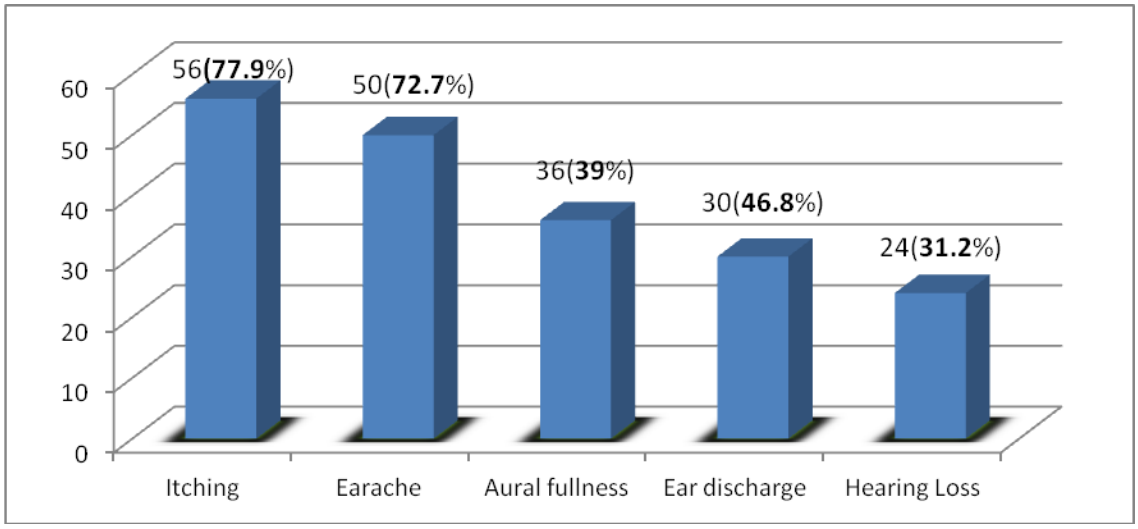


Figure1: Sex distribution (n=77)

Taking symptomatology under consideration the most common presenting complaint is itching followed by earache, ear discharge, hearing loss.Itching was present in 77.9% of the cases followed by earache in 72.7%, aural fullness in 29%, ear discharge in 46.8% and hearing loss in 31.2%.

Among patients with hearing loss conductive hearing loss was present in 19 patients and sensori-neural hearing loss in 5 patients.



All the patients with sensorineural hearing loss were above 60 years which were most probably age related hearing loss. Out of 19 patients with conductive hearing loss 4(5.2%) patients were having TM perforation. There wasn't any immune-compromised status.

Table 1: Type of fungal debris (n=77)

Type of fungal debris	No	%
Blackish (*Aspergillus* niger)	38	49.4
Whitish (*Candida* species)	27	35.1
Yellowish (*Aspergillus flavus*)	12	15.6
Total	77	100

Type of fungal debris found is presented in table 1. Based on type of fungal debris on otoscopy, blackish was the commonest with frequency of 38 patients (49.4%) followed by whitish debris in 27 patients (35.1%) and yellowish among 12 patients (15.6%).

DISCUSSION

Andrall and Gaverret were the first to describe fungal infections of the ear [7]. Otomycosis is a superficial mycotic infection of the outer ear canal. The infection may be either subacute or acute and is characterized by inflammation, pruritus, scaling, and severe discomfort. The mycosis results in inflammation, superficial epithelial exfoliation, masses of debris containing hyphae, suppuration, and pain.

Otomycosis is the one of the commonest problem that patient present to otorhinolaryngology OPD. In the present study total of 77 patients with otomycosis were observed. This accounts for around 8.7% of total OPD cases here. The incidence is more than that of other parts of this country. This is due to higher temperature, humidity and habit of swimming in the ponds.

Regarding sex distribution 64.9% were female and 35.1% were male. This is in accordance with study done by Ahmed [8] and Aneja et al [9] but study done in Texas showing males affected more than female

(56% vs 44%) [10]. Similarly study by Than et al [11] in Burma showing male affection more than female. The reason for more male affected may be due to less population of them than the female as most of male population here are abroad.

Overview of literature shows that among the fungus involved, Aspergillus niger and Candida were the most common species causing otomycosis worldwide. In this study Aspergillus niger were involved in 49.4% of the cases which correlated with Paulose et al [12] which showed 54.3% affected with aspergillus niger. Also this study is inaccordance with Aneja et al [9] and Fasunla et al. [13] In 35.1% of cases candida species affected in this study. This was in contrast to study done by Jackman et al [14] as they found candida species as the most commonest organism. Aspergillus flavus implicated in 15.6% of the cases which was correlated with the study by Yehia et al [15]. A study by Abdelazeem et al [8] showing 9% of cases affected with Aspergillus flavus.

Overall the most common presenting symptom was itching which was present in 77.9% of the cases. Study by Anwar et al found 77% of cases having ear pruritus [2]. Almost 93% of cases having pruritus were found in study done by Pradhan et al [5]. Study done in Turkey showing 100% of the cases having itching [8]. Itching was followed by earche in 72.7% of cases. Study by Abdazaleem et al [8] showing only 41% with earache. More prevalence of acute otitis externa in this study may be due to scratching of the ear secondary to severe ear pruritus.

Hearing loss was present in 24 cases(31.2%). Among patients with hearing loss conductive hearing loss was present in 19 patients and sensorineural hearing loss in 5 patients. All the patients with sensorineural hearing loss were above 60 years which were most probably age related hearing loss. Out of 19 patients with conductive hearing loss 4(5.2%) patients were having TM perforation. The basic pathology for TM perforation is thrombosis of adjacent blood vessels leading to avascular necrosis [6]. Almost 20% of cases with TM perforation observed in study by Anwar et al [2] and Pradhan et al [5].

CONCLUSION

Otomycosis is one of commonest presenting problem in otorhinolaryngology OPD. Females are affected more. Aspergillus niger implicated the most and ear itching is the most common presenting symptom.

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