

Original Research Article

Management of acute otitis externa in India: a questionnaire based survey of ENT specialists across the country

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ABSTRACT

Background: A questionnaire-based survey was conducted across ENT specialists in India to know current perception and practice of acute otitis externa (AOE) management.

Methods: The survey was conducted between January-June 2019 using a 23-item questionnaire. Questions were pertaining to epidemiology, clinical as well as microbiological features, diagnostic and management approaches. An ENT specialist who has postgraduate diploma or masters in ENT with an active practice from at least 5 years was considered eligible. 100 ENT specialists were randomly approached across India to take this survey.

Results: 68 doctors filled survey-questionnaires completely. 60 (88.23%) specialists were males, with mean age of 48.46 ± 9.98 years. Majority agreed that AOE is polymicrobial (62, 91.17%), with bacteria being either a primary pathogen or superimposed on fungal infections (otomycosis) (64, 94.11%). Almost 90% respondents (61, 89.7%) agreed that empirical cover for both bacterial and fungal pathogens should be provided in AOE cases. 75% respondents (51/68) agreed that topical ear drop containing antimicrobial agents with steroid is the desirable option to manage AOE. Majority respondents (54, 79.41%) agreed that pain-relieving local anaesthetic eardrops should not be recommended in AOE as their usage can mask the symptoms. 63 respondents (92.64%) agreed that neomycin and clotrimazole have broad spectrum action and are safe in AOE.

Conclusions: Majority ENT specialists opined that AOE cases have mixed bacterial and fungal etiology, and topical eardrop containing both antibacterial and antifungal agent with steroid is the desirable empirical option to manage AOE. Local anaesthetic eardrop should not be used as it may mask the symptoms and affect patient compliance. This publication has collated viewpoints of ENT specialists in India pertaining to AOE. It can aid practitioners in getting information about the current practice in the country related to AOE.

Keywords: Otitis externa, Eardrop, Otomycosis, Neomycin, Clotrimazole, Steroid

INTRODUCTION

Acute otitis externa (AOE) is defined as diffuse inflammation of the external ear canal, which may also include the pinna or the tympanic membrane. The classic signs of diffuse AOE include tenderness of pinna or tragus or both that is often extreme and disproportionate to what may be expected based on visual examination. It is characterised by speedy onset of signs and symptoms

in the last 3 weeks.¹ Most of the otitis externa cases are acute (>95%) and the risk factors for the same include high moisture in the ear canal, trauma to the ear canal or lack of cerumen. Considering the fact that hot and humid climate predisposes to AOE, the climate in India seems conducive for the disease development.² Though majority of AOE were considered to be bacterial in origin, some recent studies have also highlighted the presence of fungal and mixed (polymicrobial) aetiology, especially in

hot, dusty and humid conditions. The global burden of fungal otitis externa, also known as otomycosis, is found to be between 9% to 30%.³ In a couple of Indian studies on microbiological etiology of AOE in India, polymicrobial causes came to the fore. In the study by Prasad et al, 63% of the AOE patients had both fungal and bacterial etiology while on similar lines, 47.7% of AOE patients had the polymicrobial etiology in a study by Agarwal et al.^{3,4}

Considering the changing etiological trend of AOE in recent times, it is important to know the current diagnostic as well as empiric strategies which are practiced by the Indian ear-nose-throat (ENT) specialists. Literature search revealed a lack of scientific publications pertaining to the approach of ENT specialists in India, or any guideline document which may guide the AOE management strategy of ENT specialists. Hence, a questionnaire-based survey was conducted across ENT specialists in India to know the current perception on AOE management approach, which may help in bringing about a change or improvement. Since AOE is commonly presented to general practice, this survey, taken by ENT specialists, will also help in updating the knowledge of general practitioners.

METHODS

A survey was carried out between January-June 2019 using a 23-item questionnaire, the various sections in the questionnaire were pertaining to the epidemiology, clinical as well as microbiological features, diagnostic and management approaches. Focus was put on the viewpoints of the ENT specialists on the various treatment options, including use of antibacterial and antifungal agents as well steroids and local anaesthetics.

An ENT specialist who has a postgraduate diploma or masters in ENT with an active practice from at least 5 years was considered eligible to take this survey. From a list of ENT specialists, 100 doctors across India were randomly approached across the country to take this survey. These doctors were approached by field representatives of a clinical research organisation (CRO), who explained them the nature of the survey and why it was being conducted. The specialist was given a choice to remain anonymous, but he or she were asked to put his or her signature at the end of the questionnaire with the medical registration number, to avoid any falsification of the entries by the field workers. This methodology did not need the ethics committee approval.

19 of the 23 questions were based on Likert scale with five options - strongly agree, agree, neutral, disagree and strongly disagree.⁵ After analysis, for better understanding, the 'strongly agree' responses were clubbed with 'agree' responses, and similarly, 'strongly disagree' responses were clubbed with 'disagree' responses. Two questions were based on commonest age group of AOE patients and preferred treatment duration

respectively, which were assessed using descriptive statistics and mean plus median respectively. One question was based on commonest clinical feature encountered in AOE patients and another one on factors related with poor compliance and another, both analysed descriptively. The completed questionnaires were then assessed descriptively using Microsoft excel 2018 software.

RESULTS

Respondents profile

Out of the 100 ENT specialists approached, 68 doctors participated and filled the complete survey-questionnaire. 60 (88.23%) of the specialists were males, with a mean age of 48.46±9.98 years (median: 48 years). Nine of the respondents did not mention their age. Majority of the respondents (44, 64.7%) held a postgraduate masters' degree, with other holding diploma or diplomate in national board (DNB) recognised certification (Figure 1). Majority of the respondents were from southern part of India (33,48.52%) followed by Western India (16, 23.52%) and north or east India (9, 13.23%).

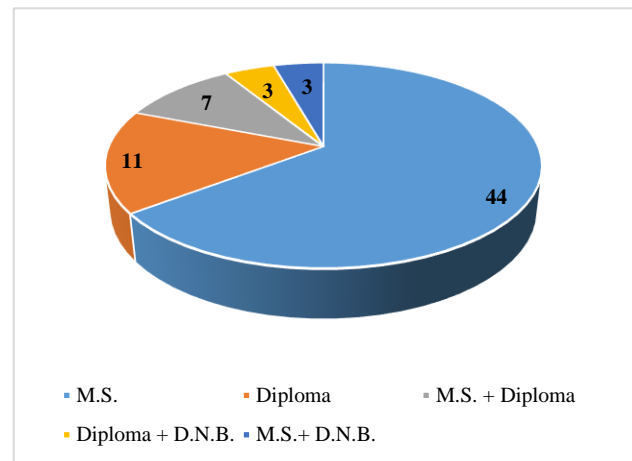


Figure 1: Qualifications of respondents to the survey.

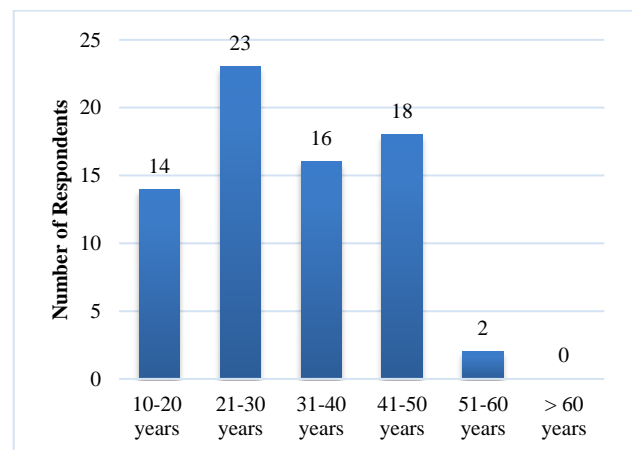


Figure 2: Age-wise distribution of acute otitis externa patients in Indian clinical practice.

Viewpoints on epidemiology of AOE

Majority of the ENT specialists agreed that AOE is a common ear condition affecting Indian adults (59, 86.76%). Majority agreed AOE is a polymicrobial infectious disease based on their clinical experience (62, 91.17%) with bacteria being either a primary pathogen or superimposed on fungal infections (otomycosis) (64, 94.11%). When asked about the common age group of AOE patients in their practice, 1 specialist did not respond while 6 specialists gave dual responses. Majority responses favoured 21-30 years as the most common age group for AOE in their practice (23/73 responses, 31.5%) (Figure 2).

Diagnosis of AOE

When asked about the common clinical features of AOE encountered by the specialists in their clinical practice, 21 respondents (30.89%) mentioned more than one clinical feature. 61 of the respondents (89.7%) stated that ear pain or otalgia is the commonest clinical feature in AOE patients. Other common clinical feature encountered by the specialists are itching, ear discharge (otorrhoea), swelling and redness in external ear canal (Figure 3).

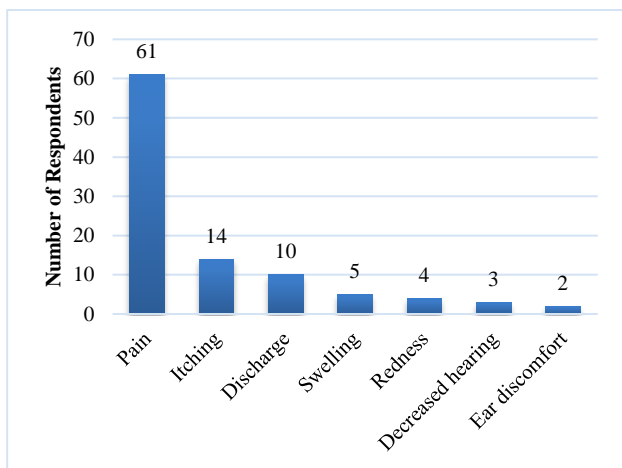


Figure 3: Clinical features of acute otitis externa in Indian clinical practice.

Management of AOE

Almost 90% of the respondents (61, 89.7%) agreed that empirical cover for both bacterial as well as fungal pathogens should be provided in AOE cases, considering the conducive Indian environment and increased prevalence of poly-microbial infection. 58 respondents (85.29%) agreed that topical corticosteroids decrease inflammation, thereby reducing pain, swelling and pruritis. 75% of respondents (51/68) agreed that topical ear drop containing antimicrobial agent with a steroid is the desirable option to manage AOE cases. Majority of respondents (54, 79.41%) agreed that pain-relieving local anaesthetic eardrops should not be recommended in AOE as their usage can mask the symptoms before actual

clinical or microbiological cure, and lead to incomplete compliance.

On the question related to oral antibiotics, the views were split as equal number of doctors (27 respondents) agreed or disagreed to their utility in AOE. 60 respondents (88.23%) agreed that as there are multiple etiological factors, treatment should be directed towards both basic and superimposed infections. On evaluating the specialists opinion about the total duration of eardrop prescribed, the median duration was calculated to be 7 days, with a range of 1-20 days.

Ear drop formulations for AOE

63 of the 68 respondents (92.64%) agreed while none of the specialists disagreed with the fact that neomycin has broad spectrum action, strong clinical evidence along with favourable sensitivity which has led to its usage in AOE. Similarly, 63 respondents agreed that clotrimazole lacks toxicity and has broad spectrum anti-fungal action. 88.23% respondents (60 specialists) agreed that antibiotic ear drops having neutral pH should be preferred as they will probably not cause stinging or ear discomfort. 66 respondents (97.06%) agreed that contamination of ear drops should be prevented to maintain efficacy.

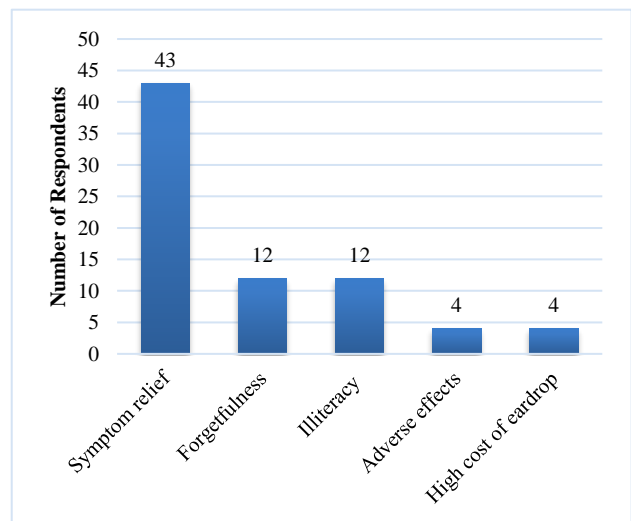


Figure 4: Causes for poor compliance related to eardrop usage.

Counselling and other adjuvant strategies for AOE

59 respondents (86.76%) agreed that poor patient compliance can lead to failure of ear drop based AOE management. While responding to the possible causes of poor compliance, majority respondents (43, 63.23%) thought that symptom relief is the main reason behind patients not completing the course of eardrops prescribed by the doctor. Other reasons for non-compliance are represented in Figure 4. 67 of the 68 respondents (98.53%) agreed that patient education and self-care are crucial in AOE management, while 66 of the respondents

(97.06%) agreed that AOE patients with severe symptoms should be followed-up or should be referred to specialists by general practitioners if needed.

DISCUSSION

AOE is considered a common disease in India, regularly encountered by both the general as well as the ENT practitioners. However, there is no guiding document from the country which addresses the changing microbiological trend of AOE or the current management practices adopted by specialists. The only well-known AOE guideline which describes the diagnostic or the empirical strategies is published by American academy of otolaryngology, the document being last updated in 2014.¹ India has a hot and humid climate in majority of its parts, which may lead to a higher prevalence of otomycosis in the country.⁶ The country-based variation in disease patterns leads to discrepancies in the approach of ENT specialists, which may be different than what is mentioned in the guidelines of western countries. In addition, a chunk of these AOE cases consult the general practitioner first, who may not be well aware of the guidelines in other countries. Therefore, it was considered important to develop a document based on the viewpoints of ENT specialists in India, which will aid the practitioners in getting information about the current practice in the country pertaining to AOE management.

It was taken care that the whole country was represented, so that the regional bias can be excluded. The questions tried to cover the current demography of AOE, the diagnostic as well as empirical strategies adopted by ENT specialists, which can help guide the management by other physicians and general practitioners. Many of the filled questionnaires were not answered completely or had ambiguous replies, which led to their exclusion from analysis.

Majority specialists agreed AOE is a common ear disease, with more than 90% respondents assenting that these cases are polymicrobial in their clinical practice. This points towards the higher prevalence of mixed bacterial plus fungal infections in recent times, which has been underlined in multiple recent studies. Studies by both Prasad et al and Agrawal et al found the fungal-plus-bacterial etiology of 63% and 47.7% respectively in the AOE cases.^{3,4} In a study by Rao et al, otomycosis occurrence was found to be as high as 78.3% in the AOE cases analysed.⁷ These findings also highlight the importance of covering both bacteria and fungus etiology empirically when managing AOE cases. The commonest age group for AOE is 21-30 years in the opinion of majority specialists. This was in sync with the finding by Indian prevalence studies by Rao et al and Prasad et al, where the commonest age group was found to be 21-30 years.

On enquiring about the common clinical features in AOE, majority respondents mentioned otalgia as the

commonest, followed by itching and ear discharge. The AOE guideline developed by American academy of otolaryngology states that otalgia and itching are the commonest features of AOE, and our findings are in total agreement. These guidelines also underline the importance of otoscopy as a diagnostic tool, but majority of the ENT specialists who took our survey find otoscopy use restricted due to pain. Hence, it is important that the general practitioners are well aware about this limitation, otherwise the patients may not be comfortable with the procedure.

90% of respondents supported the use of empirical cover for both bacterial and fungal infections in AOE. Similar number of respondents also felt that topical steroid should be added to the empirical cover. This supports the recommendation mentioned in the American academy of otolaryngology guideline, which clearly states that 'eardrops alone are the most effective treatment for AOE which may be a combination of antibiotics, steroids or antiseptics. In a meta-analysis published in Cochrane database which assessed the randomised controlled trials on AOE management, the authors concluded that topical treatments alone should be used to manage uncomplicated AOE cases.⁸

Another important finding from the survey was the agreement of majority respondents on not prescribing local anaesthetic containing eardrops. American academy of otolaryngology guideline mentions that 'pain-relieving anaesthetic eardrops are not recommended as they mask the symptoms of a delayed therapeutic response'. This is extremely important to know, especially for general practitioners, who may prescribe a local anaesthetic for quick relief of otalgia, without knowing that he is actually preventing the complete resolution of ear canal infection by masking the symptoms.

Majority of the randomized clinical trials mentioned in the American academy of otolaryngology guideline on AOE have evaluated role of neomycin as the topical antimicrobial agent, and in all these studies it showed significantly better AOE infection management versus control group. Hence, we specifically asked about neomycin in the questionnaire, and found that none of the specialists disagreed with the strong clinical evidence supporting the antibacterial agent. A similar majority of specialists supported the use of clotrimazole in AOE as an antifungal agent, considering it efficacious and safe. However, there was no clear consensus on the usage of oral antibiotics, with equal number of respondents agreeing or disagreeing. The American Academy of Otolaryngology guideline clearly mentions that 'systemic antimicrobials should not be prescribed as initial therapy for uncomplicated, diffuse AOE unless there is extension outside the ear canal or the existence of specific host factors which would indicate systemic therapy requirement'. The median duration of eardrop prescription in the specialists practice was found to be 7 days, which is the minimum duration for eardrop usage

recommended in the American academy of otolaryngology guideline as well. Majority respondents in this survey also agreed on the importance of neutral pH as well as contamination prevention of eardrops.

Poor patient compliance is an important reason for treatment failure in any condition and according to majority of ENT specialists who took the survey, AOE is no different. The most common cause for poor compliance which came out from the survey was symptom relief, which drives the patient to stop the eardrop usage and ultimately, causing incomplete infection resolution. Other causes for poor treatment compliance mentioned were forgetfulness, illiteracy, adverse effects and high cost of eardrops. Majority specialists agreed on the importance of patient education and self-care which may improve treatment compliance.

CONCLUSION

AOE is a common ear condition in India with majority patients suffering from both bacterial and fungal infective agents. Majority of the ENT specialists opined that topical eardrop containing an antibacterial and antifungal agent with a steroid is the desirable empirical option to manage AOE cases, while discouraging the use of ototopical anaesthetic as it may mask the symptoms and prevent clinical or microbiological cure by affecting the patient compliance.

This publication has collated the viewpoints of ENT specialists in India pertaining to AOE. It can aid both, the specialists and the general practitioners, in getting an overview about the current practice in the country related to AOE, which can help them in improving their own practice related to AOE management.

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