

ORIGINAL RESEARCH

Assessment of type and clinical features in patients of otitis media

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ABSTRACT

Background: Chronic suppurative otitis media (CSOM) is one of the most common diseases of the middle ear particularly in childhood. The present study was conducted to assess type and clinical features in patients of otitis media. **Materials & Methods:** 60 patients with symptoms such as otalgia, otorrhea and no sign of improvement after 24 hours of both genders were selected. Audiometric threshold of hearing loss was evaluated using pure tone audiometry and the average for the frequencies 0.5, 1, 2, 4 and 8 kHz was recorded. Various types of CSOM were recorded. **Results:** Out of 60 patients, males were 32 and females were 28. The type of CSOM was ASOM in 15, squamous CSOM in 21, mucosal CSOM in 14 and OME in 10 patients. Otoscopic findings were unilateral in 35 and bilateral in 25. Degree of hearing loss (decibels-dB) was <40 dB in 17 and >40 dB in 43 patients. Types of hearing loss was conductive in 24, sensorineural in 26 and mixed in 10 cases. Season was winter in 34, rainy in 14 and summer in 12 cases. Comorbidities were diabetes in 19, hypertension in 11 and hypothyroidism in 2 cases. Clinical features were facial pain in 45, nasal discharge in 43, tinnitus in 21 and post nasal drip in 30 patients. The difference was significant ($P < 0.05$). **Conclusion:** The most common type was squamous CSOM. The maximum cases had unilateral with Sensorineural type of hearing loss.

Keywords: squamous CSOM, hearing, tinnitus

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INTRODUCTION

Chronic suppurative otitis media (CSOM) is one of the most common diseases of the middle ear particularly in childhood. It is a common health problem in a developing country like India especially in the lower socio-economic status.¹ Overcrowding, poor hygiene and housing conditions, poor nutrition, frequent upper respiratory tract infections are some of the risk factors contributing to the condition.²

CSOM is characterised by persistent ear discharge through a perforated tympanic membrane for more than 2 weeks.³ It is one of the leading causes of preventable disabling hearing impairment leading to poor scholastic performance, delayed speech and language development and poor cognition.⁴ The global burden of CSOM varies between 1 and 46%, a prevalence of 4% or greater indicates a public health problem that needs urgent attention. CSOM can be further classified as squamous (safe) and mucosal type (unsafe). OME is a chronic inflammatory condition that is characterized by a non-purulent effusion which may be either mucoid or serous.⁵

Risk factors such as selected racial groups most in developing countries have an extraordinary

incidence of severe episodes of acute otitis media. Poverty has been considered an important risk factor for the rate and severity of otitis media.⁶ The factor suggested included crowded living condition. Poor sanitation and inadequate medical care was also important. Seasonal incidence of infection of the middle ear parallels the seasonal variation of upper respiratory tract infection. There are most likely to occur in the winter and spring seasons.⁷ The present study was conducted to assess type and clinical features in patients of otitis media.

MATERIALS & METHODS

The present study consisted of 60 patients with symptoms such as otalgia, otorrhea and no sign of improvement after 24 hours of both genders. All gave their written consent to participate in the study.

Data such as name, age, gender etc. was recorded. The diagnosis of otorhinolaryngological problems was confirmed using clinical history, clinical examinations including video otoscopy, nasal endoscopy, tympanometry and pure tone audiometry. Audiometric threshold of hearing loss was evaluated using pure tone audiometry and the average for the

frequencies 0.5, 1, 2, 4 and 8 kHz was recorded. Various types of CSOM were recorded. Data thus obtained were subjected to statistical analysis. P value < 0.05 was considered significant.

RESULTS

Table I Distribution of patients

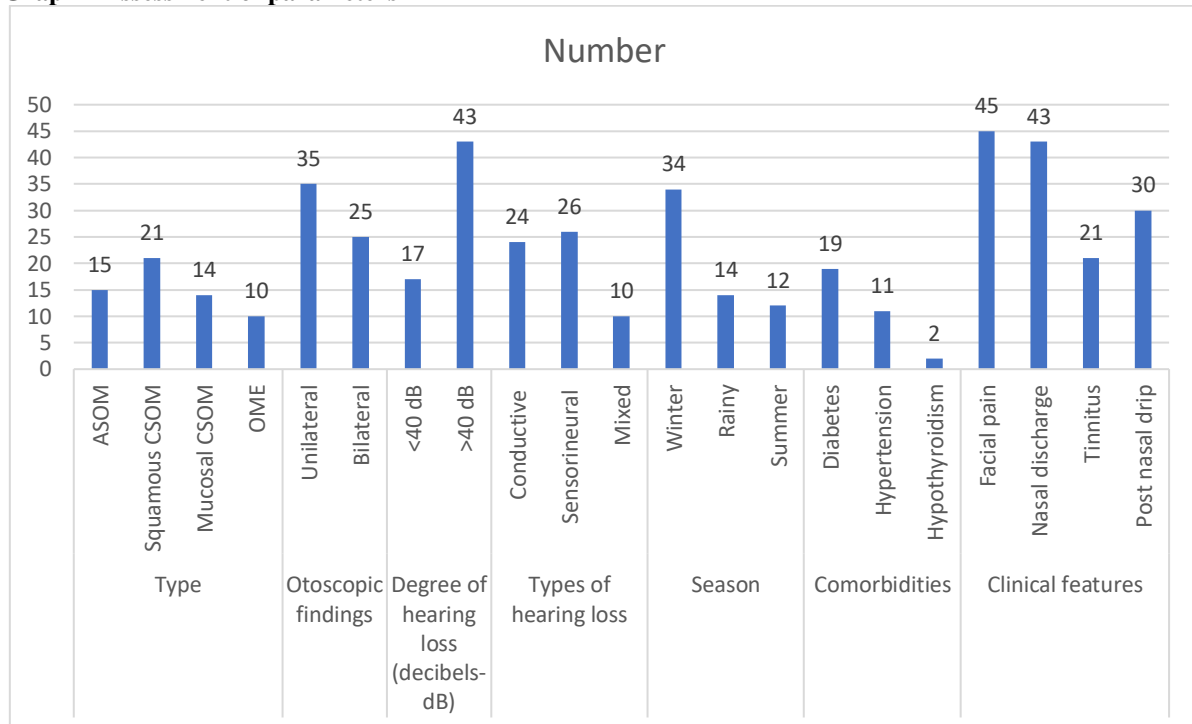
Total- 60		
Gender	Male	Female
Number	32	28

Table I shows that out of 60 patients, males were 32 and females were 28.

Table II Assessment of parameters

Parameters	Variables	Number	P value
Type	ASOM	15	0.05
	Squamous CSOM	21	
	Mucosal CSOM	14	
	OME	10	
Otosopic findings	Unilateral	35	0.04
	Bilateral	25	
Degree of hearing loss (decibels-dB)	<40 dB	17	0.01
	>40 dB	43	
Types of hearing loss	Conductive	24	0.12
	Sensorineural	26	
	Mixed	10	
Season	Winter	34	0.05
	Rainy	14	
	Summer	12	
Comorbidities	Diabetes	19	0.05
	Hypertension	11	
	Hypothyroidism	2	
Clinical features	Facial pain	45	0.18
	Nasal discharge	43	
	Tinnitus	21	
	Post nasal drip	30	

Table II, graph I shows that type of CSOM was ASOM in 15, squamous CSOM in 21, mucosal CSOM in 14 and OME in 10 patients. Otoscopic findings were unilateral in 35 and bilateral in 25. Degree of hearing loss (decibels-dB) was <40 dB in 17 and >40 dB in 43 patients. Types of hearing loss was conductive in 24, sensorineural in 26 and mixed in 10 cases. Season was winter in 34, rainy in 14 and summer in 12 cases. Comorbidities were diabetes in 19, hypertension in 11 and hypothyroidism in 2 cases. Clinical features were facial pain in 45, nasal discharge in 43, tinnitus in 21 and post nasal drip in 30 patients. The difference was significant (P<0.05).

Graph I Assessment of parameters**DISCUSSION**

Chronic suppurative otitis media (CSOM) is a long-standing infection of a part or whole of the middle ear cleft characterized by ear discharge and a permanent perforation. A perforation becomes permanent when its edges are covered by squamous epithelium and it does not heal spontaneously.⁸ Incidence of CSOM is higher in developing countries because of poor socioeconomic standards, poor nutrition and lack of health education. It affects both sexes and all age groups. In India, the overall prevalence rate is 46 and 16 persons per thousand in rural and urban population, respectively. It is also the single most important cause of hearing impairment in rural population.⁹ The present study was conducted to assess risk factors of otitis media.

We found that out of 60 patients, males were 32 and females were 28. Bellad et al¹⁰ studied the prevalence of chronic suppurative otitis media among school children. CSOM was present in 36 (5.2%) out of 694 students examined among which 22 (6.8%) of them lived in families with overcrowding. H/o cleaning the ear with various materials was given by 27 (7.4%) of them. 29 (9.3%) of them had recurrent respiratory tract infection, 7 students had active disease. The prevalence of CSOM in this study was relatively lower. There is a higher prevalence of safe disease with central perforation than unsafe disease. Recurrent respiratory tract infections and history of cleaning of ear were the predictors of CSOM among school children.

We observed that the type of CSOM was ASOM in 15, squamous CSOM in 21, mucosal CSOM in 14 and OME in 10 patients. Otoscopic findings were unilateral in 35 and bilateral in 25. Degree of hearing

loss (decibels-dB) was <40 dB in 17 and >40 dB in 43 patients. Types of hearing loss was conductive in 24, sensorineural in 26 and mixed in 10 cases. Season was winter in 34, rainy in 14 and summer in 12 cases. Comorbidities were diabetes in 19, hypertension in 11 and hypothyroidism in 2 cases. Clinical features were facial pain in 45, nasal discharge in 43, tinnitus in 21 and post nasal drip in 30 patients. Fuiita A¹¹ in their study a total 200 cases of chronic suppurative otitis media including both safe (mucosal) and unsafe (squamous) type were studied. The mean age of participants was 22.8 ± 15.18 years. Of the total participants, 111 were males, 89 were females and the majority (60.5%) of them were from rural background. Around one-fourth of the patients were illiterate and the patients mostly belonged to lower side (lower middle, upper lower and lower) of the spectrum of Kuppaswamy socioeconomic classification. The distribution of age-group, gender and laterality (side of involvement) was similar ($P > 0.05$) in both safe and unsafe type. Overall, 151 patients were found to have conductive hearing loss, 30 (15%) with mixed and 19 (9.5%) did not have any hearing loss at presentation. The distribution of patients with regards to hearing loss was found to be similar in both safe and unsafe groups ($P = 0.311$).

Kumari et al¹² identified the risk factors responsible for the onset and progression of otitis media and its subtypes as well as its associated co-morbidities in the South Indian population. Squamous-chronic suppurative otitis media was highly prevalent (47.3%) followed by mucosal-chronic suppurative otitis media (18.5%), acute suppurative otitis media (17.6%), and otitis media with effusion (16.6%). The multinomial logistic regression analysis showed significant

association of tinnitus with squamous-chronic suppurative otitis media; bilaterality, tinnitus and vertigo with mucosal-chronic suppurative otitis media while bilaterality, adenoids, tinnitus and snoring with otitis media with effusion. Significant differences were observed in different forms of hearing loss at higher frequency within the subtypes of otitis media. The limitation of the study is the small sample size.

CONCLUSION

Authors found that the most common type was squamous CSOM. The maximum cases had unilateral with Sensorineural type of hearing loss.

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