

ORIGINAL RESEARCH

Clinico- Epidemiological Profile Of CSOM Patient Attending A Tertiary Care Hospital

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ABSTRACT

Introduction: Chronic suppurative otitis media (CSOM) is a common ear disorder in underdeveloped nations. CSOM is distinguished from other chronic types of otitis media by the presence of a persistent tympanic perforation and middle ear drainage. The clinical signs and symptoms of CSOM complications are distinct, and they have significant rates of morbidity and mortality.

Aims & Objectives: To study the clinico-epidemiological profile and complications of Chronic Suppurative Otitis Media patients. We also aimed to study the knowledge and local traditional practices among CSOM patients.

Methodology: This was a hospital based cross-sectional study conducted in ENT Department of Dr.Sushila Tiwari Government Hospital, Haldwani on 206 patients with CSOM. A detailed history and clinical examination was done for each patient. The data was recorded in pre-designed proforma, tabulated and subjected to statistical analysis.

Results: The study population showed male predominance. There were 56.8% males and 43.2% females. Majority of study participants (30.6%) belonged to 21-30 years of age. 80.1% participants had unilateral CSOM and remaining 19.9% had bilateral CSOM. 76.2% participants had safe CSOM and 23.8% participants had unsafe CSOM. The comparison of socio-demographic profile, history and habits of safe and unsafe CSOM cases was not found to be statistically significant ($p > 0.05$).

Conclusion: Prompt and systematic approach of patients presenting with ear discharge is necessary. People must also be educated about the signs and symptoms of the disease and encouraged to seek timely health care which will lead to better treatment outcomes and prevention of complications.

Key Words: clinical, epidemiological, profile, CSOM

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INTRODUCTION

Chronic Suppurative Otitis Media (CSOM) is a long-standing infection of a part or whole of the middle ear cleft. CSOM is distinguished from other chronic types of otitis media by the presence of a persistent tympanic perforation and middle ear drainage. Chronic active mucosal otitis media, chronic otomastoiditis, and chronic tympanomastoiditis are additional names for CSOM. Cholesteatomas and other suppurative problems are possible in a subgroup of CSOM patients. Chronic non-suppurative otitis media, chronic otitis media with effusion (COME), chronic secretory otitis media, chronic seromucous otitis media, chronic middle ear catarrh, chronic serous otitis media, chronic mucoid otitis media, otitis media with persistent effusions, and glue ear are among the conditions that fall under the non-CSOM category. All of them are middle ear effusions that are recurring or persistent and occur behind an intact tympanic membrane. If any symptoms are present,

deafness, rather than ear discharge, is the main symptom.^{1,2} Globally the prevalence of CSOM is 65 - 330 million people, out of which 39 to 200 million (60%) have clinically severe hearing impairment.³ CSOM can be either congenital (behind an intact tympanic membrane) or acquired. The overall incidence is estimated to be around 9 per 100,000 people. The incidence is similar in children and adults.⁴ The CSOM is predominantly a disease of the developing countries with the prevalence of 11%, whereas in developed countries it is lesser than 2%.⁵ The clinical signs and symptoms of CSOM complications are distinct, and they have significant rates of morbidity and mortality. Therefore, it's critical to spot ears that could develop difficulties early on and work to avoid them. Based on their prognostic variables, this study compared the clinical and epidemiological characteristics of patients of CSOM.

METHODOLOGY

This was a hospital based cross-sectional study conducted in ENT Department of Dr.Sushila Tiwari Government Hospital, Haldwanion 206 patients with CSOM.

Inclusion criteria

- Patients giving consent for study.
- All cases of Chronic Suppurative Otitis Media.

Exclusion Criteria

- Patient who did not give consent for study.
- All Acute Suppurative Otitis Media cases, otosclerosis, tympanosclerosis, adhesive otitis media ,congenital hearing disorder patients.

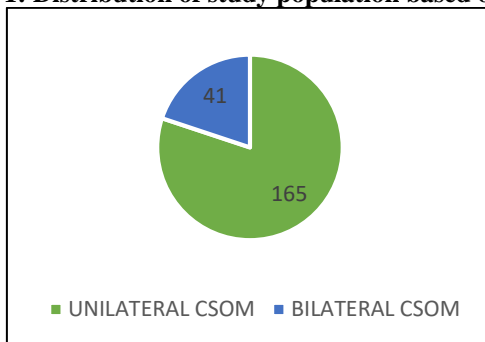
A detailed history and clinical examination was done. Socio demographic data was recorded for each patient including age, gender, residence, education, occupation, number of family members, socio-economic status and type of house. All required investigations were done. Patients were categorised based on two types of CSOM-safe and unsafe. The treatment given to each patient was also noted. The data was recorded in pre-designed proforma, tabulated and subjected to statistical analysis.

RESULTS

Majority of study participants (30.6%) belonged to 21-30 years of age, followed by 26.7% participants in age group 31-40 years, 20.4% participants in age group 41-50 years, 13.1% in age group greater than 50 years and 9.2% in age group below 20 years. The study population showed male predominance. There were 56.8% males and 43.2% females. Majority of study participants (35%) belonged to Almora district, followed by 20.4% from Pithoragarh and 18.9% from Udham Singh Nagar. 13.1% participants were from Bageshwar, 10.2% from Nainital and remaining 2.4% from Champawat. 26.7% study participants completed education up to primary school, 25.7% up to middle school, 11.2% up to high school and 10.2% up to intermediate. 8.7% and 3.4% participants completed graduation and post-graduation respectively. Remaining 14.1% study participants were illiterate. Based on occupation, 25.2% study participants were unskilled workers, 18.4% were semi-skilled workers,

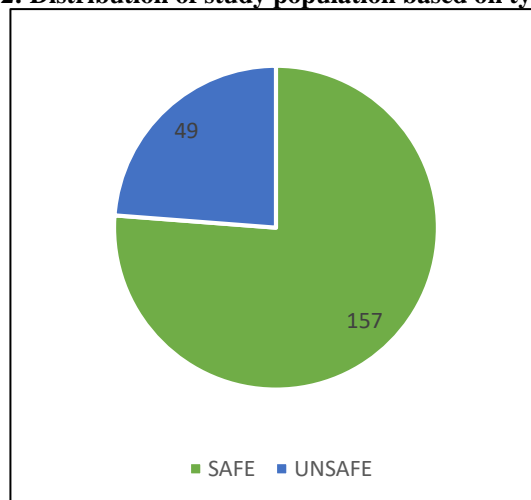
12.6% were skilled workers. 10.7% participants were clerical/shop owner/farm owner, 9.2% were semi-professional and 6.3% were professional. Remaining 17.5% participants were unemployed. Based on socio-economic status, 31.1% participants belonged to lower class, followed by 27.7% participants of upper lower class, 16.5% participants of lower middle class, 14.1% participants of upper middle class and remaining 10.7% participants of upper class. Majority of study participants (24.8%) had 7 family members, followed by 19.9% participants with 8 family members and 14.6% with 9 family members. 30.6% participants had mixed type of house, followed by 28.2% with katcha house, 18.4% with tiled/pucca house, 12.6% with group house and 10.2% with hut type of house. Majority of study participants (77.2%) resided in houses with poor ventilation and 22.8% in houses with good ventilation. 32.5% participants had family history and 29.6% had history of sibling ear discharge. History of previous ear surgery was reported in 24.8% participants. Pond bathing and putting oil in ears was observed in 43.7% and 42.7% study participants respectively. 19.4% participants reported foul smell of ear discharge and remaining 80.6% reported non-foul smell. 79.1% participants had intermittent ear discharge and 20.9% had continuous ear discharge. Complications and systemic illness was present in 5.3% and 3.9% participants respectively. Right EAC discharge was seen in 35.9% participants and left EAC discharge was seen in 40.3% participants. In right tympanic membrane, 45.1% cases showed central perforation and 7.8% showed retraction pocket. It was normal in remaining 47.1% cases. In left tympanic membrane, 46.1% showed central perforation, 14.6% showed retraction pocket and 1.5% showed marginal perforation. It was normal in remaining 37.9% cases. 20.4% cases showed cholesteatoma, 3.9% showed granulation tissue and 0.5% showed polyp. Audiometry of right ear showed CHL in 52.9% cases, mixed findings in 2.4% cases and SNHL in 1% cases. 43.7% cases showed normal findings. Audiometry of left ear showed CHL in 47.1% cases, mixed findings in 11.2% cases and SNHL in 5.3% cases. 36.4% cases showed normal findings.

Graph no. 1: Distribution of study population based on diagnosis



Majority of study participants (80.1%) had unilateral CSOM and remaining 19.9% had bilateral CSOM.

Graph no. 2: Distribution of study population based on type of CSOM



76.2% participants had safe CSOM and 23.8% participants had unsafe CSOM. Medical treatment was given in 85.4% cases and surgical treatment was given in 14.1% cases. The comparison of socio-demographic profile of safe and unsafe CSOM cases was not found to be statistically significant for any of the socio-demographic factors. The comparison of history between safe and unsafe CSOM cases was not found to be statistically significant for factors including family history, sibling ear discharge, history of previous ear surgery, pond bathing and putting oil ($p>0.05$). Continuous ear discharge and complications were seen in greater number of cases with unsafe CSOM as compared to safe CSOM. This was found to be statistically significant ($p<0.05$). The comparison of safe and unsafe CSOM based on systemic illness was not found to be statistically significant ($p>0.05$). Right EAC discharge was seen in greater number of cases with safe CSOM as compared to unsafe CSOM. This was found to be statistically significant ($p<0.05$). The comparison of left EAC discharge between safe and unsafe CSOM was not found to be statistically significant ($p>0.05$). The comparison of right and left audiometry findings between safe and unsafe CSOM was found to be statistically significant ($p<0.05$). The comparison of features of right and left tympanic membrane between safe and unsafe CSOM was found to be statistically significant ($p<0.05$). The comparison between safe and unsafe CSOM cases based on diagnosis and treatment was not found to be statistically significant ($p>0.05$).

DISCUSSION

The majority of study participants (30.6%) belonged to 21-30 years of age, followed by 26.7% participants in age group 31-40 years. Similar to our study, Kishore HR et al⁶ also observed that most of the patients were of 21-30 years of age. The study population showed male predominance. There were 56.8% males and 43.2% females. This is consistent

with findings of Neogi R et al⁷ who observed that there were 58.8% males in their study. Kishore HR et al⁶ found a slight male preponderance, which could be attributed to the fact that male patients are exposed to more of pollution like dust, pollen, taking bath in the pond in rural setup. However, in study by Shaheen et al⁸, 48 percent participants were males and 52 percent were females. Similar to our findings, in study by Kishore HR et al⁶, about 45% of patients belonged to socio-economic status class IV and 25% of patients were in class V which together compromised about three fourth of their study population. A study was conducted by Parmar et al⁹ who concluded that majority of CSOM affected population were from upper-lower (class IV) socioeconomic group followed by lower-middle (class III) group according to modified Kuppaswamy socioeconomic status scale.¹⁰ Of the 89 patients in study by Lasari et al¹¹, 35% were middle class, 69% were lower class, and 24% were higher class. In the present study, 30.6% participants had mixed type of house, followed by 28.2% with katcha house, 18.4% with tiled/pucca house, 12.6% with group house and 10.2% with hut type of house. Neogi R et al⁷ found that majority of their patients (96%) lived in "kuccha" houses/slums. Pond bathing and putting oil in ears was observed in 43.7% and 42.7% study participants respectively. Neogi R et al⁷ observed in their study that 70.8% bathed in ponds/rivers and 36.8% poured oil in their ears. 32.5% participants had family history and 29.6% had history of sibling ear discharge. History of previous ear surgery was reported in 24.8% participants. 19.4% participants reported foul smell of ear discharge and remaining 80.6% reported non-foul smell. In study by Kishore HR et al⁶, the ear discharge was non foul smelling and non-blood tinged in 63.51% patients, foul smelling and non-blood tinged in 35.13% patients, foul smelling and blood tinged in 4.05% patients, non-foul

smelling and non-blood tinged in 1.35% patient. It was observed that 83.78% patients had profuse ear discharge, 20.27% patients had scanty ear discharge. Complications and systemic illness was present in 5.3% and 3.9% participants respectively in this study. In study by Kishore HR et al⁶, 6 patients had complications, among them 3 patients had acute labyrinthitis, 2 patients had facial nerve palsy and 1 patient had aural polyp. Ear discharge was the most common presenting complaint in this study. 79.1% participants had intermittent ear discharge and 20.9% had continuous ear discharge. Right EAC discharge was seen in 35.9% participants and left EAC discharge was seen in 40.3% participants. Ear discharge was also commonest finding in study by Hansdah R et al¹², observed in 97.5% patients. We observed that in right tympanic membrane, 45.1% cases showed central perforation and 7.8% showed retraction pocket. It was normal in remaining 47.1% cases. In left tympanic membrane, 46.1% showed central perforation, 14.6% showed retraction pocket and 1.5% showed marginal perforation. It was normal in remaining 37.9% cases. Similarly, Kishore HR et al⁶ found that central perforation was the most common finding, maximum being large central followed by small central and medium central perforation. 20.4% cases showed cholesteatoma, 3.9% showed granulation tissue and 0.5% showed polyp. Frank cholesteatoma was the most consistent otoscopic finding (45 cases), followed by tympanic membrane perforation (54 cases) and retraction pocket (26 cases) in study by Hansdah R et al.¹² Audiometry of right ear showed CHL in 52.9% cases, mixed findings in 2.4% cases and SNHL in 1% cases. 43.7% cases showed normal findings. Audiometry of left ear showed CHL in 47.1% cases, mixed findings in 11.2% cases and SNHL in 5.3% cases. 36.4% cases showed normal findings. This is consistent with findings of Kishore HR et al⁶ and Narve et al¹³ who observed by that most patients had conductive type of hearing loss followed by mixed and sensorineural type. Conductive hearing loss was the commonest (>60%) type of hearing loss in study by Hansdah R et al.¹² Majority of study participants (80.1%) had unilateral CSOM and remaining 19.9% had bilateral CSOM. 76.2% participants had safe CSOM and 23.8% participants had unsafe CSOM. A clinical diagnosis of safe type of CSOM was made in 57.5% patients and the remaining 42.5% were found to have unsafe type of CSOM in study by Khalique N et al.¹⁴ Studying 153 clinically suspected CSOM patients, Kombade et al¹⁵ also revealed that the safe type CSOM was a significant contributor to the disease. The comparison of socio-demographic profile of safe and unsafe CSOM cases was not found to be statistically significant for any of the factors, i.e. age group, gender, residence, education, occupation, socio-economic status, number of family members, type of house and ventilation ($p > 0.05$). The distribution of age-group, gender and laterality

(side of involvement) were similar ($P > 0.05$) in both types in study by Khalique N et al.¹⁴

Right EAC discharge was seen in greater number of cases with safe CSOM as compared to unsafe CSOM. This was found to be statistically significant ($p < 0.05$). The comparison of left EAC discharge between safe and unsafe CSOM was not found to be statistically significant ($p > 0.05$). The comparison of features of right and left tympanic membrane between safe and unsafe CSOM was found to be statistically significant ($p < 0.05$). Kishore HR et al⁶ observed that unilateral disease (right ear > left ear) was more common and similar result was reported by Saini S et al.¹⁶

CONCLUSION

The present study highlighted the clinico-epidemiological profile of CSOM patients. Late presentation of CSOM is common in patients belonging to areas where healthcare facilities are poor. Therefore, prompt and systematic approach of patients presenting with ear discharge is necessary. People must also be educated about the signs and symptoms of the disease and encouraged to seek timely health care which will lead to better treatment outcomes and prevention of complications. A proper education and awareness must be spread regarding the risk factors, maintaining personal hygiene, improving nutrition and immunity. CT scan should preferably be done in suspected complication cases to exactly localise the disease and its related complications.

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