

**Original article:**

## **Analysis of Clinical Profile of Chronic Suppurative Otitis Media Patients**

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### **ABSTRACT**

**Background:** Chronic suppurative otitis media is a persistent inflammation of the middle ear or mastoid cavity. Hence; the present study was conducted for assessing clinical profile of chronic suppurative otitis media patients.

**Materials & Methods:** The present study was conducted for assessing clinical profile of chronic suppurative otitis media patients. A total of 100 patients were enrolled. Patients presenting with chronic or recurrent ear discharge and on clinical examination found to have discharging ears with central perforation of the tympanic membrane were selected for the study. A Performa was made, and clinical profile was evaluated in all the patients. Patients with history of any other systemic illness or any known drug allergy were excluded from the present study. All the results were recorded and analyzed using SPSS software.

**Results:** A total of 100 patients were evaluated. The mean age of the patients was 22.8 years. Majority proportion of patients were males (55 percent). 59 percent of the patients were of rural residence. After assessing the bacteriological profile, Pseudomonas were the most common bacteria isolated followed by Escherichia coli, Staphylococcus aureus, Proteus and Klebsiella. Hearing loss was seen in 81 percent of the patients. Poor hygiene status was seen in 39 percent of the patients.

**Conclusion:** CSOM is still a serious chronic infectious disease that affects people all over the world. The patient most likely to develop otitis media is one who has a chronic upper respiratory tract infection with ear pain.

**Key words:** Otitis Media, Supportive, Chronic.

### **INTRODUCTION**

Chronic suppurative otitis media is a persistent inflammation of the middle ear or mastoid cavity. Synonyms include “chronic otitis media (without effusion),” chronic mastoiditis, and chronic tympanomastoiditis. Chronic suppurative otitis media is characterized by recurrent or persistent ear discharge (otorrhoea) over 2-6 weeks through a perforation of the tympanic membrane. Typical findings also include thickened granular middle ear mucosa, mucosal polyps, and cholesteatoma within the middle ear. Chronic suppurative otitis media is differentiated from chronic otitis media with effusion, in which there is an intact tympanic membrane with fluid in the middle ear but no active infection. Chronic suppurative otitis media does not include chronic perforations of the eardrum, which are dry, or discharge only occasionally, and have no signs of active infection.<sup>1-3</sup>

The management of chronic suppurative otitis media (CSOM) is a major clinical problem in both general and hospital practice. Although antibiotics are often prescribed to treat the foul-smelling discharge, there appears to be no scientific evidence to justify their use in this condition. Culture of the exudate is not always carried out but even when this is done the relevance of the results to patient management is uncertain. In a British survey *Staphylococcus aureus* and various species of Gram-negative bacilli were grown frequently from suppurating ears but culture for anaerobic bacteria was not performed. Other studies have recorded an incidence of anaerobes in adult CSOM between 11 per cent and 33 per cent. Almost certainly the increase in the proportion of specimens found to contain anaerobes is due to recent improvements in the methods used for their isolation.<sup>4-7</sup> Hence; the present study was conducted for assessing clinical profile of chronic suppurative otitis media patients.

## MATERIALS & METHODS

The present study was conducted for assessing clinical profile of chronic suppurative otitis media patients. A total of 100 patients were enrolled. Patients presenting with chronic or recurrent ear discharge and on clinical examination found to have discharging ears with central perforation of the tympanic membrane were selected for the study. A Performa was made, and clinical profile was evaluated in all the patients. Patients with history of any other systemic illness or any known drug allergy were excluded from the present study. All the results were recorded and analyzed using SPSS software.

## RESULTS

A total of 100 patients were evaluated. Mean age of the patients was 22.8 years. Majority proportion of patients were males (55 percent). 59 percent of the patients were of rural residence. After assessing the bacteriological profile, *Pseudomonas* were the commonest bacteria isolated followed by *Escherichia coli*, *Staphylococcus aureus*, *Proteus* and *Klebsiella*. Hearing loss was seen in 81 percent of the patients. Poor hygiene status was seen in 39 percent of the patients.

**Table 1: Clinico-demographic profile**

Variable		Number	Percentage
Age group	Less than 20	44	44
	More than 20	56	56
	Mean age (years)	22.8	
Gender	Males	55	55
	Females	45	45
Residence	Rural	59	59
	Urban	41	41
Poor oral hygiene	Present	39	39
	Absent	61	61
Hearing loss	Present	81	81
	Absent	19	19

## DISCUSSION

Chronic suppurative otitis media (CSOM) remains one of the most common childhood chronic infectious diseases worldwide, affecting diverse racial and cultural groups both in developing and industrialized countries. It involves considerable morbidity and can cause extra- and intracranial complications. Fliss et al have identified a history of acute and recurrent otitis media, parental history of chronic otitis media, and crowded conditions (i.e. large families with several siblings, large day care centres) as significant risk factors for CSOM. They could not establish an association between CSOM and allergy, recurrent upper respiratory infections, breastfeeding, sex, parental age, or passive smoking. From a clinical perspective, however, some of these risk factors for AOM are likely to play a role in CSOM.<sup>8-10</sup>

Systemic antibiotics are advised both as initial therapy for CSOM and as secondary when topical therapy fails. The results of the available studies on systemic treatment of CSOM are summarized; the success rate of systemic antibiotics appears to be quite high, approximately 70%. Overall, the methodological quality of these studies was low.<sup>11-13</sup> Recently, bacterial biofilms have gained attention as a source of chronic infections. A biofilm is a population of bacterial cells growing on a surface, enclosed in an exopolysaccharide matrix; being difficult to eradicate, they could be the source of persistent infections. Biofilms may attach to damaged tissue, such as exposed osteitic bone and ulcerated middle-ear mucosa, or to otologic implants such as tympanostomy tubes, and are therefore thought to cause persistent infection in CSOM.<sup>12,13</sup>

A total of 100 patients were evaluated. Mean age of the patients was 22.8 years. Majority proportion of patients were males (55 percent). 59 percent of the patients were of rural residence. After assessing the bacteriological profile, *Pseudomonas* were the commonest bacteria isolated followed by *Escherichia coli*, *Staphylococcus aureus*, *Proteus* and *Klebsiella*. Hearing loss was seen in 81 percent of the patients. Poor hygiene status was seen in 39 percent of the patients. The risk factors for the development of CSOM have not been clearly established in the available literature. The disease is less common than AOM and well-designed prospective cohorts that correlate pre-existing conditions with the incidence of CSOM are lacking. Much of what we know is based on studies of the predisposing factors to AOM, which the authors have extrapolated to CSOM. This is based on the observation that recurrent AOM may predispose to CSOM and that 35% of children with recurrent AOM had chronic otitis media as well, compared with only 4% of children with less than five AOM episodes, although the much lower prevalence of CSOM suggests that persistence of infection is an exception rather than the rule. Another compelling piece of evidence is the decline of CSOM in the antibiotic era, suggesting that treatment of acute infections like AOM prevents progression to the chronic forms.<sup>12-14</sup> Verhoeff M et al presented and evaluated the current state of knowledge of CSOM. A PubMed search was performed for studies on epidemiology, pathogenesis, clinical management, and complications of CSOM. All included articles were categorized according to level of evidence. Five hundred and fifty papers were identified, of which 79 were found to be relevant for this review. The definition of CSOM was found to vary. CSOM is a multifactorial disease. Regarding management of CSOM, there is no consensus as to what the optimal management strategy should entail. No convincing evidence is available for most medical and surgical therapies. Topical quinolones have proven effective, but need further monitoring regarding adverse effects.<sup>14</sup>

Neogi R et al assessed the clinico-epidemiological profile, perceptions and clinical profile of the chronic suppurative otitis media (CSOM) patients in a tertiary care hospital. A pretested questionnaire was used

containing open questions and the patients were assessed clinically. Most patients (31.2%) were from 0-10 years age group and were males (58.8%). Majority of them (96%) lived in "kuccha" houses/slums, 76.8% practised unhygienic ear pricking, 36.8% poured oil in their ears, 70.8% bathed in ponds/rivers, 52.8% had ear discharge for more than 1 year. Among the respondents, 17.2% knew that CSOM was contagious, 24% thought CSOM ran in family, 20% knew CSOM is preventable. There was low threat perception and long time to seek care. Patients mostly presented with earache, deafness and discharge, most had deafness and safe variety of CSOM. More than half had comorbidities. Most of the previous study findings corroborated with the present study. Here was a substantial delay between the onset and treatment seeking due to lack of awareness and low threat perception. Pain and complications were the triggers for care-seeking. Education about the disease, strengthening the frontline workers and good referral system are suggested.<sup>15</sup> KR Iseh et al assessed the clinical Profile in Sokoto, Nigeria. The commonest symptom at presentation was ear discharge (100%), ear ache (26.47%), hearing loss (22.46%) and itchiness (10.29%). The commonest signs were ear discharge (100%) and tympanic membrane perforation (100%). All patients had the tubotympanic type of chronic suppurative otitis media. *Pseudomonas aeruginosa* and *staphylococcus aureus* were the most commonly cultured organisms (28.5% each). Cultures were sensitive to gentamicin and peflacin in most cases. Chronic suppurative otitis media is a public health problem affecting mainly the paediatrics age group with attendant learning impairment, caused by some degree of hearing loss and frequent hospital visitation for treatment. Therefore, prevention is stressed to reduce the morbidity of the disease.<sup>16</sup>

## CONCLUSION

CSOM is still a serious chronic infectious disease that affects people all over the world. The patient most likely to develop otitis media is one who has a chronic upper respiratory tract infection with ear pain.

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