

Epidemiological and Bacteriological Profile of Chronic Suppurative Otitis Media in a Tertiary Care Hospital

Mahesh Kumar^{1*}, Dr. Anshu Sharma²

¹PhD Scholar, Department of Microbiology, R.N.T Medical College, Udaipur, Rajasthan

²Senior Professor, Department of Microbiology, R.N.T. Medical College, Udaipur

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*Corresponding author: Mahesh Kumar

PhD Scholar, Department of Microbiology, R.N.T Medical College, Udaipur, Rajasthan

Abstract

Review Article

Background: Chronic Suppurative Otitis Media (CSOM) remains a significant cause of preventable hearing loss, particularly in developing countries. This study evaluates the demographic, bacteriological profile, and antibiotic resistance patterns of CSOM cases in a tertiary care hospital. **Methods:** A total of 250 ear swabs from clinically diagnosed CSOM patients were processed for bacterial culture and sensitivity testing using standard microbiological techniques. Demographic and seasonal data were analyzed. **Results:** The highest prevalence was observed in the 11–20 year age group (24%) followed by 21–30 years (23.6%). Males (56.8%) were more affected than females (43.2%). Urban cases (59%) outnumbered rural cases (41%). *Pseudomonas* spp. (32%) was the most common isolate, followed by *Klebsiella* spp. (17.6%) and *Staphylococcus aureus* (11.6%). Gram-negative bacteria predominated (70%). **Conclusion:** The study emphasizes the predominance of Gram-negative organisms in CSOM, with *Pseudomonas aeruginosa* being the leading pathogen. Regular microbiological surveillance and antibiotic stewardship are essential to prevent treatment failure and resistance.

Keywords: CSOM, *Pseudomonas*, *Klebsiella*, *Staphylococcus aureus*, bacteriology, antibiotic resistance.

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INTRODUCTION

Chronic Suppurative Otitis Media (CSOM) is a persistent infection of the middle ear, leading to chronic ear discharge, tympanic membrane perforation, and hearing impairment. It is a major health problem in

developing nations due to poor hygiene, overcrowding, and limited healthcare access. This study aims to understand the epidemiological trends and microbiological profile of CSOM, which are essential for effective empirical therapy and infection control. [1–3]

Table 1: Age-wise Distribution of CSOM Cases

Age Group (Years)	No. of Cases	Percentage (%)	Remarks
0–10	26	10.4	
11–20	60	24.0	Highest prevalence
21–30	59	23.6	
31–40	40	16.0	
41–50	25	10.0	
51–60	25	10.0	
≥61	15	6.0	Lowest prevalence

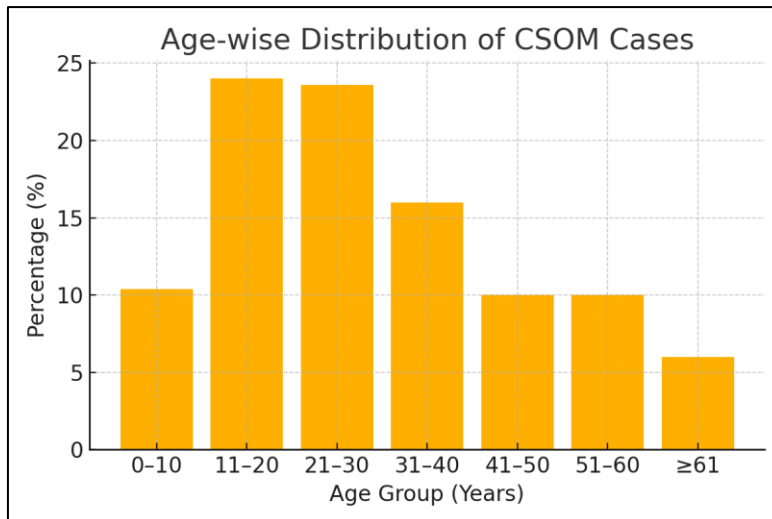
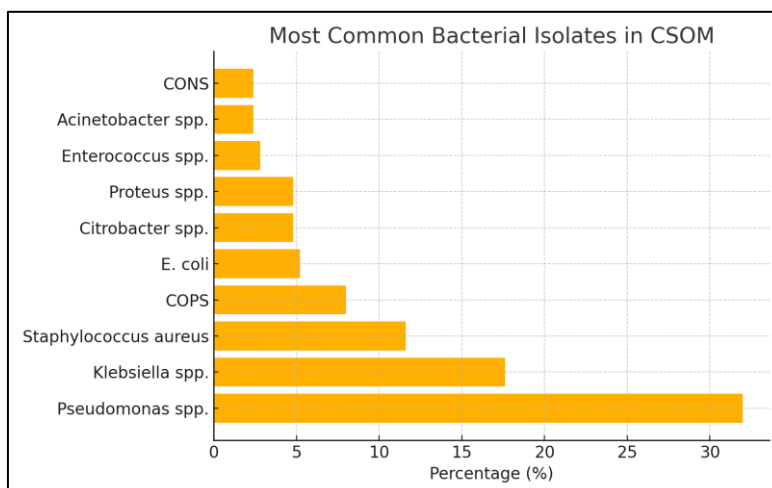


Table 2: Bacteriological Profile of Isolates

Organism	Number of Isolates	Percentage (%)
Pseudomonas spp.	80	32.0
Klebsiella spp.	44	17.6
Staphylococcus aureus	29	11.6
COPS	20	8.0
E. coli	13	5.2
Citrobacter spp.	12	4.8
Proteus spp.	12	4.8
Enterococcus spp.	7	2.8
Acinetobacter spp.	6	2.4
CONS	6	2.4
Enterobacter spp.	5	2.0
Streptococcus pyogenes	4	1.6
MRSA	3	1.2
Micrococci	3	1.2
Serratia marcescens	1	0.4



DISCUSSION

The current study revealed that the highest CSOM prevalence was observed among adolescents and young adults. Male predominance was noted, consistent with other regional studies. Gram-negative organisms,

especially *Pseudomonas* spp. and *Klebsiella* spp., accounted for over 70% of isolates, emphasizing their role in chronic ear infections. The findings align with prior studies in India and Southeast Asia, which reported similar bacterial trends. [1,2]

CONCLUSION

The predominance of Gram-negative bacteria in CSOM underscores the need for ongoing microbiological monitoring. Empirical treatment should prioritize agents effective against *Pseudomonas* and *Klebsiella*, while antibiotic stewardship must be strengthened to minimize resistance. [4,5,6]

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