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Microbiology of Chronic Suppurative Otitis Media: An update from a Tertiary Care Hospital in Bangladesh

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Abstract

Objectives: Chronic suppurative otitis media is a major cause of acquired hearing impairment, especially in children of developing countries. The study sought to explore the bacteriological profile and their antimicrobial susceptibility among patients of chronic suppurative otitis media from a tertiary care hospital in Bangladesh. **Methods:** A cross sectional microbiological study was conducted at the Department of Microbiology, Rajshahi Medical College, Bangladesh from January to December 2019. Aural swabs were collected aseptically from clinically suspected patients irrespective of age and gender attending the ear, nose and throat outpatient department of Rajshahi Medical College Hospital. Aerobic bacterial culture was done and isolates were identified through standard bacteriological identification scheme. Antimicrobial susceptibility testing of isolates was done by modified Kirby-Bauer disk diffusion method following Clinical and Laboratory Standards Institute guidelines. **Results:** Of 96 swabs, culture yielded a total of 73 bacterial isolates from 68(70.8%) culture-positive plates including 63 (65.6%) unimicrobial and 5 (5.2%) polymicrobial (mixed growth of a pair of bacteria) growths. Frequency distribution revealed, 40(55%) gram-negative and 33(45%) gram-positive bacteria with *Staphylococcus aureus* was the leading isolate (37%) followed by *Pseudomonas aeruginosa* (31.5%), *Escherichia coli* (13.7%), coagulase-negative *Staphylococcus* (8.2%), *Klebsiella pneumoniae* (5.5%) and *Proteus spp.* (4.1%). Gram-positive bacteria were found to be highly susceptible (100%) to Linezolid and Vancomycin followed by Imipenem (83 to 96.3%), while moderate to high resistance (44 to 67%) was observed against Ciprofloxacin, Ceftriaxone, Ceftazidime, Amoxicillin/Clavulanate and Clindamycin. For gram-negative bacteria, susceptibility ranged from 67 to 100% to Imipenem, 67 to 96% to Piperacillin/Tazobactam and 67 to 83% to Gentamicin, while moderate to high resistance (50 to 75%) was observed against Ciprofloxacin, Ceftriaxone, Ceftazidime and Amoxicillin/Clavulanate. **Conclusion:** Moderate to high level of multidrug-resistance especially to 3rd generation cephalosporins, Ciprofloxacin and Amoxicillin/Clavulanate is an alarming situation. It warns reinforcement of judicious antibiotic prescription and introduction of antibiotic stewardship program in the tertiary care hospitals.

Keywords

Author Keywords: CSOM; Antibiogram; Multidrug-resistance; Tertiary care hospital; Bangladesh

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