

Identification of bacteria in ear infection patients attending ENT clinic, Teaching Hospital, Jaffna

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Ear infections pose a significant public health concern in developing nations, impacting both pediatrics and adults. Bacterial pathogens are the primary cause, leading to preventable hearing loss and other severe intracranial complications. Understanding the local bacterial prevalence is essential for formulating effective treatment strategies, as bacterial types vary regionally and overtime. This study was aimed to identify the diversity and prevalence of bacteria causing ear infections in suspected ear infection patients attending the ENT Clinic at Teaching Hospital, Jaffna. An institution-based cross-sectional descriptive study was conducted at the ENT clinic, Teaching Hospital, Jaffna. Patients enrolled with ear discharge and clinical suspicion of bacterial infection, as verified by physicians. Specimen processing and bacterial identification followed standard protocols from the “Laboratory Manual in Microbiology” by the Sri Lankan College of Microbiologists. Specimens were cultured on Blood, MacConkey and Chocolate agar media. Data were analyzed using SPSS (Version 21) with descriptive statistics. Out of 155 patients, 139 (89.68%) had culture-positive results. Among these, 62 (44.60%) showed pure growth and mixed growth in 77, yielding a total of 234 organisms. Of these, 154 (65.82%) were identified as pathogens, including: *Pseudomonas* spp. (44.80%), *Enterobacteriaceae* (26.63%), *Staphylococcus aureus* (16.23%), *Acinetobacter* spp. (5.20%), and *Candida* spp. (7.14%). The remaining 80 (34.18%) were non-pathogens, comprising coagulase-negative *Staphylococci* (60.00%), *Corynebacterium* spp. (23.75%), aerobic spore forming bacteria (12.50%), and non-hemolytic *Streptococcus* spp. (3.75%). The study highlights a high culture-positive rate (89.68%) with a wide range of bacterial species, with *Pseudomonas* spp. as the predominant pathogen. This emphasizes the importance of accurate microbial diagnosis and targeted treatment. Ongoing surveillance is necessary to monitor the local microbial landscape, especially in areas with limited access to culture facilities.

Keywords: Ear infections, Prevalence, Bacterial etiology, Pathogenic bacteria, *Pseudomonas* spp.