

Study of Bacterial Flora in Childrens with Hearing Aid Earmolds in Ahvaz, Iran

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Background & Objectives: Each individual hearing aid had a unique array of bacteria creating an ideal opportunity for cross-contamination. Although cerumen has antibacterial properties, these are less effective in hearing aid users, since the warm, moist environment raises the pH of the ear canal and provides an ideal environment for bacterial growth. The purposes of this investigation were to document the presence of bacteria on the surface of hearing aids earmolds in children with hearing aid earmolds.

Methods: In this study from 119 Children with hearing aids earmolds were screened. At least 3 swab samples were taken from: surface hearing aids earmolds (108), canal in hearing aid wearers (216) and ear without hearing aids (207). The samples were cultured directly onto blood and MacConkey agars and were incubated at 37°C for 24 hours. The identification tests were performed for the isolates according to standard methods.

Results: From total, the numbers of culture positive samples were as fallow: hearing aids earmolds 66 (61.1%), canal in hearing aid wearers + ear without hearing aids 124(52.1%). The majority of isolated bacteria from hearing aids earmolds were Coagulase-negative Staphylococci 54(81.8%), polybacterial flora 14(21.2%) and the least isolates were *Pseudomonas spp.* *Staphylococcus aureus* 2(3%) and *Bacillius cereus* 1 cases (1.5%). The bacteria isolated from canal in hearing aid wearers and ear without hearing aids earmolds were Coagulase-Negative Staphylococci 83(67%), Diphtherioed 23(18.5%) and polybacterial flora 10(10.2) %).

Conclusion: Based on results, the predominant organism isolated from hearing aid moulds was Coagulase-negative Staphylococci. The majority of hearing aids were contaminated with at least one bacterium and nearly one-third were contained two or more independent bacteria.

Keywords: Bacterial Flora; Children; Hearing Aid Earmolds