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Potential bacterial pathogens of external ocular infections and their antibiotic susceptibility pattern in Hawassa University Referral Hospital, Hawassa, Ethiopia

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Background: Bacterial external ocular infection is a common health problem along with increase and spread of drug resistance in Ethiopia. The objective of this study was to describe bacterial etiologies of external ocular infections and their antimicrobial susceptibility patterns in patients attending eye clinic of Hawassa University Referral Hospital, from December 2012 to April 2013.

Methodology: A cross sectional study was conducted in a total of 281 patients with clinically diagnosed of external ocular infections; consisting of 140 conjunctivitis, 55 blepharitis, 31 keratitis, 19 dacryocystitis, and 36 other infections. Samples from different parts of the eye were collected, processed and cultured using the standard bacteriological methods. Susceptibility of isolated pathogens to commonly-used ocular antibiotics was done using standard susceptibility testing.

Result: Out of 281 ocular specimens subjected to culture, 143 different bacterial species were isolated. Gram-positive cocci accounted for 61.5% and gram-negative bacilli for 38.5% of bacterial isolates. The most frequent isolates was *S. aureus* (21.0%) followed by coagulase negative *Staphylococci* (18.2%) and *Streptococcus pneumonia* (14.0%). Most gram-positive isolates were susceptible to amoxicillin-clavulanic acid (95.5%) and vancomycin (96.6%) and gram-negative isolates were susceptible to ciprofloxacin (89.1 %) and gentamicin (83.7%). Ciprofloxacin was effective against 86.7% of isolated pathogen.

Conclusion: *Staphylococcus aureus* was the most common bacterial etiologic agent of external ocular infections. Gram positive isolates were more susceptible to amoxicillin-clavulanic acid and vancomycin, whereas gram-negative isolates were more susceptible to ciprofloxacin and gentamicin.

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