

ABSTRACT

Chronic bone wound infection is an emerging multi drug resistant infection which is declared as global health threat in last few decades. Most of the gram-negative bacteria and some of the gram-positive bacteria are involved in the persistent infection of bone. The present study based on evaluation of the prevalence of MDR (multi drug resistant) and XDR (extensively drug resistant) gram positive and negative bacteria in chronic bone wound in tertiary care hospital and determined AST (Antimicrobial susceptibility testing) of each gram positive and negative bacteria isolated from chronic bone wound. After identification, antimicrobial drugs were applied on each sample by disc dispensing method. Out of 302 samples 64 were positive for bacteria. 45(70.31%) were gram negative and 19(29.68%) were gram positive. Major isolates were *Staphylococcus aureus* 17 (26.56%), *Klebsiella pneumoniae* 9 (14.06%), *Acinetobacter baumannii* 8 (12.50%) and *Pseudomonas aeruginosa* 7 (10.93%). Antibiogram of gram negative bacteria showed that 76.66% bacterial isolates were MDR. Many of the isolates were XDR also. The resistance rate is 76.66% which is higher than the sensitivity rate 23.34%. *Staphylococcus aureus* is a major gram positive and *Klebsiella pneumoniae*, *Pseudomonas aeruginosa* and *Acinetobacter baumannii* are the major gram-negative isolates of chronic bone wound. As it is considered as major cause of persistent chronic bone infection.