

Antibiotic resistance pattern of coagulase-negative Staphylococcus spp isolated from patients admitted to Imam Khomeiny hospital in Adrabail, Iran

Abstract

Background and objectives: Coagulase-Negative Staphylococci which account for a variety of diseases in human are one of the most common microorganisms separated from clinical specimens in microbiology laboratories. Nowadays, due to the indiscriminate use of antibiotics a high percentage of these bacteria became resistant to multiple antibiotics and treatment of infections caused by them, particularly in Methicillin-resistant strains, seems very difficult and associated with a high mortality. This study aimed to determine the antibiotic resistance pattern and oxacillin MIC (minimum inhibitory concentration) in Coagulase-Negative Staphylococci isolated from clinical samples in patients referred to Imam Khomeini hospital of Ardabil.

Materials and Methods: In this descriptive cross-sectional study, the isolates from different clinical specimens were identified using standard microbiological methods. Antibiotic resistance pattern for 14 different antibiotics were determined using the disk diffusion method. Oxacillin resistance was determined using the Cefoxitin disk and the MIC of oxacillin was determined using agar dilution method.

Result: The results showed that 57(98.3%) out of 58 isolates were Methicillin-resistant. The majority of the Methicillin-resistant strains have MIC equal or more than 256 µg/ml. Most of the isolates were multiply resistant against various antibiotic classes. *Clindamycin* and erythromycin showed the highest while linezolid and chloramphenicol the lowest rate of resistance.

Conclusions: The results of current study reveal that a high percentage of Coagulase-Negative Staphylococci are Methicillin-resistant. They are also resistant against other different classes of antibiotic.

Key words: Coagulase-Negative Staphylococci, Antibiotic Resistance, Methicillin-resistance