Frequency of The Bloodstream Infection in Central Hospital of Arak University of Medical Sciences

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Background & Objectives: Bacteremia means existence of live bacteria in the bloodstream. Isolation of bacteria from blood can lead to death, hence epidemiologically is important. Therefore the purpose of this study is to determine the frequency of bacteria isolated from blood cultures at Arak university hospital center.

Methods: This cross sectional study has been done in period of one year study. Of 4420 blood culture specimen obtained from 2125 patients, 445 specimens were found to be positive in term of bacteremia. These specimens belonging to 229 patients that their blood culture sampling were positive once for 124 persons, twice for 96 persons and three times for 9 persons.

Results: A total of 229 strain isolated from clinical specimens include *Staphylococcus epidermidis* 114(47.5%), *Escherichia coli* 38 (16.72), *Staphylococcus aureus* 20 (9.12%), *Klebsiella pneumonia* 10(4.17%), *Brucella* species 7(2.92%), *Pseudomonas aerogenosa* 10(4.17%), *Alcaligenes faecalis* 10 (4.17%), *Enterococcus* 9(3.75%), *Acinetobacter* 4(1.67%), *Staphylococcus saprophyticus* 3(1.25%), *Proteus mirabilis* 2(0.84%), *Proteus vulgaris* 1(0.417%) and *Salmonella typhi* 1(0.417%).

Conclusion: In Conclusion, the most isolated organisms among septicemic cases were belonging to the gram-positive class. This finding is in agreement with most of the international studies. Nevertheless the burdens of highly pathogen gram negative bacteria like *E.coli*, *Brucella* and *Acinetobacter* can cause complications should be taken seriously. In addition sample collection procedure needs to be revised.

Keywords: Bacteremia; Blood Culture; Hospital