International Journal of Clinical Microbiology and Biochemical Technology

Volume - 2, Issue - 1

Research Article **Published Date:- 2019-07-05**

Virulence Genes in Pseudomonas Aeruginosa Strains Isolated at Suez Canal University Hospitals with Respect to the Site of Infection and Antimicrobial Resistance

Background: Pseudomonas aeruginosa is one of the top five pathogens causing healthcare-associated infections. Biofilm formation is nowadays a major problem. Aim: The aim of this study was to examine the prevalence of virulence genes in clinical isolates of Pseudomonas aeruginosa at Suez Canal University Hospitals with respect to the site of infection and microbial resistance of the strains.

Materials and methods: A cross-sectional descriptive study was carried out on 47 Pseudomonas aeruginosa strains collected from hospitalized patients from December 2015 to August 2017. To detect biofilm formation, we used Tissue Culture Plate Method. The virulence genes (toxA, algD, nan1, pslA and pelA) were amplified using PCR technique.

Results: The highest sensitivity was to Imipenem and Ciprofloxacin (85.1% and 68.1% respectively).With respect to the virulence genes, toxA gene was detected in 45 isolates (95.7%), algD gene in 42 isolates (89.4%), pslA in 42 isolates (89.4%) %), pelA cted in 41 isolates (87.2%) and nan1gene was detected in 19 isolates (40.45%).

Conclusions and Recommendations: We conclude that there is relationship between virulence genes and biofilm formation in Pseudomonas aeruginosa. We recommend the expansion of work on a larger sample size in a longer period of time.

Research Article **Published Date:- 2019-07-05**

Knowledge, perception and practices of Suez Canal University students regarding Hepatitis C Virus infection risk and means of prevention

Background: Egypt has the highest prevalence of HCV in the world as more than 10% of population suffers from HCV infection. High prevalence of HCV in Egypt represents a great risk to the whole population that requires aggressive mass awareness regarding routes of infection and means of prevention.

Aim: To determine the knowledge and practices of university students in 5 different faculties in Suez Canal University regarding HCV infection and means of prevention.

Materials and method: A cross sectional study was conducted in five university faculties in Suez Canal University.

Results: The study included 698 students from the faculties of Medicine, Pharmacy, Dentistry, Nursing and Education in Suez Canal University in Ismailia city in Egypt. There was a statistically significant difference regarding the knowledge about the diagnosis, complications and routes of transmission total knowledge score for HCV among the different faculties.

Conclusion and Recommendations: Knowledge and practices of university students in Suez Canal University is partial to weak especially in students of non-biological sciences who have less close contact with patients

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Review Article **Published Date:- 2019-06-05**

Host biomarkers for early diagnosis of infectious diseases: A comprehensive review

Biomarkers have been used in the diagnosis of disease and other conditions for many decades. There are diverse ranges of analytical targets, including metabolites, nucleic acids and proteins were used as a biomarker. Clinical diagnoses already rely heavily on these for patient disease classification, management, and informing treatment and care pathways. For that there is always a need of rapid and point of care test. However, until fairly recently, studies of biomarker efficacy in a clinical setting were mainly limited to single or dual use, and the landscape was complex, confused, and often inconsistent. Few candidates emerged from this somewhat clouded picture: C-reactive protein, procalcitonin (PCT) for sepsis, ADA for mycobacterium tuberculosis and a Circulating miRNAs serve as molecular markers for diverse physiological and pathological conditions.