LONGDOM
J Nephrol Ther
ISSN: 2161-0959
2020
Vol.10 No.5

Direct detection of antibiotic resistance bacteria in patients with post-surgical nosocomial infection (carbapenem resistance gene klebsiella pneumonia /pseudomonas aeruginosa) using Molecular Techniques in Alfasher North Darfur State

Anfal Nasreldin Bagal Serag
University of Science and Technology, Sudan

Abstract

Introduction: Surgical site infections coincide and contribute to healthcare associated infections, therefore the definition of surgical site infections (SSIs) referred to infections that occur in the wound created by an invasive surgical procedure which were one of the most important causes of healthcare-associated infections (HCAIs). S. aureus, E. coli, P. aeruginosa, Klebsiella spp., etc. Gram positive bacteria were found to be more predominant in the postoperative wound samples compared to the Gram-negative organisms. Staphylococcus aureus, Escherichia coli were multidrug resistant (Chaudhary et al, 2017). Surgical Site Infection has been increased over the past few years. World Health Organization (WHO) documented that 66% of establishing countries have no imprinted data related to the burden of SSI and the data based on the surgical prophylaxis is insufficient. However, good quality of the microbiology laboratory practice is important, in Sudan, while searching in literature there no researches to date on this topic of laboratory diagnosis for surgical and nosocomial infections monitoring antibiotic resistance. In Alfasher, however, patients suffer from post-surgical infections and good quality in microbiology laboratory practice is mandatory. However, there will be no good laboratory practice without excellence in quality and professionalism. This study was proposed to apply quality in the medical microbiology laboratory using proper isolation system, culture for microorganisms, antibiotics sensitivity testing and DNA sequencing for bacteria resistant to antibiotics in surgical site infection.

Methods: We evaluated this study by using Molecular techniques in Microbiology laboratory, Bacterial DNA prepared for PCR according to the standard method. DNA concentration was determined using spectrophotometer, Antimicrobial susceptibility testing was performed by applying the agar diffusion method according to the Clinical and Laboratory Standards Institute (CLSI) recommendations, Standard quality Measures, such as standard operation procedures, quality of environment, the Statistical Package for the Social Sciences (SPSS) is a software package used in statistical analysis of data.

Result: In total, 80 resistant isolates (18 Gram positive and 62 Gram negative). All S. aureus isolates were resistant to both penicillin and oxacillin. K. pneumoniae isolates were resistant to carbapenems. The molecular screening of carbanemase genes was based on a previously published multiplex PCR technique. Recent studies show that not only bacteria, but also bacterial genes can move freely among humans, animals and the environment (Oliveira P.H., et al, 2007). In our study the resistant Gram-negative rods (GNR) were a common finding, confirming their increased prevalence in hospital-associated drug-resistant infections. In conclusion, our results demonstrated the presence of important clinical pathogens in patients with post-surgical nosocomial infection, which are likely to be released in the environment.

Biography:

Anfal nasreldin bagal gradute of university of science and technology modules university of Khartoum Qualifying and medical license in the state of Qatar council for healthcare

practitioners. She work at national health insurance fund as medical laboratory technologist. She is student master university of karary Recherche titles names "Direct detection of antibiotic resistance bacteria in patients with post-surgical nosocomial infection (carbapenem resistance gene Klebsiella pneumonia/Pseudomonas aeruginosa) using molecular techniques in Alfasher North Darfur State"

Speaker Publications:

1. Modulation of the immune response and infection pattern to Leishmania donovani in antibiotic resistance bacteria due to arsenic exposure: An in vitro study. (2019), Plos One, 14(2),

2.Exploring new immunological insight on SP15 (~ 14kDa) family protein in saliva of Indian antibiotic resistance bacteria (Phlebotomus argentipes) in experimental. (2019), Cellular immunology. 332, pp.51-57.

3. Cedrus deodara: In vitro anti-leishmanial efficacy & Immunomodulatory activity. (2017), The Indian journal of medical research, 146(6)

33rd International Conference on Vaccines and Immunization;
London, UK- March 16-17, 2020.

Abstract Citation:

Anfal Nasreldin Bagal Serag, Direct detection of antibiotic resistance bacteria in patients with post-surgical nosocomial infection (carbapenem resistance gene klebsiella pneumonia /pseudomonas aeruginosa) using Molecular Techniques in Alfasher North Darfur State, Vaccines 2020, 33rd International Conference on Vaccines and Immunization; London, UK-March16,17,2020(https://vaccinesimmunization.insightconferences.com/speaker/2020/anfal-nasreldin-bagal-serag-university-of-science-and-technology-sudan)