Antibiotic susceptibility of bacterial etiologic agents recovered from an intensive care unit patients

Manar Atoum and Aseel Qasem Abu Shaqra Jordan

Abstract (300 word limit)

Infections are becoming a major health concern especially among critically ill patients in the intensive care unit (ICU). This investigation was carried out to identify the prevalence of bacterial infections and evaluate the antibiotic susceptibility of bacterial pathogens. From November 2015 till May 2016, a total of 234 specimens were referred to Prince Hamza hospital, Amman. These specimens included sputum (41.8%), urine (25.4%), wound swabs (13.9%), blood (12.3%), and others (6.6%). All bacteria were identified by standard microbiological methods. Antibiotic sensitivity was performed using the disk diffusion technique and Molecular typing of the dominant isolates was performed using Amplified Ribosomal DNA Restriction Analysis (ARDRA). Results indicated that the most common bacterial isolates were Acintobacter spp. (27.6%), Klebsiella spp.(20.7%), Escherichia coli (14.7%), Pseudomonas spp. (12.9%), Staphylococcus aureus (12.9) and others (11.2%). Pan antibiotic resistance was not encountered in any of our isolates. High rate of resistance to cephalosporins namely ceftriaxone, Cefepime, and Cefoxitin was noted among the Gram negative isolates. High percentage of the isolated Klebsiella spp., (59%), Acinetobacter spp., (41%) and E. coli (31%) were found to be ESBLs producers. All isolates of Acintobacter spp. were sensitive to Colistin, whereas 30/ 32 isolates were sensitive to Tigecycline. Colistin inhibited all Klebsiella spp., recovered. While Amikacin killed 21 out of 24 these isolates. Pipracillin/tazobactam and Meropenem were inhibitory to 15/17 of the isolates. The ARDRA technique confirmed the identity of 30 isolates as Acinetobacter spp., and identified 26 of them as A. baumannii. Multidrug-resistant of A. baumannii as established in this study warrants further substantial efforts to define the epidemiology of this bacteria within the ICU setting

Recent Publications (minimum 5)

1. Atoum M, Otoom A Association between C677T MTHFR polymorphism and H pylori infection among Jordanian gastric cancer patients. Jacobs Journal of Genetics 2015; 1(2):006
2. Atoum M F ACC interleukin -10 gene promoter haplotype as a breast cancer risk factor predictor among Jordanian females. OncoTargets and therapy 2016; 9 3353-3357
3. Atoum MF and Alzoughool F. Reduction in breast susceptibility due to Xba1 gene polymorphism of alpha estrogen receptor gene in Jordanians. Breast cancer Targets and Therapy. 2017; 9:45-49
4. Atoum M and Al-Khatib Y. Comparison between 25-hydroxyvitamin D concentration and Taq1 vitamin D receptor gene polymorphism among Jordanian females with breast cancer. Chinese Medical Journal. 2017 130(9):1074-1078
5. Atoum M, Alzoughool F. Vitamin D and Breast Cancer: Latest Evidence and Future Steps. Breast Cancer (Auckl). 2017 Dec 20;11:1178223417749816. doi: 10.1177/1178223417749816. eCollection 2017..

Biography (150 word limit)

o Dr Atoum has a good experience in teaching, research and graduate student supervision for more than 18 years. She supervise more than 46 master students at different universities. Dr Manar Atoum has a good experience in gene polymorphism. Her main interest is polymorphisms in cancer and infectious diseases. This abstract was the results of two years track for Intensive care infections in Jordan. Bacterial resistance in Intensive care units (ICU) is a great problem all over the world and prevalent in Jordan. So our dream is to reduce antibiotic resistance in the ICU units which may reduce morbidity from bacterial resistance in the ICU in Jordan

Email: manar@hu.edu.jo

Notes/Comments: