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### **Detection of High Level Aminoglycoside Resistance (HLAR) beta lactamase production and vancomycin resistance among Enterococcal isolates in Alexandria Main University Hospital**

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Enterococci are a common cause of nosocomial infection and prevalence of antibiotic resistance among them is increasing. This study is aimed to identify the prevalence of HLAR *Enterococci* at Alexandria Main University Hospital. HLAR *Enterococci* (47) isolates were detected among (133) Enterococcal strains isolated during six months period of study. HLAR *Enterococci* were identified using Bauer Kirby method to gentamycin (120 µg) and streptomycin (300 µg) discs and broth micro-dilution (MIC) to identify gentamycin resistant strains according to CLSI guidelines. *E.faecalis* was the most frequent species (65.9%), followed by *E. faecium* (27.6%) and *E.avium* (6.5%) as identified by Api 20 strep. HLAR *Enterococci* were also identified genotypically by Polymerase Chain Reaction (PCR) targeting Aminoglycoside Modifying Enzymes (AMEs) genes. The *Aac (6')-Ie-aph (2'')-Ia* gene was detected in (96.5%) of *E.faecalis*, (91.6%) of *E.facieum* and (100%) of *E.avium*, while only (3.4%) and (8.3%) were *aph (2'')-Ic* positive among *E.faecalis* and *E.facieum*, respectively. Among HLAR *Enterococci* only (6.3%) were vancomycin resistant identified using Bauer Kirby method and MIC. Vancomycin resistance was only present in *E.facieum* and the *van A* gene was the only gene present in all vancomycin resistant Enterococcal isolates investigated. None of HLAR *Enterococci* isolates were beta-lactamase resistant as proved by nitrocefin strips. This study indicates that prevalence of high level aminoglycoside resistant *Enterococci* is increasing in Alexandria Main University Hospital and routine testing of the Enterococcal isolates for high level aminoglycoside resistance is needed and alternative treatment regimens need to be sought.

#### **Biography**

Sarah Magdy Mazloun had completed my MBBCH at the age of 23 years old from Alexandria Faculty of medicine, University of Alexandria with an excellent grade. Worked at Elshatby blood bank from April 2013 till January 2014. Since February 2014 works as microbiology resident at ministry of health hospitals. My master thesis is about prevalence of High Level Aminoglycoside resistant Enterococci at Alexandria main university hospital.

#### **Notes:**