Pathology-2013
OMICS Group Conferences
Accelerating Scientific Discovery
2nd International Conference and Exhibition on
Pathology
August 05-07, 2013 Embassy Suites Las Vegas, USA

Resistance to β-lactam in enterobacteriacae and non-fermentative gram-negative bacilli in Tunisia: An endless story

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Abstract

In Tunisia, resistance trends have changed greatly over the 14 years (1998-2012). In the center-east region of Tunisia (Sousse, Monastir and Mahdia), resistance mechanisms were described. Carbapenem resistance in Acinetobacter baumannii is due to Ambler class D: OXA-97 and OXA-23 enzymes and in second degree to GES-11. In Pseudomonas aeruginosa strains, resistance to beta-lactams is due essentially to SHV-2a, VIM-2 and hyperproduction of cephalosporinase. It is due also to non enzymatic mechanisms (loss of outer membrane protein).

In Enterobacteriaceae, resistance concerns essentially extended-spectrum cephalosporins, fluoroquinolones and rarely carbapenems. The most prevalent enzyme is CTX-M-15. However, other enzymes were described (SHV-12, SHV-2a…). Resistance to quinolones is related to the spread of plasmid-mediated quinolone resistant determinants: QnrB1, qnrB2, qnrA6 and qnrS1.

The application of rigorous hygiene regulations and the revision of the politics of antibiotic treatment will be a key parameters allowing to encircle these multiresistant bacteria and to limit their scattering.

Biography

Wejdene Mansour, Assistant professor of Microbiology in the Higher Institute of Applied Sciences and Technology of Mahdia, Tunisia. She got his B.Sc. in Biological Science, Master's Degree in Biotechnology and Immunology applied for Contagious diseases in the Faculty of Pharmacy of Monastir Tunisia, Doctor's degree (Ph.D) in Biological and biotechnological sciences (2008). Currently, Dr Wejdene Mansour is a head member of the Tunisian Society of Microbiology and is a researcher member of the LR99ES27 research laboratory in the faculty of Pharmacy of Tunisia. Dr Mansour's researches focus on resistance mechanism in multidrug resistant bacteria especially in the Gram-negative bacilli responsible of nosocomial infections, she is interested also by resistant bacteria described in food-producing animals. She has published more than 10 papers in reputed journals and serving as reviewer for several one.