In vitro susceptibility of pseudomonas aeurogenosa isolated from urinary tract of patients with UTI to Doxycyclin and Tigecyclin and comparison with other anti pseudomona antibiotics

Abstract:

Background and Objectives: Pseudomonas aeruginosa is a pathogenic bacteria for human. It is gram negative bacilli and Infection with this bacteria usually occurs in patients who hospitalized due to the need of prolonged stay in ICU , Severe burns, prolonged mechanical ventilation , ……. Study in vitro susceptibility of pseudomonas aeruginosa isolated from patients with UTI to doxycycline and tigecycline and compare with other antipseudomonas antibiotics (ceftazidime, cefepime, piperacillin/tazobactam, impipenem, meropenem, colistin, ciprofloxacin, nitrofurantoin, amikacin) with standard disk diffusion is one object and comparition ,susceptibility results of disk diffusion with E.test for doxycycline and tigecycline is another. Other purpose is to study MDR pseudomonas aeruginosa susceptibility to doxycycline and tigecycline .

Materials and Method: Sixty pseudomonas aeruginosa isolates, which were obtained from patients admitted in Imam Reza and Sina hospitals and outpatients who attended clinics for any other procedures antibiogram was performed by disk diffusion method for following antibiotics (ceftazidime, cefepime, piperacillin/tazobactam, impipenem, meropenem, colistin, ciprofloxacin, nitrofurantoin, amikacin, doxycycline, tigecycline) for doxycycline and tigecycline antibiogram with E.test was also perform.

Result: Maximum susceptibility was observed for colistin =95% followed by sensitivity in decreasing order for these antibiotics.Meropenem = 76% Imipenem= Cefepime= Ceftazidime = 63.3% Piperacillin/tazobactam = 55% doxycycline = 46% amikacin = 45% Ciprofloxacine = 35% Tigeycline = 15% nitrofurantoin= 0%

Measurement of kappa for agreement of antibiograms with disk diffusion and E.test for doxycycline and tigecycline revealed moderate agreement.

Conclusion: In vitro susceptibility of isolated pseudomonas aeruginosa to studied antibiotics (with exception of colistin) was less than 80% even for carbapenems. Disk diffusion for doxycycline and tigecycline wasn't

effective for differentiation intermediate resistance from sensitive. Calculation of cohens Kappa for agreement was moderate. Most of MDR pseudomonas aeruginosa was resistant to doxycycline and tigecycline.

Key words: pseudomonas aeruginosa, UTI, disk diffusion, E.test.

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