Abstract 3.5

In Vitro Susceptibility Test of Sitafloxacin against Resistant Gram Negative Bacilli Isolated from Thai Patients by Disk Diffusion Method

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Objective: To determine a correlation of minimum inhibitory concentration (MIC) of sitafloxacin determined by agar dilution method with inhibition zone diameter of sitafloxacin determined by disk diffusion method, and to determine inhibition zone diameter breakpoints of sitafloxacin against resistant Gram negative bacilli isolated from Thai patients.

Material and Method: The study bacteria were 332 clinical isolates of Gram negative bacilli including ESBL producing E. coli, ESBL producing K.pneumoniae, P. aeruginosa and A. baumannii. Each isolate of the study bacteria was tested for minimum inhibitory concentration (MIC) of sitafloxacin by agar dilution method and inhibition zone diameter of sitafloxacin by disk diffusion method.

Results: The MICs and inhibition zone diameters of sitafloxacin against Gram negative bacilli were well correlated (correlation coefficient 0.926, p value < 0.001). The inhibition zone diameter ≥ 15 mm had the least total error for determining susceptibility to sitafloxacin based on MIC value of sitafloxacin but the inhibition zone diameter ≥ 16 mm had less false susceptible than that of ≥ 15 mm when compared with sitafloxacin MIC ≤ 2 mg/L that was considered susceptible. The inhibition zone diameter ≥ 19 mm had the least total error for determining susceptibility to sitafloxacin based on MIC value of sitafloxacin but the inhibition zone diameter ≥ 18 mm had less false susceptible than that of ≥ 19 mm when compared with sitafloxacin MIC ≤ 1 mg/L that was considered susceptible.

Conclusion: For the susceptibility test of sitafloxacin against resistant Gram negative bacilli by disk diffusion method, the inhibition zone diameter ≥ 16 mm and ≥ 18 mm seem to be the appropriate breakpoints for susceptible for resistant Gram negative bacillary isolate with MIC ≤ 2 mg/L and ≤ 1 mg/L, respectively.