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Comparison of antibiotic susceptibility results obtained with break points , minimum inhibitory concentrations and disc methods

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Two hundred and twenty five gram negative bacilli were isolated from urinary specimens sent to mic biology laboratory, General Hospital Kandy within a 3 month period. All these isolates were test against antibiotics-ceftriaxone, ciprofloxacin and netilmicin by three susceptibility testing meth stocks' method, break - point method and minimum inhibitory concentration. Escherichia coli NC 10418 was taken as the control strain for all the three methods. A correct result of sensitive or resist was assigned to each strain/antibiotic combination according to the following recommended MIC val for urinary isolates-ceftriaxone 2 . .Iml, ciprofloxacin 4 . .Im\. There was a statistically significant differed between stokes' method and M1C for ciprofloxacin and netilmicin (ciprofloxacin x2 4.076 and P val 0.05,netilmicin x2 10.64 and P value 0.001). Discrepancies of sensitivity results at species va' among different species for different antibiotics. The data illustrate that the susceptibility testing by stokes' method showed one error for every 4 strains tested.MIC was done by two methods (a novel methods) to check the practicability of the novel method for MIC determination on differ antibiotics for different organisms. The novel method was a broth method carried out on Microtel trays. The broth consisted of 1 per cent glucose, 1 per cent peptone water, 0.5 per cent sodium chlo' and 1 per cent andrades indicator. With growth, fermentation of the sugar resulted in colour change frcolourless to pink. Comparison of the two methods were studied on 225 urinary isolates for the antibiotics used for the study. Only netilmicin showed acceptable difference of more than I dilute which was statistically significant (x2 20.906, p O.OO 1).