Poster

[P25-5] P25-5: Anti-infective drugs (5)

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[P25-5-6] AUC/MIC ratio used for therapeutic drug monitoring of levofloxacin after four different regimens

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Background

Levofloxacin is a broad spectrum fluoroquinolone with a bioavailability near 100%. Efficacy of this antibiotic is strongly correlated with the 24h-area under the curve (AUC). We accept that AUC/Minimal inhibitory concentration (MIC) ratio should be above 50 for Gram-negative *cocci* infections and 250 for *Enterobacteriaceae* infections.

Here we used a non-compartmental approach for levofloxacin therapeutic drug monitoring (TDM) in patients receiving different dosage regimens.

Methods

This is a retrospective, monocentric study including patient receiving levofloxacin *per os* or intravenously. Patients were sorted in 4 groups in function of dosage regimen: group 1 with a 500 mg once-daily *per os* dosage regimen, group 2 with a 500 mg twice-daily *per os* dosage regimen, group 3 with a 500 mg twice-daily intravenous dosage regimen and group 4 with a 1000 mg twice-daily dosage regimen. AUC used for TDM and other pharmacokinetic parameters were calculated with PKSolver adapted for excel and AUC/MIC ratio was calculated in case of isolated bacteria.

Results

Nine patients were included, 13 AUC and 8 AUC/MIC ratio were calculated. Groups 1, 2, 3 and 4 included respectively 2, 1, 4 and 4 patients with two patients in the group 3 and then in the group 4. Mean AUC and half-life were respectively 111.9 mg.h/L and 16.3 h in the group 1, 82.5 mg.h/L and 6.8 h in the group 2, 107.5 mg.h/L and 9.8 h in the group 3 and 296.9 mg.h/L and 17.4 h in the group 4. Distribution volume reached from 32 L to 162.3 L. All AUC were above 50 mg.h/L excepted 2 in the group 3. AUC/MIC ratio reach from 92.6 to 755 and was always above 250 in *Enterobacteriaceae* (n=2) and *Legionella pneumophilia* (n=3) infections.

Conclusions

These are preliminary results and the small number of patients does not allow finding some differences between the groups but this study show that all patients display sufficient AUC/MIC ratio. A prospective study including more patients and comparing AUC with MIC should be done. Moreover, population pharmacokinetic modelization should help us to predict these AUC and allowing fewer samples for patients.