Poster

# [P25-1] P25-1: Anti-infective drugs (1): Aminoglycosides and beta-lactams

Chair: Andrew McLachlan, Australia

Mon. Sep 25, 2017 12:30 PM - 1:30 PM Annex Hall (1F)

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## [P25-1-7] A cohort study of therapeutic drug monitoring on Meropenem in ICU patients

Lu Jin (Nanjing Drum Tower Hospital, Affiliated Hospital of Nanjing University, The Medical School)

Keywords: Meropenem, Therapeutic drug monitoring, Pharmacokinetics/pharmacodynamics, Minimal inhibitory concentration,

**Background**

There is variability in the pharmacokinetics (PK) of antibiotics in critically ill patients. Therapeutic drug monitoring (TDM) could overcome this variability and increase PK target attainment. The objective of this study was to evaluate whether based therapeutic drug monitoring (TDM) on meropenem dose adjustment can improve the target rate of PK/PD and anti-infection effect.

**Methods**

Collected 36 cases in the ICU patients of Nanjing Drum Tower Hospital used meropenem during January 2015 to December and divided into intervention group and control group. The dosage regimen of intervention group was based on TDM results while the dosage regimen of control group was according to the doctor’ s experience. Taking 100%T>4MIC as the target rate of PK/PD, in order to obtain the achieved rate of two groups when use sensitive and mediation MIC value respectively. In addition, the patient's clinical effect and bacteriologic response were evaluated respectively.

**Results**

On fourth day administration， meropenem concentration in intervention group is significantly higher than the control group, 22.5μg /ml（ IQR 18.75-37.25） and 17.5μg /ml（ IQR 7.0-21.25） respectively（ p=0.007）. In PK/PD aspect, the target rate of intervention group is significantly preceded the control group for different MIC value, 100% and 72.2%（ p=0.015） respectively, which used Cmin>8μg /ml as target. When use Cmin>32μg /ml be the PK/PD target, the achieved rate of two groups were 5.5% and 38.9% respectively（ p=0.015）. The clinical effect between two groups has no significant difference but the bacteriologic response on intervention group was significantly better than the control group（ p=0.025）.

**Conclusions**

Based therapeutic drug monitoring on meropenem individualized dose adjustment can enhance the target rate of PK/PD and the bacteriologic response.