
Poster

[P25-4] P25-4: Anti-infective drugs (4): Vancomycin

Chair: Noboru Okamura, Japan

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

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

[P25-4-3] Comparison of outcome of vancomycin by using different monitoring techniques between AUC/MIC and trough concentration in Thai population

Pakwan Bunupuradah¹, Kamthorn Malathum², Thanyaporn Lerdwannage³, Teerapong Buranaprasertsuk⁴, Nathamon Dejprapasorn⁵, Wantanee Apichanapong⁶, Preecha Montakantikul⁷ (1.Ramathibodi Hospital, Mahidol University, 2.Ramathibodi Hospital, Mahidol University, 3.Ramathibodi Hospital, Mahidol University, 4.Ramathibodi Hospital, Mahidol University, 5.Ramathibodi Hospital, Mahidol University, 6.Ramathibodi Hospital, Mahidol University, 7.Ramathibodi Hospital, Mahidol University)

Keywords: vancomycin, AUC/MIC, outcome, mortality

Background

Nowadays, several studies showed that trough concentration of vancomycin between 15-20 mg/L could not achieve the ratio of area under the plasma vancomycin concentration-time curve to the MIC (AUC/MIC) 400, which is a predictive marker for clinical effectiveness of vancomycin. The objective of this study was to compare patient outcome from vancomycin by using between AUC/MIC and trough concentration methods.

Methods

This was a retrospective cohort study of patients who were treated with vancomycin during 2014-2015. Clinical characteristics and laboratory data were collected. Individual pharmacokinetic parameters of vancomycin and AUC were estimated from two concentrations (peak and trough) and permit characterization of the concentration-time profile for that dosing interval as a simple mono-exponential curve. All-cause mortality and infection-related mortality were compared among AUC/MIC and trough concentration groups.

Results

Fifteenth patients were monitored by AUC/MIC and 78 patients were monitored by trough concentration. Among a cohort of 93 patients, patients who were monitored by AUC/MIC appeared to have lower all-cause mortality than ones who were monitored by trough concentration (3.3% vs 16.3%). However, the difference was not statistically significance. In addition, infection-related mortality between patients who were monitored by AUC/MIC and trough concentration was also not statistically significant difference. (5.6% vs 22.2%; N.S). Subgroup group analysis in MRSA-infected patients, revealed that all-cause mortality in patients who had AUC/MIC 400 were lower than patients who had trough concentration 15 mg/L (0% vs 28.6%; p=0.251).

Conclusions

Monitoring vancomycin by using AUC/MIC appeared to show lower all-cause mortality and infection-related mortality. However, the differences were not statistically significant. A larger group of patients is warranted to confirm the benefit of AUC/MIC.