Poster

[P27-2] P27-2: Anti-infective drugs (7): Antifungals

Chair: Yoh Takekuma, Japan

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[P27-2-4] Therapeutic drug monitoring and individualized dosing of voriconazole in fungal-infected Korean patients

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Background

Voriconazole is known for highly variable pharmacokinetic characteristics. With increasing use of anti-fungal agents in immunocompromised patients, therapeutic drug monitoring (TDM) can help optimize treatment outcomes of voriconazole.

Methods

Patients who were treated with voriconazole and referred to TDM consultation subsequently at least twice for dose adjustment from February 2015 to January 2017 in Seoul National University Hospital were reviewed retrospectively. Initial dose was determined by standard dosing regimen and serum trough concentrations were assessed at steady state. Dose adjustment was conducted at the first TDM according to a target concentration range of 2.0 –5.5 μg/mL and clinical findings including fungal antigen titer. The second TDM was conducted after reaching steady state on the altered dosage regimen. Serum trough concentrations of voriconazole at the first and second TDM were compared in each patient.

Results

A total of 79 patients (47 males vs 32 females) were referred to TDM subsequently at least twice at intervals of 1 –2 weeks. After initial treatment with a standard dosing regimen, 21 patients (26.6 %) had subtherapeutic levels (0.4 ±0.3, μg/mL) and 12 patients (15.2 %) reached toxic levels (8.9 ±1.5 μg/mL). Among 19 patients who had dose increments for subtherapeutic levels, target concentrations were reached in 14 patients (2.5 ±1.4 μg/mL), whereas 2 patients who did not have dose adjustment remained subtherapeutic (1.1 ±0.5 μg/mL). Seven out of the 9 patients who had dose reduction for toxic levels at the first TDM could reach target concentrations (3.9 ±2.7 μg/mL), whereas 3 patients who did not have dose adjustment still had either toxic or upper margin of therapeutic level (8.2 ±2.0 μg/mL) after all.

Conclusions

Thirty-three out of 79 patients (41.8 %) did not reach target concentrations of voriconazole after initial standard dosing regimen. Routine TDM and individual dose adjustments are considered helpful in achieving therapeutic drug concentrations of voriconazole.