Poster

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

Chair: Yoh Takekuma, Japan

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[P27-2-3] Therapeutic drug monitoring of voriconazole in Chinese patients with invasive fungal infections in West China Hospital

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Background

Voriconazole is an antifungal agent commonly administered as prophylaxis or treatment for invasive fungal infections. Due to the wide variability of its serum trough levels, narrow therapeutic window and side effects, voriconazole is increasingly recommended to be monitored in clinical settings. Our aim was to analyze the relationship between voriconazole concentration and side effects.

Methods

We retrospectively analysed 82 voriconazole concentration measurements from 51 patients with invasive fungal infections in West China Hospital. The clinical information including diagnosis, daily voriconazole dosage, medication time, dosage modification and side effects were retrieved from hospital information system (HIS). Most patients (48 of 51) were given the standard dosage of 400 mg/day, the rest were 300 or 200 mg/day. Trough serum voriconazole concentrations were measured by high-performance liquid chromatography (HPLC) and patients were categorized as subtherapeutic group (<1.5ug/ml), within-target group (1.5-5.5ug/ml) and high concentration group (>5.5ug/ml).

Results

33 patients (64.71%) had an initial voriconazole concentration within the target range. 12 patients (23.53%) had a subtherapeutic concentration and 6 patients (11.76%) had a high concentration. 38.9% (7 of 18) of patients with off-target concentrations had a subsequent dosage modification. Moreover, patients with higher and subtherapeutic voriconazole concentrations have had a longer medication time when compared to patients with concentrations within the target (high vs within-target: 19 days (8-20) vs 5 days (3-7), p=0.005; subtherapeutic vs within-target: 7 days (5.5-17.5) vs 5 days (3-7), p=0.034). Side effects were documented in 7 patients (13.7%), including hepatic damage (5 of 7) and mental disorders (2 of 7). The side-effect prevalence rate in high concentration group (33.33%) was higher than that in within-target group (15.15%), but the difference was not statistically significant (p=0.290).

Conclusions

Our study indicated that therapeutic drug monitoring (TDM) of voriconazole was of great importance to guide clinicians in voriconazole dosage adjustment so as to achieve ideal therapeutic effect as well as avoid serious side effects. Besides, patients with longer medication time of voriconazole should be monitored regularly to maintain the voriconazole concentrations.