

Posaconazole a Prophylactic Therapy in Cancer Patients: Analysis and Pharmacokinetics

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Intorduction: Posaconazole (PZ), an antifungal prophylactic therapy in hematologic cancer patients, was added to Al-Amal Hospital formulary in 2010. The objectives of this study are: 1. To identify the practice guidelines and pharmacokinetics information regarding PZ use in Qatar and worldwide. 2. To conduct a drug use evaluation (DUE) report at Al-Amal Hospital.

Methods: Literature review was conducted to answer the first objective. A retrospective DUE report was conducted to include 10 randomly chosen hematologic cancer patients who used PZ during the year 2010. Patients profiles were reviewed and data were collected into a pre-prepared collection sheet.

Results: PZ was approved for prophylaxis in hematologic cancer patients →13 years in USA, Canada, and Australia, →18 years in the European Union and >15 years in Qatar. PZ has low bioavailability that can be enhanced by co-administration of high fat meals and by dividing the total daily dose. Data regarding PZ TDM is controversial. PZ undergoes several drug-drug interactions. For example, co-administration of proton pump inhibitors may result in PZ sub-therapeutic levels. Co-administration of vincristine may result in higher neurological toxicity, mainly gastrointestinal problems, due to the inhibitory potency of PZ on cytochrome P450 enzymes. A patient receiving vincristine based chemotherapy protocol concurrently with PZ developed seizure. Another patient developed mild breakthrough fungal infection while on PZ prophylactically.

Conclusion: The PZ regulations in Qatar are similar to the worldwide recommendations. The PZ practice in Al-Amal hospital abides by the regulations. Possible serious PZ drug-drug interactions, seizures, in hematologic cancer patients should be highlighted and carefully monitored.