

# Posaconazole a prophylactic therapy in hematological cancer patients: Drug use evaluation study

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## Background and Objectives:

Posaconazole (PSZ), is an antifungal prophylactic therapy that is used in hematologic cancer patients. It is approved for prophylaxis in hematologic cancer patients  $\geq 13$  years in USA, Canada, Australia, and  $\geq 18$  years in the European Union. In 2010, PSZ was added to the formulary of Al-Amal Hospital, the only adult cancer hospital in Qatar. The objective of this study is to conduct a drug use evaluation (DUE) study of posaconazole at Al-Amal Hospital.

## Methods:

A retrospective, single centered, observational DUE study was conducted to include a convenient sample of hematologic cancer patients who used PSZ prophylactically during the year 2010. All patients, thirty-one, who received PSZ in 2010 were nominated of which 20 patients' profiles were reviewed, data were collected into a pre-prepared collection sheet and descriptive analysis was performed.

## Results:

In Qatar, PSZ was used prophylactically in hematologic cancer patients  $> 15$  years with febrile and afebrile neutropenia. It is also planned to be used prophylactically for the upcoming bone marrow transplantation unit patients. All the 20 patients, 17 males and 3 females, received the PSZ for prophylaxis and were compliant. More than 50% of patients received proton pump inhibitors concurrently with posaconazole. Only 1 case had a recorded recommendation regarding the administration of PSZ with food. Five patients received vincristine-based chemotherapy protocol, one of which received it concurrently with PSZ for two cycles and developed seizure. Two patients developed mild breakthrough fungal infection, oral thrush, while on PSZ prophylactically.

## Conclusion:

The PSZ regulations in Qatar are similar to the worldwide recommendations. The PSZ practice in Al-Amal hospital abides by the regulations. However, three points need to be addressed: PSZ has low bioavailability that can be enhanced by taking it with meals and by dividing the total daily dose. PSZ co-administration with proton pump inhibitors should be stopped as it may result in PSZ sub-therapeutic levels. Possible serious PSZ drug-drug interactions, seizures, in adult hematologic cancer patients should be highlighted and carefully monitored.