Improvement of patient compliance with the use of Posaconazole in a BMT unit

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**Background:** Posaconazole is given prophylactically because of prolonged neutropenia and the risk of systemic fungal infections. Posaconazole usage increased in a private hospital Bone Marrow Transplant Unit (BMT) following a Candida parapsilosis outbreak in the Gauteng region. The ward pharmacist noticed low Posaconazole compliance.

Posaconazole is an oral formulation. Patients have severe mucositis, diarrhea, nausea, vomiting and/or no gastric absorption. Fatty meals improve absorption. Taste is a problem and patients refused the medication. Patients preparing for theatre miss oral doses. In a pilot study with 8 non-compliant patients, 5 patients [62.5%] cultured C parapsilosis.

**Methods & Materials:** During January and February 2013 the ward pharmacist recorded the compliance of patients within the BMTU. Patients using Posaconazole for longer than 1 week were included in the study.

The number of doses missed was compared to the number of doses that should have been taken by the patient and converted into a compliance percentage. Patients are compliant when Posaconazole doses that should have been taken by the patient and converted into a compliance percentage. Patients were compliant when Posaconazole was taken more than 90% of the time and non-compliant when they were more than 10% non-compliant.

**Change was implemented and the compliance was monitored from July 2013 to September 2013.**

Changes made to improve patient compliance:

- Change dosing regimen QID to TDS
- Only AML and ALLO transplant patients
- Anti-fungal treatment changed when patient is non-compliant
- Anti-fungal treatment changed in ICU setting
- Compliance monitored by pharmacist
- Training by pharmacist for nursing staff on
  - Dosing
  - Absorption with food in collaboration with dietitians
  - Medication interactions

The results from the two periods were compared.

**Results:** N=28 for Jan-Feb 2013.
- 18/28 patients showed less than 90% compliance
- 64.3% non-compliant
- Non-compliant patients took medication 14.1% of the time.

N=26 for July to September 2013.
- 2/26 patients showed less than 90% compliance
- 7.6% non-compliant
- Non-compliant patients took medication 77.5% of the time.

**Conclusion:** During 2012 43 patients were diagnosed with Candida parapsilosis candidaemia compared to 11 patients diagnosed from Jan to Sep 2013.

Improving compliance to posaconazole is critical for effective prophylaxis. Pharmacists can play an important role in supporting improved compliance.