Evaluation of Electrocardiogram (ECG) Monitoring Practice in Newly Initiated Azole Antifungal Therapy

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**Background.** Azole antifungals are first-line options in the management of many fungal infections, but most are known to cause corrected QT interval (QTc) prolongation. There is a lack of guidance on which patients on azoles warrant ECG monitoring, potentially leading to discordant clinical practices. We aimed to determine factors associated with ECG monitoring of patients on systemic azole therapy.

**Methods.** We performed a retrospective cohort study of hospitalized adult patients who received at least five days of inpatient azole therapy. Pregnant patients, those on azoles prior to admission or with a gap in azole therapy > 3 days were excluded. Only the first admission with azole use per patient over the study period was included. The primary outcome was any ECG measurement within 5 days of starting azole therapy. We calculated adjusted odds ratios (aOR) for the association between patient and treatment characteristics and likelihood of ECG measurement using multivariable logistic regression.

**Results.** 4,126 patients met inclusion criteria over 9 years (Figure 1). Most were admitted to the Hematology/Oncology service (49%), followed by Transplant (20.4%). Azole therapy was initiated for medical prophylaxis in 61.7% and for treatment in 27.9%. Fluconazole (FLU) was the most utilized azole (75.2%), followed by voriconazole (VOR) (18%). Overall, 1,454 patients (35.24%) had at least one ECG measured within 5 days of starting azole therapy. Patients were more likely to have an ECG monitored if they received VOR (48.1%) compared to FLU (31.1%), or were on the transplant service (53.9%) vs medicine (37%). On multivariate analysis (Figure 2), likelihood of having an ECG measured was greater among patients (1) receiving posaconazole (POS, aOR 1.75, 95% CI 1.31-2.34) or VOR (aOR 1.34, 95% CI 1.10-1.63) versus FLU, (2) with a baseline QT-prolonging medications (aOR 2.07 1.76-2.43), and (3) who received concomitant QT-prolonging medications (aOR 1.22, 95% CI 1.01-1.48) or diuretics (aOR 1.38 95% CI 1.16-1.63).

**Conclusion.** Use of POS or VOR, baseline ECG monitoring, concomitant QT-prolonging medications, and electrolyte abnormalities, were associated with greater likelihood of ECG monitoring. These results can help target guidance for ECG monitoring in patients on azoles.

**Disclosures.** Conan MacDougall, PharmD, MAS: Merck: Advisor/Consultant

Figure 1. Study Flow Diagram

Figure 2. Odds Ratio for Primary Outcome