



Background

- Fluconazole is a common antifungal used at hospitals and is an important target for antimicrobial stewardship
- Fluconazole is also used for management of coccidioidomycosis (cocci) and requires longer duration of therapy compared to other infections
- In addition, fluconazole is associated with side effects and toxicities, particularly with long-term use.

Methods

- We conducted an IRB approved retrospective study to describe fluconazole prescribing patterns at two academic medical centers in Arizona (one in Tucson and one in Phoenix).
- One month from each quarter in a one-year study period (November 2017-November 2018) was selected (4 months in total).
- All adult patients that received fluconazole at Hospital A (Tucson) and Hospital B (Phoenix) in the 4 selected months were identified.
- Fluconazole administration was identified as directed towards cocci management or non-cocci management (e.g., candidiasis).
- In the cocci group, initial fluconazole dose characterized as empiric, targeted, or prophylaxis treatment

Results

- 1,239 fluconazole patients analyzed in total with most usage directed towards cocci management (787/1239; 63.5%).
- Patient information from both centers shown in Table 1.
- Patient information from the empiric cocci group shown in Table 2.

Table 1: Patient Information for Hospital A and Hospital B

	Hospital A (%)	Hospital B (%)
Patients	573	666
Age (Mean)	54	52
Male	273 (47.6)	354 (53.2)
Diabetes mellitus	176 (30.7)	266 (39.9)
Coronary artery disease	70 (12.2)	80 (12)
Congestive heart failure	77 (13.4)	41 (6.2)
Chronic kidney disease	148 (25.8)	98 (14.7)
ESRD	57 (9.9)	132 (19.8)
COPD	47 (8.2)	47 (7.1)
Asthma	19 (3.3)	25 (3.8)
SOT	215 (37.5)	322 (48.3)
Malignancy	150 (26.1)	105 (15.8)
Rheumatology diagnosis	47 (8.2)	70 (10.5)
Cirrhosis	24 (4.1)	76 (11.4)
HIV	16 (2.8)	29 (4.4)
CCI ≥ 3	356 (62.1)	436 (65.5)
Coccidioidomycosis - directed management	347 (60.6)	440 (66.1)
• Empiric	64	42
• Targeted	49	68
• Prophylaxis	234	330

Table 2: Patient Information for Empiric Cocci Prescribing Group

	Hospital A (%)	Hospital B (%)
Patients	64	42
Diabetes mellitus	14 (21.9)	16 (38.1)
COPD	12 (18.8)	5 (11.9)
SOT	4 (6.3)	6 (14.3)
Malignancy	14 (21.9)	6 (14.3)
ESRD	5 (7.8)	5 (11.9)
Chronic kidney disease	3 (4.7)	6 (14.3)
Cirrhosis	2 (3.1)	3 (7.1)
Rheumatology diagnosis	8 (12.5)	4 (9.5)
CCI ≥ 3	37 (57.8)	25 (59.5)

Summary and Conclusions

- The majority of fluconazole prescribing at both academic centers was directed towards cocci management (60.6% vs 66.1%, Hospital A and Hospital B, respectively).
- A significant amount of that usage was directed towards cocci prophylaxis at both hospitals (67.4% vs. 75.0%, Hospital A and Hospital B, respectively).
- Fluconazole usage directed towards empiric cocci management was higher at Hospital A compared to Hospital B (18.4% vs 9.5%, respectively) but not clear if specific conditions favor more empiric prescribing.
- Antimicrobial stewardship programs in endemic regions for Valley Fever should focus on fluconazole usage as a target due to concerns about selection of azole-resistant *Candida* spp. and invasive molds with increased antifungal exposure.

References

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