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### **INFORMATION ON ORAL FLUCONAZOLE FOR SEBORRHEIC DERMATITIS**

Seborrheic dermatitis is an inflammatory condition which can affect the scalp as well as other areas of the body such as the eyebrows, eyelashes, face and body. The condition is multi factorial in its ethology. The yeast *Malassezia* has been shown to have a fundamental role in the pathogenesis of the condition. A variety of topical anti-seborrheic and anti-inflammatory creams, lotions and shampoos have been shown to be helpful in treating this condition. There are several oral antifungals have been used to treat seborrheic dermatitis, including itraconazole, terbinafine, fluconazole, and ketoconazole.

In a systematic review of 21 publications of oral treatments for seborrheic dermatitis, researchers concluded that most of the publications had quality of the evidence that was generally low. It was difficult for researchers to evaluate the precise clinical efficacy outcomes of various studies because of how different the study designs and endpoints actually were. The researchers however did conclude that ketoconazole therapy was associated with more relapses compared with other treatments.

#### **What is Fluconazole?**

- Fluconazole is an anti-fungal medication
- It belongs to a class of drugs known as the 'azole antifungals'
- It is known by generic names such as fluconazole

#### **What is the dose of oral Fluconazole?**

- A variety of doses may be prescribed in our clinic depending on the age and severity of the SD
- In our clinic, we commonly prescribe regimens such as:
  - 150 mg twice weekly for 2-4 weeks
  - 50 mg daily for 2-4 weeks
  - 300 mg once weekly

## **What is the evidence for oral Fluconazole in treating Seborrheic dermatitis?**

Below, we review Four Studies of Fluconazole For Treating SD

### **Study 1: Zisova, 2006**

In 2006, Zisova performed a two week study comparing treatment outcomes of 27 subjects using both 50 mg/day of fluconazole and topical clobetasol (Group 1) compared to 11 study subjects using oral fluconazole alone (Group 2). The author reported that 85% of the patients In Group 1 were clinically cured and their symptoms faded away. The 15 % that were not cured were mainly those with severe SD and even these patients had significant clinical improvement. In Group 2, 31.5% of the patients were found to be clinically cured. The authors concluded that fluconazole treatment in patients with seborrheic dermatitis was successful, effective and safe.

### **Study 2: Comert and colleagues, 2007**

In 2007, Comert and colleagues studied the efficacy of oral fluconazole vs placebo in treating mild-to-moderate seborrheic dermatitis. Twenty-seven patients took fluconazole 300 mg weekly for two weeks and 23 patients took placebo. Results showed that the overall difference between the treatment groups was not statistically significant. There were subjective improvements in symptoms, such as pruritus and burning in both groups but no statistically significant differences versus baseline were seen.

### **Study 3: Alizadeh and colleagues, 2014**

In 2014, Alizadeh and colleagues compared the efficacy of oral fluconazole and terbinafine in the treatment of moderate-to-severe seborrheic dermatitis. 64 patients were enrolled in the trial with once group taking oral terbinafine 250 mg daily (n=32) and the other group took fluconazole 300 mg (n=32) weekly for 4 weeks. They found that both drugs significantly reduced the severity of seborrheic dermatitis although the efficacy of terbinafine was found to be superior to fluconazole.

### **Study 4: Demiraj and colleagues, 2015**

In 2015, Demiraj and colleagues studied the benefits of 150 mg twice weekly dosing of fluconazole over a two week period in 49 patients. At the end of the 2 week treatment period, there was a significant improvement versus baseline was reported in erythema, scaling, and itching in mild, moderate and severe groups. There were no side effects found in study patients.

AUTHOR	PATIENTS	DOSE AND DURATION	OUTCOME
Zisova 2006	27 pts fluconazole + clobetasol vs 11 patients fluconazole only	Group 1: fluconazole 50 mg daily with clobetasol for 2 weeks  Group 2: 50 mg daily for 2 weeks	Group 1: 85 % clinically cured  Group 2: 31 % clinically cured
Comert et al 2007	27 pts oral fluconazole vs 23 placebo	Fluconazole 300 mg per week for 2 weeks	Fluconazole similar to placebo
Alizadeh et al 2014	64 pts randomized to terbinafine (32) or fluconazole (32)	Terbinafine 250 mg daily for 4 weeks  Fluconazole 300 mg weekly for 4 weeks	Both were helpful but terbinafine was slightly better.
Demiraj et al 2015	49 patients	150 mg twice weekly for 2 weeks	Improvement in redness, scaling and itching in all patients

**Conclusion:**

The overall conclusion from these studies is the oral fluconazole likely has some degree of benefit in treating seborrheic dermatitis with mild to moderate forms being more likely to respond favorably compared to severe forms. The dose ranged from 50 mg daily to 150 mg twice weekly to 300 mg weekly and the duration of the studies was 2-4 weeks. The major challenge is knowing what the long term outcome holds for these patients and whether a large proportion of patients relapse after stopping treatment.

### **What the side effects of oral Fluconazole?**

- Headaches (about 10%)
- Nausea and Vomiting (5%)
- Abdominal pain (5%)
- Diarrhea (2%)
- Rash (2%)

### **Less common side effects include**

- Liver irritation
- Serious rashes
- Dizziness
- Change in taste
- Heart rhythm changes

### **Are there any possible drug interactions with oral Fluconazole?**

- There are many interactions
- If you take ANY medication, please advise Dr. Donovan. Diflucan may or may not be appropriate

### **Who should not use oral Fluconazole?**

- Women who are pregnant or breastfeeding
- Individual allergic to azole antifungals
- Individuals with liver or kidney disease (may need dose change)
- Individuals with diabetes or lactose sensitivity may need alternate types of formulations made

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### **References**

Alizadeh N et al .Comparison the Efficacy of Fluconazole and Terbinafine in Patients With Moderate to Severe Seborrheic Dermatitis. *Dermatol Res Pract.* 2014;2014:705402. doi: 10.1155/2014/705402. Epub 2014 Feb 18.

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