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FROM THE FAMILY PRACTICE INQUIRIES NETWORK

What is the best oral antifungal medication for tinea capitis?

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EVIDENCE-BASED ANSWER

Terbinafine is effective, safe for use in children, and relatively inexpensive, and it offers a shorter course of therapy than griseofulvin. Unfortunately, it is not available in liquid form. Fluconazole is available in liquid form and appears to be effective and safe, but fewer clinical trials have been published about it. Griseofulvin taken for 6 to 8 weeks remains an effective therapy for tinea capitis. There are insufficient randomized controlled trials directly comparing these agents to clearly establish a superior medication. (Grade of Recommendation: B [small randomized controlled trials with limited head-to-head comparisons of drugs])

RECOMMENDATIONS FROM OTHERS

Major pediatric and infectious disease textbooks continue to recommend griseofulvin as first-line therapy for tinea capitis but recognize that other safe and effective treatments exist.[1-4] A recent practice guideline from the British Association of Dermatologists did not recommend any oral antifungal agent as clearly superior.[5]

EVIDENCE SUMMARY

Tinea capitis is one of the most common dermatophyte infections in the pediatric population, affecting up to 4% of all children. The peak age is 4 to 6 years; infection is rare after puberty. Systemic therapy is generally required.6 The exact efficacy of any agent is difficult to determine, because most studies were small, used different doses and definitions of cure, and were conducted in different populations. With the exception of ketoconazole, all agents seem to have roughly similar efficacy and cure rates of approximately 70% to 80%. None of these agents require laboratory monitoring at the recommended lengths of treatment for tinea capitis .[7]

Griseofulvin's safety and long history of use in children are its best assets. Recommended dosages and treatment duration have been increased because of fears of developing resistance.[8] Tablets are approximately one third the cost of the liquid preparations.

Ketoconazole was one of the first "-azoles" studied for the treatment of tinea in children. It is not as efficacious or as safe as other available treatments, making it unsuitable for the treatment of tinea capitis in children.[5]

Itraconazole has been associated with several abnormalities of bone and soft tissue at doses exceeding normal

human exposure. Additionally, at more normal doses a component of the liquid formulation causes pancreatic adenocarcinoma in rats.[6] It has had mixed efficacy in clinical trials, with cure rates ranging from 40% to 89%.[9-11]

Fluconazole is another broad-spectrum antifungal in the triazole class. It has been approved by the Food and Drug Administration (FDA) for use in children with systemic fungal infections. The safety profile is very good; it has no known significant carcinogenic potential. Fluconazole is available in both tablet and liquid formulations that make dosing in young children convenient. There are very few clinical studies comparing fluconazole with other antifungal drugs, and no head-to-head prospective randomized controlled trials with griseofulvin have been published to date.[5]

Terbinafine is an allyamine antifungal drug that has a very good safety profile. Unfortunately, there is no liquid formulation of terbinafine, but tablets may be hidden in food.[12] Although terbinafine is efficacious against Trichophyton tonsurans and Trichophyton violaceum, it does not work as well against Microsporum canis, which accounts for approximately 3% of the infections.[12-15] Terbinafine is the most attractively priced treatment for tinea capitis, particularly if a short course is used.

Clinical Commentary

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In the near future I suspect the controversy will not be whether to use the newer antifungals (terbinafine, itraconazole, and fluconazole) but rather which one to use. Despite abundant literature documenting the apparent safety of the newer agents, only the makers of griseofulvin have obtained FDA approval for treating pediatric tinea infections. (Fluconazole is approved for the treatment of thrush.) More than 90% of the cases of tinea capitis in the United States are caused by Trichophyton tonsurans; thus, concern about resistant Microsporum canis is probably overemphasized.

In my practice I no longer prescribe griseofulvin to adults for any type of fungal infection. Influenced by current FDA approval and the opinions of referring physicians, I still use griseofulvin to treat some children. However, I use the newer agents (itraconazole or terbinafine) in most cases.

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