Short report

TERBINAFINE IN TINEA CAPITIS DUE TO MICROSPORUM CANIS

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ABSTRACT

Ten children within the age range of 3-9 years with non-inflammatory tinea capitis due to Microsporum canis were evaluated in an open clinical test. The pilot study ran from January to November 1994.

Each child was given oral terbinafine (Lamisil) for 6 weeks once daily according to body weight (dose range 62,5 -125 mg/day). The therapy was continued with topical 1% terbinafine cream for another 6 weeks.

After 6 weeks of oral terbinafine application all mycological investigations remained positive, whereas cultures turned out to be negative in 5 cases (50%).

After 12 weeks the KOH and Wood tests became negative in 6 (60%), culture was negative in 6 (60%). No systemic or topical side effects were noted, so we found terbinafine safe and well tolerated.

Further studies with longer oral terbinafine treatment in tinea capitis due to Microsporum canis are suggested.

KEY WORDS

tinea capitis, Microsporum canis, children, terbinafine, oral application, topical application

INTRODUCTION

The incidence of Microsporum canis (M. canis) infection has been on a steep increase during the recent years in South Europe, Slovenia included (1). The majority of patients are children, scalp infections being not rare. M. canis usually causes dry non-inflammatory lesions, kerion is extremely rare (2). For years griseofulvin was the only effective systemic agent for tinea capitis. Terbinafine hydrochloride has a fungicidal effect in vitro and was found effective in treatment of dermatomycoses of the skin, nails and scalp (3,4,5).

In the present study, we tried to find out the efficacy and tolerability of a 6 -week treatment with orally administered terbinafine, followed by a 6-week topical application of 1% terbinafine cream for tinea capitis due to M. canis in children.

MATERIALS AND METHODS

Ten children with dry non-inflammatory tinea capitis due to M. canis were included in the open clinical test. The clinical diagnosis was confirmed by direct microscopy of hairs treated with 10% potassium

Table 1. The number of patients with positive KOH, Wood and culture at 6th and 12th week

TESTS	before treatment	at 6 weeks	at 12 week
KOH positive	10	10	4
WOOD positive	10	10	4
Culture positive	10	5	4

hydroxide (KOH), by examination with Wood lamp (Wood) and by culture. The material obtained from the patients were cultured on the Sabouraud glucose agar with gentamycin and actidion added at 28°C for the period of 4 weeks. The identification of the fungi was done by assessing the colony appearance and microscopic morphology.

No systemic or topical antifungal treatment was applied a month before starting the study. Complete blood cell count, urine analysis, liver and renal function tests were performed prior to treatment, patients with pathological tests were excluded from the study.

Ten children, 6 boys and 4 girls, age range 3-9 years were given terbinafine once daily according to body weight. Dosage was as follows: 62,5 mg/day for those weighing less then 20 kg, 125 mg/day for those weighing 20-40 kg, 250 mg/day for those weighing more than 40 kg. After 6 weeks, the oral therapy was discontinued and 1% terbinafine cream was applied twice daily for another 6 weeks. Evaluations were done at the 6th and the 12th week and the results are presented in table 1.

Both oral and topical treatment were well tolerated. No systemic or local side effects were observed, laboratory data (complete blood cell count, urine analysis, liver and renal function tests) were within normal range.

DISCUSSION

The treatment of tinea capitis due to M. canis in children presents a serious therapeutic problem. In vitro studies terbinafine is active against several dermatophytes (6). However, only in vivo studies can actually determine its clinical efficacy.

The results of our open clinical study in a rather small number of patients showed that after 6 weeks of oral terbinafine treatment KOH and Wood tests remained positive in all 10 patients. However the culture became negative in 5. After an additional 6-week topical application of 1% terbinafine cream KOH and Wood tests became negative in 6, and culture as well was negative in 6 patients.

Orally administered terbinafine may persist in different compartments of the skin even after 48 days after the last day of medication in a concentration higher than the minimal inhibitory concentration for M. canis (7). The reason why it is not more effective remains to be elucidated. Topical antifungal agents are usually ineffective in the treatment of tinea capitis as they do not appear to reach the hair bulbs (2). According to our data mycological results (KOH, Wood) were better at 12th week, a negative culture was obtained in 6 patients. A 6-week oral terbinafine treatment was more effective in patients with tinea capitis due to Trichophyton sp. (5,8).

CONCLUSIONS

6-week orally administered terbinafine, followed by a 6-weeks topical application of 1% terbinafine cream twice daily was effective in 60% of treated patients with tinea capitis due to M. canis. Longer oral terbinafine treatment and treatment duration finding studies are suggested in cases of M. canis scalp infection in children.

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