



Figure 1. Growth curve of *S. epidermidis* in presence and absence of *M. furfur* supernatant

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A dermoscopic finding of *Tinea capitis* caused by *Microsporum canis*

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Objectives: *Tinea capitis* is a relatively common disease, and the mycological examination is the gold standard for diagnosis. However, the probability of false negative on the KOH test is up to 40% and culture examination takes a long time for diagnosis. The characteristic pattern of dermoscopy not only aids in diagnosis, but also enables early treatment.

Methods: We evaluated six patients who were diagnosed with *tinea capitis* through clinical and dermoscopic findings. The images of the lesions were taken with a digital camera (Nikon, HB-42) and photographed with dermoscopy (DermLite Foto 2 Pro) from the patients. The pictures were obtained by taking multiple focal points with dermoscopy. The comma, corkscrew, Morsecode-like, zig-zag, and bent hairs were observed as the main findings.

Results: The dermoscopic finding was seen with overlapping of various findings in each of the patients. Upon dermoscopy, the most common findings were the corkscrew hair (66%) and the bent hair (66%). The comma hair (33%) and the proximal white shaft hair (33%) were less frequently observed and zigzag hair and Morse-code like hair were not seen in six patients. In the photograph taken with a camera, findings considered to be dermoscopic features such as corkscrew hair or comma hair were not observed.

Conclusion: It is important for dermatologists to consider that abnormal findings in dermoscopy can play an important role in diagnosing *Tinea capitis*. And it will help in early treatment and prevent the progression of complications. Here in, we report specific dermoscopic findings which can narrow down the differential diagnosis.

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Spectrum of Dermatophyte infections and drug susceptibility pattern of Dermatophytes in patients visiting to tertiary care hospital in Chhattisgarh state of India

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Objectives: 1. To isolate and identify various species of Dermatophytes from clinical specimens 2. To perform and analyze the antifungal susceptibility testing of isolated Dermatophytes for commonly used antifungal agents; terbinafine and itraconazole.

Methods: A prospective study was conducted from December 2019 to October 2021. Clinical specimens (skin, hair, and nail) from suspected cases of dermatophytosis were received and processed in the department of microbiology. All the samples were subjected to microscopic examination and culture by standard techniques. Their clinico-demographic profile was obtained. Specimen were processed for KOH and fungal culture. Dermatophytes were identified by studying macroscopic and microscopic characteristics of the isolates. The conidium-forming dermatophyte isolates were processed for antifungal susceptibility testing for terbinafine and itraconazole by Microbroth dilution testing following the CLSI M-38A2 guidelines.

Results: Total 248 patients with male predominance (68%) were noted in the above-mentioned study period. Predominance of study population belonged to rural area. Maximum numbers of cases were from the age group 21-30 years. Majority of patients belong to poor socioeconomic status. Out of 248 samples, 178 (72%) had a positive KOH mount amongst which 72% had positive culture results. Amongst 24881% were skin scraping, 17% were nail, and 1.6% hair samples were processed. Out of culture-positive samples 52% were Dermatophytes. The most clinical form of dermatophytosis was combination of both *Tinea cruris* and *T. corporis* (31%) followed by *T. cruris* (22%), and *T. corporis* (17%) for which skin scraping was processed. The most common isolate was *Trichophyton tonsurans* (73%) followed by *T. mentagrophytes* (10%), and *T. verrucosum*. Onychomycosis was diagnosed in 17% patients of which 59% were positive by KOH 49% were culture positive. 11.5% isolates from nails were dermatophytes.

Antifungal susceptibility testing was done by Microbroth dilution method and analyzed the range. The MIC range of major isolates, i.e., *T. tonsurans* showed MIC ranges against terbinafine <0.03-4 µg/ml and itraconazole 0.03-2 µg/ml. *Trichophyton mentagrophyte* for terbinafine <0.12-4 µg/ml and for itraconazole 0.12-2 µg/ml. Four isolates of *T. tonsurans* had higher MIC values for terbinafine and two isolates had higher MIC for itraconazole. One isolate of *T. mentagrophytes* had higher MIC values of itraconazole, and one another isolate had higher MIC for terbinafine.

Conclusion: This study highlights the change in pattern of causative agents of dermatophytosis. The present study showed the predominance of *T. tonsurans*. More extensive studies are needed to evaluate the cut-off range of antifungal susceptibility testing of dermatophytes with clinical follow-up to see the response of respective antifungals and to guide the therapy.

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AIRE gene mutation predisposing chronic mucocutaneous Candidiasis in two kids from a Chinese family

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Objectives: Chronic mucocutaneous candidiasis (CMC) is a group of clinical syndromes characterized by chronic recurrent skin, nails, and mucosal superficial *Candida* infections. Various gene mutations have been reported to predispose individuals to CMC and its related syndrome. This study aims to study the clinical features and the genetic background underlying two kids of CMC from a Chinese family.

Methods: Clinical and laboratory findings of the two patients were studied, including physical examination, direct microscopic examination, and fungal culture. Genomic DNA of all family members was extracted from peripheral blood leukocytes, and whole-exome sequencing (WES) was performed.

Results: A 2-year-old boy and his sister were admitted to the hospital due to recurrent thrush and thickening of their nails. Direct microscopic examination of their nails and the brother's tongue showed branched pseudohyphae and yeast cells, and *Candida albicans* was identified through fungal culture. The brother also experienced a progressively impaired vision, which was diagnosed as retinitis pigmentosa, causing no light perception in one eye and light perception up to 0.1 in the other. Their parents belonged to the Hui population (a minority population in China) and had a history of consanguineous marriage. Chronic mucocutaneous candidiasis (CMC) was diagnosed, and oral fluconazole was prescribed. After continuous fluconazole treatment for 6 months, the nails and the tongue became normal. These patients are still under follow-up.

Due to the recurrent *Candida* infections and history of consanguineous marriage, genetic susceptibility was suspected. When we compared the WES data with all genes reported to be related to CMC, a homozygous mutation in the AIRE gene was noted (C. 769 C > T, p. Arg257Ter) in both patients. The parents were heterozygous carriers of the variant.

Conclusion: In this study, we identified two CMC patients of Chinese harboring AIRE mutations. These patients remind us the importance of genetic analysis in management of CMC, which then help to adjust the time of treatment, as well as to predict and early detect related complications.

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A case of nail discoloration due to topical treatment of onychomycosis with luliconazole 5% nail solution

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We use efinaconazole 10% topical solution and luliconazole 5% nail solution for topical treatment of onychomycosis in Japan. We show a case of onychomycosis treated with nail debridement and topical luliconazole 5% nail solution to the nail and topical luliconazole 1% cream to the foot.

A woman in her seventies with chronic urticaria had a nail spike color change on her left big toe (Fig. 1).

We opened the spike lesions with a plastic nipper and KOH direct microscopic examination showed dermatophytoma. We treated with topical luliconazole cream on the toes and soles of the foot and 5% solution on the nail. Because of the summer season, she walked outside in sandals without socks during treatment and noticed the nail yellow color change (Fig. 2). We advised the patient to protect from sun light and not to walk outside without socks. Due to the report from the production company, the reason for nail color change to yellowish is photodegradation of luliconazole. After 1 year since first visit, the fungal infection of the big toe disappeared by our topical treatment. The nail yellow color change also disappeared. We recommended avoiding sunlight exposure on the treated nail during topical treatment of luliconazole 5% nail solution.