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A dermoscopic finding of Tinea capitis caused by Microsporum canis
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Poster session 1, September 21, 2022, 12:30 PM - 1:30 PM

Objective: Tinea capitis is a relatively common disease, and the mycological examination is the gold standard for diagnosis. However, the probability of false negatives on the KOH test is up to 10% and culture examination takes a long time for diagnosis. The characteristic pattern of dermatoscopy not only aide in diagnosis, but also enables early treatment.

Methods: We evaluated 6 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 dermatoscope (DermLite Pro 2 PR) from the patients. The pictures were obtained by taking multiple focal points with dermatoscope. The corona, core, core/straw, Microsporea-like, zig-zag, and bare hairs were observed in 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 corona hair (66%) and the bare hair (46%). The corona hair (53%) and the proximal white shaft hair (35%) were less frequently observed and argon hair and Microsporea-like hair were not seen in six patients. In the photograph taken with a camera, findings considered to be dermatoscopic features such as corona 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. Hence, 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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Objective: 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 nails from suspected cases of dermatophytes were received and processed in the department of microbiology. All the samples were subjected to microscopic examination and culture by standard techniques. The clinic-dermascopical profile was obtained. Specimens were processed for KOH and fungal culture. Dermatophytes were identified by studying macroscopic and microscopic characteristics of the isolates. The collected-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 nail prominence (68%) were noted in the above-mentioned study period. Predominate study population belonged to rural area. Maximum number of cases were from the age group 21-30 years. Majority of patients belong to poor socioeconomic strata. Out of 248 samples, 178 (72%) had a positive KOH mount amongst which 72% had positive culture results. Amongst 2,480 isolates, skin scraping, 57% were nail, 34% hair and 2% human samples were processed. Out of culture-positive samples 52% were Dermatophytes. The most clinical forms of dermatophytes were combination of both Trichophyton and T. rubrum (31%) followed by T. rubrum (22%), T. mentagrophytes (17%) for which skin scraping was processed. The most common isolates were Trichophyton rubrum (73%), followed by T. mentagrophytes (55%), and T. vernicosum. Onychomycosis was diagnosed in 17% patients of which 59% were positive by KOH, 49% were culture positive. 11.3% 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. rubrum showed MIC ranges against terbinafine <0.05-4 µg/ml and itraconazole 0.05-2 µg/ml. Trichophyton mentagrophytes for terbinafine ≤0.12-4 µg/ml and for itraconazole 0.12-2 µg/ml. Four isolates of T. rubrum 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. rubrum. 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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Objective: 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 syndromes. 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 microscope 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 Han population in 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.749G>C, p. Arg250Ter) in both patients. The parents were heterozygous carriers of the variant.

Conclusion: In this study, we identified two CMC patients of Chinese background AIRE mutations. These patients remained as the importance of genetic analysis in management of CMC, which helps to adjust the time of treatment, as well as to prevent 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 efinaconazole 1% cream to the foot.
A woman in her twenties with chronic onychomycosis had a nail spike color change on her left big toe (Fig. 1). We applied the proposed solution with a plastic tupper and KOH direct microscopic examination showed dermatophytona. We treated with topical luliconazole cream on the toes and sole of the foot and 5% solution on the nail. Because of the summer season, she washed outside in sandals without socks during treatment and noticed the nail yellow color change (Fig. 2). We advised her to use a plastic tupper from an easy 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 the first time, 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.