

DERMOSCOPY – The New Non-Microbiological Diagnostic Tool for Mycotic Infections

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ABSTRACT

Background: The rampant use of over-the counter steroids for tinea has resulted in the epidemic of tinea incognita leading to the epidemic of antifungal therapeutic failures (AFTF) in South Asian countries.

Intermittent or prolonged use of oral/topical corticosteroids in cutaneous fungal infections not only renders treatment difficult, but also jeopardizes clinical as well as laboratory diagnosis by standard KOH smear and fungal culture methods, since the scaling (that contains the fungi) is dramatically suppressed. DERMOSCOPY is a relatively new non-invasive imaging technique that has till now been used by skin specialists for discerning benign moles from melanomas. However, in this lecture, I shall demonstrate and explain the innovative repurposing of Dermoscopy by my team and me to serve as a dependable tool for prompt diagnosis of cutaneous mycotic infections.

Introduction:

These days, dermoscopy is a worldwide overall diffuse indicative device supporting clinicians in their day by day hard undertaking of right direction among dermatological ailments. Destined to be an instrument for early finding of skin malignant growth, the dermatoscope is presently viewed as the dermatologist's stethoscope, as it very well may be routinely used to help analysis as a rule dermatology, so spreading its utility in cutaneous provocative and irresistible infections. As concerns the last mentioned, a lot of papers have been distributed since the primary portrayal of dermoscopic discoveries of scabies.

Onychomycosis is the most widely recognized nail infective turmoil, which has been accounted for to represent up to half of all interviews for nail sicknesses. As indicated by epidemiological examinations, the commonness of onychomycosis is relied upon to ascend in the coming years. Dermoscopy gives off an impression of being a quick and helpful device in the analysis of onychomycosis. It permits brief and nonprocedural appraisal of the whole nail unit contrasted with mycological assessments.

A galloping enthusiasm toward dermoscopy as of late prompted dermatologists everywhere throughout the world to portray regular novel dermoscopic signs in pretty much every dermatological sickness, accordingly here and there creating disarray in wording. An ongoing accord by the International Dermoscopy Society attempted to place request in that disarray by reclassifying the most acknowledged dermoscopic rules and wording in fiery and irresistible illnesses of skin.

As a general thought, when moving toward cutaneous irresistible sicknesses (entomodermscopy), a danger of spreading the disease through the dermatoscope exists, however a couple of proposals can restrict or maintain a strategic distance from the issue. Initially, noncontact dermoscopy ought to be favored as the symptomatic methodology and these days it is simpler in light of developing dispersion of enraptured dealt with dermatoscopes, which maintain a strategic distance from skin contact. Second, the utilization of cleaning

agents and instrument cleansing after each utilization is compulsory. The utilization of expendable straightforward gadgets has been deserted as a result of obstruction with the right perception of the skin.

Among dermatophytic diseases, fungus capitis (TC) is the one that exploited from the utilization of dermoscopy after some time. TC is a typical dermatophytosis of the scalp of youngsters and seldom grown-ups. A few specialists have been disconnected in patients with TC, with *Microsporum canis* being the most well-known in Europe, representing 80% of cases, trailed by *Trichophyton* spp, logically expanding as etiological operator of TC. Single or different alopecic layered patches of the scalp are the typical clinical introduction of TC, whose determination ought to be affirmed by potassium hydroxide assessment and microbiological culture. Despite the fact that it very well may be handily perceived based on clinical discoveries, dermoscopy may locate an incredible job in differential determination with other normal reasons for going bald, particularly in kids, for example, alopecia areata and trichotillomania. The most well-known and first portrayed trichoscopic finding in TC is the supposed "comma hair," ie, an abbreviated, bended hair coming about because of the contagious intrusion of the pole. Other vague dermoscopic discoveries have been accounted for in TC, in particular dark dabs, dystrophic hairs, and hair throws.

Onychomycosis is recorded in the gathering of dermatophytic diseases, as dermatophytes are liable for most parasitic nail contaminations. As of late a few examinations have indicated the utility of onychoscopy in the determination of onychomycosis. In an ongoing clinical review in the Journal of the American Academy of Dermatology, onychoscopy was perceived as a steady instrument for the determination of onychomycosis and its differential analysis. As, onychoscopy of contagious melanonychia has been depicted with various hues in nail staining including dark, white, yellow, and orange, permitting a differential conclusion with harmful melanonychia.

Dermoscopy in diagnosis, selection of choice of treatment and follow-up in patients with steroid-modified tinea/dermatophytosis:

- **Onychoscopy [Dermoscopy of the Nail Unit for diagnosis of Onychomycosis]**
- Onycholysis with jagged proximal margin
- Aurora borealis pattern (longitudinal striae of different colors)
- Ruin pattern (distal pulverization of nail plate)
- Fungal melanonychia
- **Trichoscopy [Dermoscopy of the Scalp & Hair for diagnosis of Tinea Capitis]**
- Comma or C-shaped hair
- Cork screw hair or coiled hair
- Broken/ zig-zag/ bended/ angulated/ deformable hair
- Black dots
- Morse-code hair and translucent hair

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Extended Abstract

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- More specific for ectothrix infections – morse code hair, endothrix infection – comma/ cork-screw hair
- Dermoscopy OF NON-GLABROUS skin for diagnosing Tinea corporis/cruris INCOGNITO [when KOH and culture are difficult due to suppression of scaling]
- Tinea of vellus hair – perifollicular scaling, translucent hair, banded hair, morse-code hair, corkscrew and comma-shaped hair, brown dots with whitish halo – indication for systemic antifungal treatment and aids in deciding treatment duration.
- Dermoscopy OF GLABROUS skin for diagnosing Tinea of palms and soles
- Tinea pedis/ mannum – localization of scales to palmar and plantar creases.

Conclusion: Thus, in this lecture, I shall share the past 10-years of experience of my team in repurposing DERMOSCOPY as a tool for diagnosis of fungal infections, especially when KOH/culture are not possible or non-diagnostic.