HAIR DISORDERS

HAIR FUNGAL INFECTION - PRECISE DIAGNOSIS AND THERAPEUTIC EFFECT EVALUATION BY DERMOSCOPY AND FLUORESCENT STAINING

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Introduction: Hair as appendages of the skin all over the most body surface, according the site is divided into the hair of scalp, eyelashes, eyebrows, nose hair, public hair and vellus. Hair could be singly infected, but more simultaneously or secondarily infected with the skin, and/or, hair follicles.

Objective: We invented a method (use parafilm and disposable polyethylene glove) to keep dermoscope clean, and to prevent contamination during operation, so dermoscopy could be routinely used for observe the details of the fungal infected hair.

Materials and Methods: Non-polarized, polarized and UV-dermoscopy were applied to check suspected fungal infected hair, then fluorescent microscopy check after calcofluor white stain. Some of the sample further for scanning and transmission electron microscopy.

Results: Fungal infection with Trichophyton, Microsporun, or Yeasts could induce tinea capitis (Trichophyton violaceum, Microsporun canis), tinea in eyelashes and nose (Trichophyton mentagrophytes), public (Trichosporon inkin) and vellus (Trichophyton rubrum), and Malassezia folliculitis (M. globosa). Numerous short, highly convoluted, coiled and twisted corkscrew hairs and, cigarette-ash-shaped hairs after antifungal therapy in a tinea capitis were noticed under dermoscopy. Bright-green fluorescence appears under ultraviolet (UV-dermoscopy). Accumulated scales around hair roots, black dots, and bar code-like hairs presented with horizontal white bands were observed by polarized dermoscopy. In a case of white piedra due to Trichosporon inkin mimicking trichobacteriosis, dermoscopy observed yellowish nodules distributed along the hair at irregular intervals. We also use the fluorescent staining to precise detect the fungal spores and hyphae very clearly and quickly.

Conclusions: Combination of visual observation, dermoscopy with ordinary light source, polarized light and UV-dermoscopy, microscope, transmission and scanning electron microscopy, fungal culture/molecular identification (ITS-PCR sequencing) could finally make a right diagnose. Dermoscopy and fluorescent staining both are convenient, quick and

practical to find the clues of fungal hair infection, and, to evaluate the therapeutic effect precisely.