

Ultraviolet Dermoscopy for Diagnosis and Treatment Monitoring of Ectothrix Tinea Capitis Caused by *Microsporum canis*

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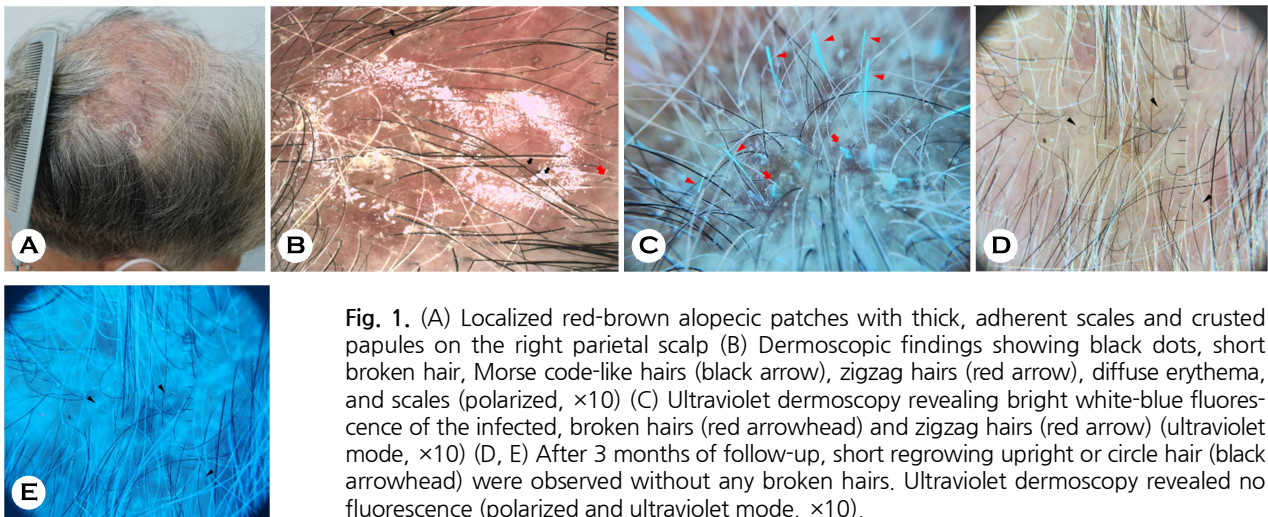


Fig. 1. (A) Localized red-brown alopecic patches with thick, adherent scales and crusted papules on the right parietal scalp (B) Dermoscopic findings showing black dots, short broken hair, Morse code-like hairs (black arrow), zigzag hairs (red arrow), diffuse erythema, and scales (polarized, $\times 10$) (C) Ultraviolet dermoscopy revealing bright white-blue fluorescence of the infected, broken hairs (red arrowhead) and zigzag hairs (red arrow) (ultraviolet mode, $\times 10$) (D, E) After 3 months of follow-up, short regrowing upright or circle hair (black arrowhead) were observed without any broken hairs. Ultraviolet dermoscopy revealed no fluorescence (polarized and ultraviolet mode, $\times 10$).

An 82-year-old woman with hypertension presented with a 6-month history of a pruritic hair loss patch on her right parietal scalp; she had a history of close contact with a dog. Physical examination revealed numerous red-brown alopecia patches with thick, adherent scales and crusted papules (Fig. 1A). Dermoscopy revealed black dots, short broken hair with diffuse erythema, and perifollicular scales (Fig. 1B). Furthermore, ultraviolet (UV) dermoscopy (wavelength: 365 nm;

Dermlite DL5, 3Gen LLC, CA, USA) revealed bright white-blue fluorescence on infected broken hair (Fig. 1C). Fungal culture and polymerase chain reaction of scalp samples identified *Microsporum canis* as the causative agent for tinea capitis (TC). Subsequent oral terbinafine (250 mg/day) and topical isaconazole treatment completely cured the lesions; moreover, hair regrowth without fluorescence was observed (Fig. 1D, 1E).

Ectothrix TC, caused by *M. canis*, is characterized by accu-

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mulation of hyphae and spores around the outside of the hair shaft¹. In ectothrix-type invasion, infected hair exhibit yellow-green fluorescence under Wood lamp examination. Simple, noninvasive dermoscopy is a useful bedside tool for TC diagnosis and causative species prediction. Straight broken hair, such as Morse code-like and zigzag hair, are highly suggestive of *M. canis*-induced ectothrix TC². Compared with standard dermoscopy, UV dermoscopy, which combines polarized and UV light, can effectively detect infected hairs³, and help in accurate diagnosis and treatment response monitoring of TC caused by *M. canis*.

Key Words: Dermatophytes, Dermoscopy, *Microsporum canis*, Tinea capitis, Ultraviolet dermoscopy

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CONFLICT OF INTEREST

In relation to this article, we declare that there is no conflict of interest.

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PATIENT CONSENT STATEMENT

The patient provided written informed consent for the publication and the use of her images.

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