

Tinea Capitis in Combination with Tinea of the Eyebrow Due to *Microsporum Canis*

jing zeng (✉ zengjing4210@163.com)

Jilin University <https://orcid.org/0000-0001-5548-4055>

Baihui Shan

Jilin University Second Hospital

Lu Guo

Jilin University Second Hospital

Fuju Li

Jilin University Second Hospital <https://orcid.org/0000-0002-2175-5782>

Research Article

Keywords: tinea capitis, tinea of the eyebrow, dermoscopy, Wood's lamp, *Microsporum Canis*

Posted Date: June 23rd, 2022

DOI: <https://doi.org/10.21203/rs.3.rs-1726406/v1>

License: © ⓘ This work is licensed under a Creative Commons Attribution 4.0 International License.

[Read Full License](#)

Abstract

We reported a case of tinea capitis in combination with tinea of the eyebrow due to *Microsporum canis*. Bright green fluorescence was observed on areas of both his scalp and his left eyebrow under Wood's lamp. Dermoscopy revealed comma hairs, barcode-like hairs, white sheaths, a coiled hair on his left eyebrow and a barcode-like hair, white sheaths on his scalp. *Microsporum canis* were isolated from the fungal culture of both his scalp and his left eyebrow. The boy was cured after treatment with oral itraconazole and topical terbinafine for 4 weeks.

Description

A 4-year-old boy presented with a 2-week history of erythema on his left eyebrow and a 1-month history of grey patchy alopecia on his scalp. He had close contact with a pet cat during the last few months. Fluorescence microscopic examination of both areas revealed hyphae and spores on the outside and inside of hair shafts. Bright green fluorescence was observed on his left eyebrow (Fig. 1A) and his scalp (Fig. 1B) under Wood's lamp. Dermoscopy revealed comma hairs (red arrows), barcode-like hairs (green arrows), white sheaths (blue arrows), a coiled hair (yellow arrow) on his left eyebrow (Fig. 1C) and a barcode-like hair (green arrow), white sheaths (blue arrows) on his scalp (Fig. 1D). Fungal culture of his scalp and his left eyebrow both yielded lanate colonies with white-yellow surface and yellow back (Fig. 2A, B). Fluorescent microscopy of the colonies showed spindle macroconidium and septate hypha (Fig. 2C). These colonies were sent to the mycology laboratory of Peking University First Hospital and were identified as *Microsporum canis* (*M. canis*) through gene sequencing. The boy was eventually diagnosed with tinea capitis in combination with tinea of the eyebrow due to *M. canis*. He was cured after treatment with oral itraconazole (100mg/d) and topical terbinafine (twice a day) for 4 weeks.

Tinea capitis is an infection of the scalp and hair caused by dermatophytes. It is contagious, which can lead to infections in other areas or in others. The popularity of domestic animals accounts for most of the zoophilic dermatophyte infections. *M. canis* is a common zoophilic pathogen causing tinea capitis in children, with bright green fluorescence under Wood's lamp and barcode-like hairs, white sheaths on dermoscopy as its characteristic manifestations. Tinea of the eyebrow secondary to tinea capitis is rare. These features of tinea capitis can also be observed in tinea of the eyebrow. Comma hairs and coiled hairs can be observed under dermoscope occasionally. Itraconazole is one of the common antifungal agents used to treat tinea capitis. It has been reported to be effective both in *Microsporum* and *Trichophyton* infections, making it a good choice for treating tinea capitis. It is worth mentioning that whole milk can enhance its effectiveness.

Declarations

Acknowledgements

We thank the patient and his parents for participating in this study and their consent to publication. We thank the mycology laboratory of Peking University First Hospital for helping with the strain identification through gene sequencing.

Ethics approval

Written informed consent was obtained from the parents. The authors affirm that the patient and his parents provided informed consent for the publication of the images in Figure 1 and 2.

Conflict of interest

We declare that we have no conflict of interest.

Author Contributions

All authors contributed to the study conception and design. Material preparation, data collection and analysis were performed by Jing Zeng, Baihui Shan, Lu Guo and Fuqiu Li. The first draft of the manuscript was written by Jing Zeng and all authors commented on previous versions of the manuscript. All authors read and approved the final manuscript.

Acknowledgements

We thank the patient and his parents for participating in this study and their consent to publication. We thank the mycology laboratory of Peking University First Hospital for helping with the strain identification through gene sequencing.

Funding

This work was supported by Changchun Science and Technology Planning Project (21ZGY22).

Figures

Figure 1

A, B Under Wood's lamp, Bright green fluorescence was observed on the patient's left eyebrow (A) and his scalp (B). **C, D** Dermoscopy revealed comma hairs (red arrows), bar code-like hairs (green arrows), white sheaths (blue arrows), a coiled hair (yellow arrow) on his left eyebrow (C) and a barcode-like hair (green arrow), white sheaths (blue arrows) on his scalp (D).

Figure 2

A, B Lanate colonies with white-yellow surface and yellow rear were yielded from fungal culture of the patient's scalp (left) and his left eyebrow (right). **C** Fluorescent microscopy showed spindle macroconidium and septate hypha.