Tinea Capitis

MD Information

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Hôpital de Montréal pour enfants
Centre universitaire de santé McGill
Montreal Children's Hospital
McGill University Health Centre

This leaflet aims to provide information about:

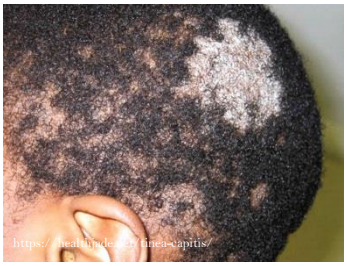
- Tinea capitis: what it is, how to diagnose it
- General treatment guidelines
- Criteria for dermatology referral

Tinea capitis is the most common superficial dermatophyte infection found in the pediatric population. In North America, it is most commonly caused by *Trichophyton tonsurans*. It is most prevalent in school-aged children.

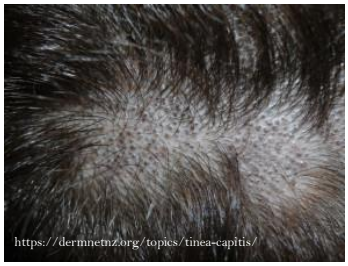
Clinical Presentation

The presentation of tinea capitis varies.

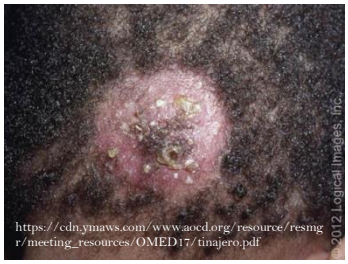
- Most often, it presents with dry scaling of the scalp and a grey patch.
- Black dots represent hairs that are broken off at the scalp surface.
- More rarely, patients may develop a kerion (boggy, inflamed, pus-filled lump). If left untreated, these lesions may result in permanent scarring and bald areas.
- Patients may also develop cervical lymphadenopathy.



Grey patch
(usually caused by *Microsporum canis*)



Black dots
(usually caused by *Trichophyton tonsurans*)



Kerion

Diagnosis

If tinea capitis is suspected, it is important to perform a fungal culture. This allows for confirmation of the diagnosis.

Fungal culture of the scalp can be performed using one of two methods:

1) *Scrape technique*: Clean the area with an alcohol swab. Use one transparent slide to carefully scrape broken hairs and scale from the leading edge of the affected area onto another slide. Tape both slides together and send to microbiology for fungal culture and microscopy. Alternatively, a blade and sterile collection cup may be used to collect the sample. This method may be challenging in an uncooperative child.

2) *Cotton swab technique*: Clean the area with an alcohol swab. Moisten the tip of a sterile cotton culture swab in the transport media that comes with the package. Rub the swab over the affected area of scalp for 20 seconds, then return the swab in the transport tube. Send the swab to microbiology for fungal culture. This technique may be less traumatic to pediatric patients. However, direct microscopy cannot be performed on this type of sample.

Of note, cultures may return negative if antifungal treatment (ex: Loprox) was used in the 2 weeks before the collection of the specimen.

General Treatment Guidelines

- Tinea capitis fungal elements invade the hair shaft or follicle. Hence, topical therapy alone is not sufficient to manage the infection; systemic therapy is required.
- The first step to management is performing a fungal culture.
- If you are unsure of the diagnosis, you may begin topical therapy while awaiting the results of the fungal culture:
    a. For patient: Loprox (ciclopirox) lotion, apply to scalp twice daily
    b. For patient and family: Nizoral shampoo, lather on scalp and leave on for 5-10 minutes, then wash off, 2 times per week. Scalp can be then washed with shampoo of choice.
    c. These are only temporizing measures to reduce the spread of infection and reduce hair loss while awaiting culture results. If the culture returns positive, a switch to systemic therapy is required.
- If you are confident in your diagnosis, perform the culture, then start the patient on systemic therapy.
- 1st line systemic therapy
    - Terbinafine (Lamisil)
        - 10-20 kg: 62.5mg PO daily for 4-6 weeks
        - 20-40 kg: 125mg PO daily for 4-6 weeks
        - >40 kg: 250mg PO daily for 4-6 weeks
        - Lamisil is only available in tablet form. It can be crushed and mixed into food.
    - No bloodwork is required prior to initiating treatment or after treatment if the patient does not have underlying medical conditions and if treatment does not extend past 6 weeks.
- Kerion-specific therapy:
    - Crusts can be gently removed after soaking with dressings saturated with lukewarm water or saline
    - Systemic therapy as above
- Counsel on transmission prevention
    - Do not share pillowcases, hair care tools, or headwear (ex: helmets, hats). Clean combs and brushes using a 1:10 bleach-to-water cleaning solution.
    - Avoid sports with head-to-head contact
    - Bedding and towels used by affected individual should be washed on hot cycle (140F or 60C) and put in the dryer using the hottest heat recommended on the care label until completely dry (times may very depending on materials).
    - Furniture that is frequently in direct contact with affected individual should be steam-cleaned.
    - In grey patch tinea infections (often caused by *Microscoprum canis),* all household pets should be examined by a vet as the organism's major reservoir is domestic cats or dogs.
- Household members of an individual diagnosed with tinea capitis should be examined for signs of infection and treated if detected.
- Household members may be asymptomatic carriers and serve as reservoirs for recurrent infection. Hence, anti-fungal shampoo (ex: Nizoral) should be used by all household members for 2-4 weeks.

Guidelines for Dermatology Referral

- Infection that is resistant to treatment
- Rapidly spreading, extensive, or painful lesions
- Areas of scarring hair loss
- Immunocompromised patients
- Diagnostic uncertainty

** Please specify indication on consultation sheet, as well as age, sex, and treatment prescribed to date.*
FAX: 514-228-1197

Prepared by Dr. Fatemeh Jafarian and Dr. Jessica Lu