12 Infections
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TINEA CAPITIS

**Box 12.1 Tinea Capitis**
- Common fungal infection, especially among children.
- Diagnosis is based on direct microscopic examinations and mycological cultures.
- Scalp scaling and alopecia due to hair breakage.
- Lymph node enlargement.
- Dermoscopy: comma hairs, corkscrew hairs, black dots, broken hairs, hair casts, and transverse white bands.

Hair invasion by dermatophytes has a different epidemiology depending on the causative agent. *Trichophyton* species cause endothrix tinea capitis, which is the most common type in North America (*Trichophyton tonsurans*) and in Eastern and Southern Europe, and North Africa (*Trichophyton violaceum*). It affects both children and adults, transmission is interhuman and asymptomatic carriers are frequent.

*Microsporum canis* causes ectothrix tinea capitis, which is common in Western Europe and almost exclusively affects children. Transmission occurs through a symptomatic or asymptomatic animal, usually a cat.

Scalp scaling is a prominent feature in all types of tinea capitis. Tinea capitis produces patches of alopecia due to breakage of the hair shafts at the scalp level in endothrix infections or at 1–3 mm from scalp emergence in ectothrix infections. Pustular lesions may be observed in inflammatory tinea capitis (kerion). Cervical nodes are often enlarged.

The dermoscopic marker of tinea capitis is comma hairs, which appear as short C-shaped hairs due to bending of the hair shaft filled with fungi. Corkscrew hairs are seen in patients of African descent due to the shape of the broken hair shaft, which has a corkscrew or coiled appearance. Black dots, broken hairs, hair casts, and horizontal white bands (“Morse-code” hairs) may also be observed.

![Figure 12.1 (a–c) Comma and corkscrew hairs in tinea capitis of patients of African descent.](image-url)
White piedra is caused by *Trichosporon asahii* and five other species of *Trichosporon*, a fungus that invades the hair shaft of pubic hairs, but it can involve the beard and scalp hair. The hair shaft is covered by soft yellow–white fusiform nodules, which are easily detachable.

Black piedra is caused by *Piedraia hortae*, a fungus that penetrates the cuticle, grows and then surrounds the hair shaft with hyphae. It mostly occurs in tropical regions and usually affects scalp hair. The clinical presentation consists of black, firmly attached, hard nodules on the scalp, beard, and body hair. Dermoscopy shows white or black concretions on the hair shaft.
Figure 12.4 White piedra affecting the scalp of a Brazilian patient (a). (Courtesy of Dr. Nilton Di Chiacchio, Brazil.) Dermoscopy shows regular fusiform concretions surrounding the hair shaft (b–d). (Courtesy of Dr. Fernanda Torres, Brazil.)
Figure 12.5 (a, b) White piedra: white, irregularly distributed fusiform nodules surrounding the hair shafts. (Courtesy of Dr. Lorena Dorado, Brazil.)

Figure 12.6 White piedra in a Brazilian woman with minimal clinical lesions (a). Diagnosis is confirmed by dermoscopy (b). (Courtesy of Dr. Leonardo Spagnol Abraham, Brazil.)
INFECTIONS

SUGGESTED READINGS


