

SKIN MYCOLOGY

Superficial Mycoses

Superficial fungal infections are usually cosmetic problems that are easily diagnosed and treated. Four infections fall in this classification; two involve skin (**stratum corneum**):

- a. Pityriasis versicolor (tinea versicolor)
- b. Tinea nigra

And two involve the hair (**cuticle**)

- c. Black piedra
- d. White piedra

Pityriasis versicolor

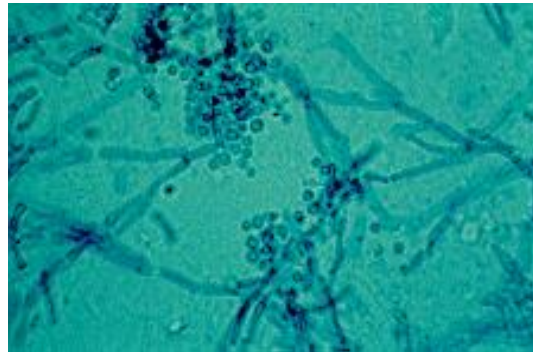
The infection is caused by *Malassezia furfur* (*Pityrosporum orbiculare*), a lipophilic yeast-like organism closely related to *P. ovale*. It is found in area of the body rich in sebaceous glands and is part of the normal flora of the skin. The lesions occur commonly on the upper torso, arms and abdomen as discrete hyper or hypopigmented macular lesions. It may involve the hair and cause folliculitis and dandruff, also may cause **fungmia** in adults and neonates receiving intravenous lipid therapy.



Pityriasis versicolor

Diagnosis:

Direct microscopic examination by **alkali-stain** from skin scrapings will reveal fungal elements, having the classical spaghetti appearance, short hyphae and yeast cells.

**Tinea nigra**

The etiologic agent of **tinea nigra** is *Exophiala werneckii*, which is a dimorphic fungus that produces melanin pigments. The infection appears as grey to black well demarcated lesion on the palm of the hand and soles of the feet.



Tinea nigra

Diagnosis:

Direct microscopic examination of **KOH** or alkali treated skin scrapings will reveal darkly pigmented yeast-like cells and hyphal fragments. Culture on **Sabouraud's dextrose agar (SDA)** will yield black to brown yeasts and hyphae.

Black piedra

The disease is caused by *Piedraia hortae* and infects hair as hard brown to black nodules that develop along the hair shaft. The structures house the sexual phase of fungi (**ascus** and **ascospores**).



White piedra

It is caused by *Trichosporon beigeli* and most commonly involved hair of scalp, moustache and beard. The clinical feature is soft white to creamy yellow granules that form a sleeve-like collaret along the hair shaft. The diagnosis can be carried out by direct microscopic examination of the infected hair and culture of specimen on **SDA** without **cycloheximide** will reveal mycelium rapidly fragmented into **arthroconidia**.



White piedra

Treatment of Superficial Mycosis

Pityriasis versicolor and tinea nigra are treated by the use of topical keratolytic agent such as salicylic acid and preparation containing selenium disulfide, hyposulfite, thiosulfate or azoles compounds. Oral antifungal treatment may be recommended for sever and generalized infection for tinea versicolor such as floconazole and Itraconazole.

In hair infections caused by *Peidra hortae* and *Trichosporon beigelii* treatment is achieved by shaving the infected hair close to the scalp surface or proper personal hygiene.

The Superficial Mycoses

These are superficial cosmetic fungal infections of the skin or hair shaft. No living tissue is invaded and there is no cellular response from the host. Essentially no pathological changes are elicited. These infections are often so innocuous that patients are often unaware of their condition.

Disease	Causative organisms	Incidence
Pityriasis versicolor Seborrhoeic dermatitis including Dandruff and Follicular pityriasis	<i>Malassezia furfur</i> (a lipophilic yeast)	Common
Tinea nigra	<i>Exophiala werneckii</i>	Rare
White piedra	<i>Trichosporon beigelii</i>	Common
Black piedra	<i>Piedraia hortae</i>	Rare