

# *Penile shaft involvement in pityriasis versicolor*

R.K. Khaddar, F. Cherif, R. Ben Hadid, M. Mokni, and A. Ben Osman

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## S U M M A R Y

The *Malassezia* yeasts are among the normal human cutaneous flora in adults. They are also reported as part of the microflora of male genital region, mostly in uncircumcised males. The prevalence of *Malassezia* yeast colonization on the glans penis of circumcised males is discussed in multiple studies. We report the case of a male patient with extensive pityriasis versicolor that does not involve the preputial space.

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## *Introduction*

*Malassezia* yeasts are not only found among normal human cutaneous flora in adults, but are also associated with several skin diseases. Recent studies indicate that yeast of the genus *Malassezia* is divided into ten different species according to morphological and physiological features (1). The lipophilic species include *Malassezia furfur*, *Malassezia sympodialis*, *Malassezia slooffiae*, *Malassezia obtusa*, *Malassezia globosa*, and *Malassezia restricta* (2). Only *Malassezia pachydermatis* is considered to be non-lipophilic (2).

An investigation of the incidence and spectrum of *Malassezia* yeasts in the preputial area of clinically healthy and uncircumcised males showed colonization in nearly half the population (3). However, *Malassezia* yeast colonization has also been isolated on the glans penis of circumcised males with certain symptoms (4).

We report the case of a circumcised male patient with extensive pityriasis versicolor that does not involve the preputial space.

## *Case Report*

A 39-year-old Tunisian, Muslim, circumcised man presented for consultation with a 6-month history of a generalized non-pruritic, scaly eruption. Cutaneous examination revealed several hypopigmented areas located on the trunk, limbs (Fig. 1), and glans penis, but not the preputial space (Figs. 2, 3). He had no history of cutaneous penile infections such as human papillomavirus, herpes simplex virus, bacterial infections, mollusca, and candidal balanitis, or genital dermatoses such as psoriasis,

## **K E Y W O R D S**

**pityriasis  
versicolor,  
penile shaft**



Figure 1. Hypopigmented areas on the limbs.



Figure 2. Penile hypopigmentation proximal to the preputial area.

seborrheic dermatitis, atopic eczema, and allergic contact dermatitis. He lives in a warm, humid area and reported increased seborrhea of the midfacial and midthoracic areas. The patient was otherwise in good health and the physical examination failed to reveal any sign of internal infection. Tape strip samples were taken from the lesion sites, which revealed clusters of yeast and short mycelia filaments that confirmed the diagnosis of pityriasis versicolor. The difficulty in culturing *Malassezia* did not allow us to identify the species of fungus. The patient was successfully treated with topical imidazoles twice a week for 2 weeks. However, hypopigmented maculae persisted for several weeks although the results of cutaneous tape strip testing of the lesions were negative.

### Comment

It is well known that pityriasis versicolor is a superficial infection of the stratum corneum caused by *Malassezia* yeasts (5). For a long time, *Malassezia furfur* was believed to play a role in the pathogenesis of pityriasis versicolor because of its ability to produce pigment (3). According to recent studies, the pathogenetic significance

of pityriasis versicolor is connected with *Malassezia sympodialis* and *Malassezia globosa*, which are frequently found in the male genital region (3, 6, 7). These results are confirmed by using morphological and physiological methods for isolating and culturing *Malassezia* in recommended standard media. These media are modified Dixan and Leeming-Notman agar (3). However, in our case these preparations are not commonly used. The incidence of *Malassezia* yeasts in the preputial area of healthy men showed colonization by *Malassezia sympodialis* and *Malassezia globosa* in 42.8% to 47.6% (3). The spectrum of *Malassezia pachydermatis* and *Malassezia furfur* indicates a lower prevalence, reaching 2.4% to 4.8% (3). Salah et al. found the same results in lesional skin of Tunisian men with pityriasis versicolor. *Malassezia globosa* was associated with *Malassezia furfur* in 18% of cases (1). In the literature, some authors have stated that the type and amount of different *Malassezia* species vary with age and body site (8, 9, 10).

To our knowledge, the usual sites of this infection are the upper trunk (96%), the neck (25%), the thighs (6%), and the forearm (2%) (11). Only a few observations of pityriasis versicolor of the penile sheath and glans penis

have been reported (6, 12, 13, 14). Similar to the present case, all of them have extensive skin involvement. Pityriasis versicolor of the male genitals, in particular of the glans penis, has seldom been reported but may be more frequent than previously thought (3, 5). Several factors govern the pathogenesis of pityriasis versicolor such as genetic factors, age, sex, climate, local environmental factors, malnutrition, pregnancy, oral contraceptives, and corticosteroid and immunosuppressive treatment (15). These factors can cause transformation from the saprophytic to the pathogenic form, and are the cause of recurrences and chronicity of the disease (15). In our case, a hot and humid environment associated with excessive seborrhea are considered to be the predisposing factors of the disease.

Circumcision is almost always performed for religious or cultural reasons (16). It influences the type and frequency of genital dermatoses (3). It has a protective role in the occurrence of common infective penile dermatoses including human papillomavirus, herpes simplex virus, and mollusca and candidal balanitis (16). In

fact, in circumcised men the glans is uncovered so the milieu is dry, the pH values are acid, and unhindered epithelial desquamation soon eliminates air-borne organisms (3). This is well-illustrated in our case, in which penile hypopigmentations were located proximal to the preputial area.

Yeast colonization in circumcised and uncircumcised heterosexual and homosexual men is discussed in the literature. Davidson found similar rates in all cases (4). Recently, several authors have noted *Malassezia spp.* as part of the microflora of healthy uncircumcised male genital regions in 49.2% of the population, in contrast to circumcised male patients, in which *Malassezia spp.* are identified in 22.4% of the population (2, 3). Mayser et al. assumed that *Malassezia* yeasts find favorable growth conditions in the lipid-rich milieu of the preputial area because of its free sebaceous glands (i.e., Tyson's glands seem to be important) (3). They noted that the optimum growth of *Malassezia* in an acid environment is rare despite their adaptation to the physiological milieu of dry but lipid-rich skin areas (3).

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**A U T H O R S ' A D D R E S S E S** *Rym Kort Khaddar MD, Department of Dermatology, La Rabta Hospital, 1007 Jabbari Tunis, Tunisia, E-mail: rymkort@yahoo.fr*  
*Faika Cherif MD, same address*  
*Rym Ben Hadid MD, same address*  
*Mourad Mokni MD, same address*  
*Amel Ben Osman MD, same address*