Trichomycosis pubis: black variety

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Abstract

A case of a 25 year old man with the black variety of trichomycosis pubis is presented on account of its extreme rarity. Scanning electron microscopy confirms that trichomycosis pubis is caused by bacterial colonisation of the pubic hair and shows that bacteria are able to penetrate cuticular horny cells directly through their free plasma membrane.

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Introduction

Trichomycosis, a bacterial infection of axillary or less commonly of pubic hair, was first described by Paxton in 1869.¹ Clinically, adherent granular, yellow, red or black, concretions are present on the hair shaft, a few millimeters from the follicular ostium. The underlying skin is normal. This condition is usually asymptomatic. However, in the affected areas, the sweat, and the overlying clothing, are sometimes stained with the same colour as the concretions. The incidence of the disease varies from 27%² to 30%³ of adult males. The causative agent is a corynebacteria,⁴ as shown by culture and electron microscopy.^{5,6} Probably different biochemical types of aerobic corynebacteria can be involved.⁷ The typical concretions are the expression of the bacterial colonisation.

We report a case of the black variety of trichomycosis situated only in the pubic region.

Case report

A 25 year old red haired man, consulted us because of the presence of black, granular, concretions adherent to the pubic hair. The patient had noticed these granules a few days previously. Clinical examination showed reddish pigmented pubic hair with discrete black

coatings on the basal portion of the hair shaft. Affected hairs were mainly observed around the base of the penis; the underlying and crural skin was normal. This condition was asymptomatic and the remainder of the hair was unaffected. A bacterial culture from the involved hair, revealed the presence of *Corynebacteria species*, but it was not possible to identify the type. Scanning electron microscopy (SEM) showed some hairs embraced by irregularly shaped, bulging concretions. These latter were tightly adherent to hair shafts and showed highly convoluted surfaces (fig). At higher magnification, the concretions showed amorphous-granular, necrotic material, most likely representing a mixture of bacterial clumps and cell debris, as well as remnants of cuticle horny cells. In adjacent regions, the cuticle layer was generally spared. However, foci of cell damage were found associated with rod-shaped bacteria. Bacteria were observed on and inside the cuticular horny cells.

The patient was treated topically with clindamycin (1% in ethyl alcohol) twice a day for ten days. At clinical examination, one month later, the pubic hair appeared free from black concretions.

Discussion

Our patient was affected by trichomycosis pubis with black concretions. This variety is extremely rare, on account of the uncommon localisation and the extreme rarity of colour of concretions.⁸ The cause of colour differences in the concretions is, however, unknown. Perhaps changes in the chemical environment of these bacterial species may induce different pigment production.^{8,9} Warmth, humidity and poor hygiene increase the incidence of trichomycosis, explaining the most frequent axillary localisation, particularly in the presence of hyperhidrosis. Trichomycosis pubis is a well defined condition but published cases are infrequent probably because the patients are often unaware of this presence. Clinically, the concretions are easily recognisable, but pediculosis pubis should be considered in the differential diagnosis.¹⁰ The term "trichomycosis" is retained, although the bacterial origin has been confirmed by cultural and SEM studies.^{6,11}

SEM study of our case also confirms that trichomycosis pubis is caused by bacterial colonisation of the pubic hair leading to marked destruction of the cuticular layer, the bacterial colonies and the clumps of cuticular

Figure SEM showing concretions typical of trichomycosis pubis (SEM $\times 160$)

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cell debris forming the bulk of the typical concretions. Unlike the original reports by Orfanos *et al.*¹¹, we did not find any feature suggesting that bacterial colonisation starts in the intercellular spaces between adjacent cuticular cells. On the contrary, we observed rod-shaped bacteria only on and within the cuticular cells. This may suggest that bacteria are able to penetrate cuticular horny cells directly through their free plasma membrane.

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