

Molluscum contagiosum localised to sites of superficial dermatophytosis

Sir,

Superficial dermatophytosis has become an alarming health condition in India. There has been an emergence of chronic, recurrent and recalcitrant dermatophytosis in our country. Due to this epidemic like situation, we get to see many atypical presentations of dermatophytosis.¹ However, it is rare to observe a secondary infective dermatosis localizing to the sites of active or resolved superficial dermatophytosis. We report two patients who developed molluscum contagiosum limited to the sites of dermatophytosis. These cases are unreported examples of Ruocco's immunocompromised cutaneous district.

The first patient was a 35-year-old male who presented with asymptomatic, pearly-white, umbilicated papules overlying resolving lesions of tinea on the lower abdomen, groins, mons pubis, genitals and inner thighs; while he was on oral and topical antifungals and had completed three weeks of therapy [Figures 1a and b]. The papular lesions gradually increased in number but remained localized to the sites of dermatophytosis. The second patient was a 40-year-old male who developed similar papules on the sites of healed dermatophytosis after two weeks of complete resolution of the latter [Figures 2a and b]. He gave history of frequent use of creams containing both steroid and antifungal agents before visiting us. None of them had any comorbidity and all routine investigations including viral markers were normal. Microscopic examination of Giemsa-stained tzanck smear taken from the papules on the sites of dermatophytosis showed molluscum bodies [Figure 3]. A diagnosis of molluscum contagiosum localized to superficial dermatophytosis was made. Our patients did not have molluscum lesions elsewhere and had no history of molluscum contagiosum.

The first case can be explained by the concept of locus minoris resistentiae which refers to a site of body offering lesser resistance to the onset of disease than the rest of body



Figure 1a: Pearly-white umbilicated papules localized to resolving lesions of tinea on lower abdomen, pubic area, groins and genitals

whereas the second case is an example of Wolf's isotopic response which is the occurrence of a new skin condition at the site of already healed and unrelated skin disease.² However, a more unifying term like "immunocompromised district" can explain both these cases. Immunocompromised district is a site that is susceptible to opportunistic infections,

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Figure 1b: Close-up view of the umbilicated papules



Figure 2a: Molluscum contagiosum overlying sites of resolved dermatophytosis along with striae rubra



Figure 2b: Close-up view of papules and frosting after trichloroacetic acid application

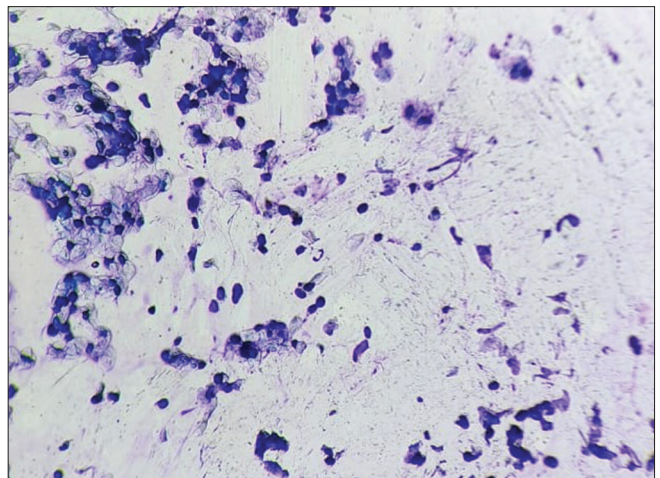


Figure 3: Tzanck smear showing clusters of dense round basophilic bodies surrounded by squamous epithelial cells (Giemsa stain, 400x)

tumors or immune reactions. It is a sectorial defect in immune control having deficient or increased dysfunctional immune cells. Chronic lymph stasis, radiation, trauma and herpetic infection are factors responsible for local immune dysregulation.² On literature search, we found only one case series describing varicella and herpes zoster over tinea corporis.³ Amongst the non-infective dermatoses, only lichen planus has been reported to occur over healed tinea corporis.⁴ T cell exhaustion or dampened T cell response has been noted under conditions of antigen persistence in numerous infections.⁵ This can lead to the involved area becoming an immunocompromised district. Verma *et al.* suggested the possibility of exhaustion of cutaneous lymphocyte antigen positive T cells in regions affected by dermatophytosis.³ Cell mediated immune response is essential for the control and elimination of molluscum contagiosum. Thus, deficient

T cells at sites of active or resolved dermatophytosis may increase risk of acquisition of molluscum contagiosum virus. Furthermore, disturbed epidermal barrier with specific ultrastructural changes has been observed in dermatophytosis which may be an additional predisposing factor for the occurrence of secondary infective dermatoses over dermatophytosis.⁶

Exhaustion of T cells at sites involved by dermatophytosis and disrupted epidermal barrier are the main factors which may have limited the lesions of molluscum contagiosum to the sites of dermatophytosis in our patients. Topical steroid containing antifungal creams are also known to cause local immune suppression by inhibiting lymphoid proliferation and antibody production. With continued use of topical steroids, there is increased risk of microbial

infections due to impaired local immune response.⁷ Scratching in response to itching in our first patient could have resulted in autoinoculation and thus contributed to the characteristic localization of molluscum over the sites of dermatophytosis. However, the exact mechanism of this rare occurrence remains cryptic. Identification of an immunocompromised district is important for preventive and diagnostic reasons.² Emollient application can improve epidermal barrier in dermatophytosis and steroid modified tinea.⁸ This can possibly reduce entry of microorganisms, thus preventing secondary infections over dermatophytosis. Knowing the vulnerability of the diseased site should alert the physician to keep it under observation. This report sheds light on regional immune destabilization which can result in rare occurrence of one infective dermatosis over another.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent.

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Conflicts of interest

There are no conflicts of interest.

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