

## Short Communication

# Oblivious case of Immunocompromised district: Opportunistic appearance of varicella over active superficial dermatophyte site

Sir/ Madam,

Concept of Immunocompromised district (ICD) was first described by Ruocco et al. in 2009 as a sectorial cutaneous defect caused by regional immune dysfunction.<sup>1</sup> Etiology of this immune dysfunction can be due to obstruction in the lymph flow, trauma, herpes virus infection, ultraviolet radiation, burns etc.<sup>2</sup> A part of the skin which is more prone for occurrence of any disease than the rest of the body is termed as Locus minoris resistentiae (lmr).<sup>3</sup>

Many reports of such localization of locus minoris resistentiae is well documented in the literature. Origin of this concept is quite old and can be found to be depicted in ancient Greek epic myth. The vulnerable area on Achilles' heel from The Trojan War is an illustrative example of lmr in ancient history.

Herein we report the opportunistic appearance of varicella over the site of active superficial dermatophytosis (SD) in a 6-year-old male child over anterior abdomen. Figure showing pleomorphic "tear drop" vesicles, umbilication and few crusted vesicles on the site of prior active SD lesions over anterior abdomen (**Figure 1**). All the routine hematological and biochemical parameters were within normal limits. Fungal filaments were observed in mounted preparation of skin scrapings from the annular plaque which were dissolved in 10% potassium hydroxide. A Tzanck smear made from fresh vesicular lesions on anterior abdomen

which showed multinucleated giant cells. The multiple vesicles clustered over active dermatophyte site which offered least resistance to the development of varicella vesicles thus manifesting as an immunocompromised cutaneous district. Verma et al reported similar case of varicella over superficial dermatophytosis.<sup>4</sup>

Superficial dermatophytosis apart from causing injured skin barrier can cause alteration of immune response at the sites of infection. This could in turn result in increased chances of other diseases localizing at these sites.<sup>5</sup> During active inflammation there is increased recruitment and migration of cutaneous lymphocyte associated (CLA+) memory T cells to the skin. Varicella virus has increased affinity for these T cells and gets attached to them. These T cells then migrate to prior site of inflammation.<sup>6</sup>

Viral multiplication also occurs in the absence of plasmacytoid dendritic cells as plasmacytoid cells produce type-1 interferons, which have antiviral activity.<sup>5,6</sup>

Increased use of topical corticosteroids over superficial dermatophytes sites may alter the local immune response and predispose these sites to become ICDs.<sup>5</sup>

Knowledge about immunocompromised district phenomenon will help dermatologists to be vigilant for any occurrence of new secondary diseases over SD.<sup>4</sup>



**Figure 1** Figure showing pleomorphic “tear drop” vesicles, umbilication and few crusted vesicles on the site of active Superficial Dermatophyte lesion over anterior abdomen.

## References

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