

Vermilion: An underemphasised anatomical area in dermatology

The anatomy of vermillion

Lips comprise of vermillion, lip skin and inner lip mucosa. Vermilion is the area between the vermillion border and the wet line which meets at the lip angle [Figure 1]. Many times, the area of vermillion is inaccurately used as synonymous with lip. However, vermillion is a unique lip component distinct from lip skin and lip mucosa.

The vermillion is lined by stratified squamous epithelium and is the transition zone between the skin and oral mucosa. The following are the unique features of vermillion: it is partially keratinised; stratum corneum is thinner than lip skin; concentration of rete pegs is maximum; rete pegs are narrow, long and slender; depth of the dermis is minimum; and the reflection of the blood vessels imparts a red colour. The colour of the vermillion can vary from pink, red and pinkish-brown to reddish-brown. The differential melanisation can explain the colour variability despite having the same melanocyte concentration as in the skin.¹ The other characteristics that make the vermillion unique from the skin are the presence of moisture, the lack of pilosebaceous units and rapid regenerative power.



Figure 1: Vermilion is the area bound by lip angles (blue arrow), vermilion border (black arrow) and wet line (red arrow).

Applied aspect

Compared to the lip skin and lip mucosa, vermillion, especially the lower one, is vulnerable to various inflammatory and neoplastic conditions due to its continuous exposure to various extrinsic and intrinsic harmful factors, such as saliva, physical trauma, ultraviolet light, wind, air pollution, smoking, contact allergens and irritants. The dermatoses on the vermillion require their own depiction, as these are transitions between the oral and cutaneous variants. Discoid lupus erythematosus is difficult to recognise on vermillion due to the absence of two essential clues commonly seen in cutaneous counterparts: follicular plugging and epidermal atrophy. In addition, clinically, the blurring of the vermillion border is considered a typical feature of lip discoid lupus erythematosus (DLE).² From a management point of view, the orabase formulations should be avoided for the treatment of cheilitis localised to vermillion due to poor absorption and the treatment should be similar to the skin using cream or ointment.³ Furthermore, vermillion should be protected from ultraviolet light in disorders like lip DLE and lip lichen planus to prevent the development of squamous cell carcinoma.⁴

In conclusion, it is of utmost importance to familiarise ourselves with the normal anatomy, dermoscopic features and histopathological characteristics of the vermillion to facilitate the understanding of the changes occurring due to various dermatoses.

Declaration of patient consent

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

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

How to cite this article: Behera B. Vermilion: An underemphasised anatomical area in dermatology. *Indian J Dermatol Venereol Leprol.* 2024;90:562-3. doi: 10.25259/IJDVL_1413_2023

Received: December, 2023 **Accepted:** March, 2024 **EPub Ahead of Print:** May, 2024 **Published:** June, 2024

DOI: 10.25259/IJDVL_1413_2023 **PMID:** 38841941

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Use of artificial intelligence (AI)-assisted technology for manuscript preparation

The authors confirm that there was no use of artificial intelligence (AI)-assisted technology for assisting in the writing or editing of the manuscript and no images were manipulated using AI.

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