Penile lichen planus mimicking psoriasis clinically and delineating two different patterns on histopathology

Sir,

Owing to complexity of genital anatomy, there exists a high likelihood for many dermatoses in this region to exhibit unusual phenotypes and closely mimic other disorders.

Our patient was a 27-year-old married male who presented with chief complaints of genital lesions for the past 3 weeks. Lesions had begun insidiously and had gradually progressed to attain the current status. They were asymptomatic over the glans, but the one on the penile shaft was associated with episodes of troublesome pruritus. No history suggestive of urethritis, conjunctivitis, or arthritis was forthcoming, and there was no history of exposure. His spouse was apparently healthy. Examination revealed two annular scaly plaques over the glans penis measuring 1 cm × 1 cm and 1 cm × 2 cm. The larger plaque was connected to a scaly and keratotic irregular plaque with well-defined borders over the penile shaft [Figure 1a].

A provisional diagnosis of genital psoriasis was considered, and two cutaneous biopsies were taken, one from the plaque on the glans and the other from the plaque on the penile shaft. Both biopsy specimens delineated different findings. Epidermal findings from the biopsy taken from the glans showed compact orthokeratosis, wedge-shaped hypergranulosis, irregular acanthosis, saw toothing of rete ridges, and vacuolar degeneration of the basal cell layer. Dermis demonstrated a moderately dense lymphocytic infiltrate in close contact with the dermo–epidermal junction. Pigment incontinence was another finding recorded. Based on these observations, a diagnosis of lichen planus (LP) was concluded [Figure 1b and c]. The specimen from the penile shaft demonstrated prominent epidermal hyperplasia with overlying orthohyperkeratosis. Basal cell damage was confined to the tips of rete ridges, and the inflammatory infiltrate was not very dense or band like as seen in usual lesions of LP. Other findings such as wedge-shaped hypergranulosis and irregular acanthosis were also observed, allowing us to label this specimen as hypertrophic LP [Figure 1d and e].

Genital LP in males usually presents quite differently, unlike the characteristic plane-topped, purple, polygonal, and pruritic papules observed in cutaneous LP.[1] Penile LP may express an atrophic–erosive phenotype, or it may manifest in the form of nonscaly, reddish brown, dusky papules and plaques.[2] Other clinical patterns of penile LP that have been reported include annular lesions and white reticulate striae on the glans.[1,2] In the genitalia often, more than one clinical morphology of LP can be identified. Our patient also delineated two different phenotypes. Over the glans, lesions elaborated a pattern resembling annular plaques of psoriasis, and the lesion over the penile shaft was in consonance with the hypertrophic variant of psoriasis.

Interestingly, while performing a literature search, we were unable to find any previous report expressing a psoriasiform/hypertrophic phenotype for penile LP. Hypertrophic LP of the vulva, on the other hand, though rare, has been reported earlier by Mahajan *et al*.[3] and Job *et al*.[4] In the publication by Mahajan *et al*.,[3] hypertrophic vulval LP presented as a soft, well-defined hyperpigmented plaque elaborating multiple follicular openings that covered almost the entire mucosal aspect of the right labia majora. Job *et al*.,[4] however, demonstrated multiple, asymptomatic, grouped, coalescing hyperpigmented fleshy papulonodules on the vulva, simulating genital warts as the hallmark finding.

In our patient, the hypertrophic penile plaque illustrated a keratotic and scaly texture whose clinical characteristic pointed more toward hypertrophic psoriasis. Besides, we also witnessed psoriasiform hyperplasia of rete ridges on histopathology for this lesion. Concomitant changes of lichen simplex chronicus secondary to scratching or rubbing could be a plausible explanation for this feature here. This finding however may pose diagnostic confusion to an inexperienced pathologist. In such cases, it becomes mandatory to meticulously evaluate the histopathological specimen so that essential findings are not overlooked.

We report this case owing to the psoriasiform clinical presentation of penile LP, which we believe has not been described earlier. Further, the presence of two different histopathological subtypes of LP was another important observation in our case. To conclude, as genital anatomy

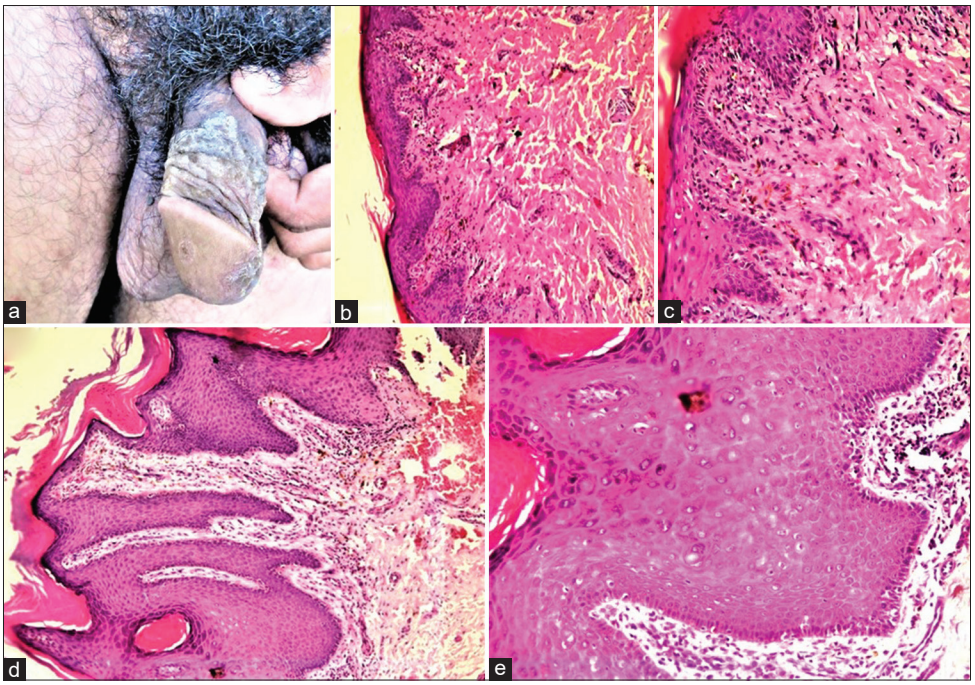

Figure 1: (a) Two annular and scaly psoriasiform plaques identified on the glans penis with an irregular, well-demarcated, keratotic, and scaly plaque involving the penile shaft, (b) epidermis demonstrating orthokeratosis, wedge-shaped hypergranulosis, irregular acanthosis, and a moderately dense lymphocytic superficial dermal infiltrate along with pigment incontinence (H and E, ×10), (c) saw toothing of rete ridges, doming of dermal papilla, and vacuolar degeneration of the basal cell layer can be identified in the epidermis. Pigment incontinence and a moderately dense lymphocytic infiltrate can be observed in the dermis (H and E, ×20), (d) epidermis demonstrating prominent orthohyperkeratosis and psoriasiform elongation of rete ridges. Dermal inflammatory lymphocytic infiltrate is rather sparse along with pigment incontinence (H and E, ×10), (e) liquefactive degeneration of the basal cell layer is confined to the rete tips, and dermal findings include pigment incontinence and a sparse lymphocytic infiltrate (H and E, ×20)

differs considerably from other body parts, it would be prudent to biopsy each lesion so that the presence of any clinical mimicker could be excluded and a conclusive diagnosis established. Further, there arises a need to closely monitor these patients, owing to the susceptibility of malignant transformation in hypertrophic lesions of LP, especially if the genitalia is involved.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given consent for their images and other clinical information to be reported in the journal. The patient understands that his name and initials will not be published and due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Conflicts of interest

There are no conflicts of interest.

Nitin Krishna Patil, Aditya Kumar Bubna
Department of Dermatology, Katihar Medical College, Katihar, Bihar, India

Address for correspondence:
Dr. Aditya Kumar Bubna,
Department of Dermatology, Katihar Medical College, Karim Bagh, Katihar - 854 106, Bihar, India.
E-mail: zimbabwa21@gmail.com

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