Successful management of Zoons balanitis with the combination of pimecrolimus and excimer laser

Sir,

Zoon balanitis also known as plasma cell balanitis or balanitis circumscripta plasmacellularis is a benign, nonvenereal, chronic, idiopathic, erosive balanoposthitis secondary to a dysfunctional foreskin, commonly seen in uncircumcised middle aged to elderly males, few cases reported in the pediatric population.[1] A similar clinical condition has been described in females and named vulvitis circumscripta plasmacellularis.

A 49-year-old heterosexual uncircumcised male patient presented with asymptomatic red lesions over glans for 1 year. There was no history of sexually transmitted infections or unprotected sexual exposure in the past. The patient had multiple treatments which included topical steroids, antifungal, and antivirals. Clinical examination revealed solitary well-defined shiny, smooth, moist erythematous plaque on the dorsal aspect of the glans penis, and coronal sulcus [Figure 1]. No palpable inguinal lymph nodes were detected. Differential diagnosis of Zoons balanitis (ZB), erythroplasia of Querat, Bowen's disease, genital lichen planus, psoriasis, fixed drug eruption, herpes genitalis, and candidial balanitis were considered. Dermoscopy examination revealed orange–brown structureless areas diffusely distributed with dilated linear irregular, dotted, and convoluted vessels [Figure 2a and b]. Mucosal biopsy shows moderately dense superficial and mid perivascular lymphoplasmacytic infiltrate with melanophages and dilatation of capillaries in the upper dermis. The epidermis shows flattening of rete ridges and mild focal spongiosis. The stratum corneum shows normal parakeratosis. There was no nuclear atypia [Figure 3]. Venereal disease research laboratory, HIV, HSV IgG, and IgM antibodies, blood sugar levels were done which was normal. Based on clinical, dermoscopic, and histologic findings, diagnosis of ZB was made. The patient was treated with 1% pimecrolimus once-daily application with 308-nm excimer laser 200J twice a week which was gradually increased to 250J twice a week with complete resolution of the lesion within a month with no relapse to date noted. No side effects were observed. The patient was advised to maintain good hygiene during follow-up and proper cleanliness after sexual activity and use of lubricant if needed.

The most commonly observed dermoscopic features are focal or diffuse orange-yellowish structureless areas (corresponding to hemosiderin deposition) and curved vessels (corresponding to vascular dilatation). Thus, these dermoscopic findings are helpful in distinguishing ZB from its differential diagnosis such as erythroplasia of Queyrat that shows scattered glomerular vessels, Bowen's disease shows clustered glomerular vessels, lichen planus shows typical Wickham striae with brownish structureless areas, psoriasis shows regular dotted or glomerular vessels, fixed drug eruption shows a purple background and gray-brownish peppering while irritative balanitis reveals blurry linear vessels.[2]

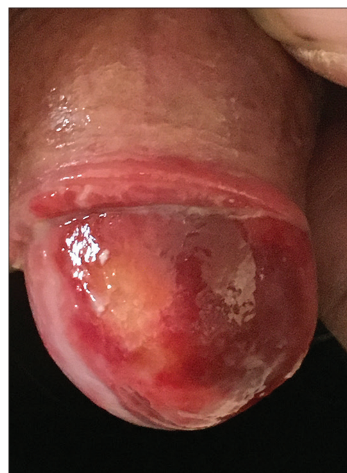

Figure 1: Well-defined shiny moist orange-red plaque on the glans penis and coronal sulcus

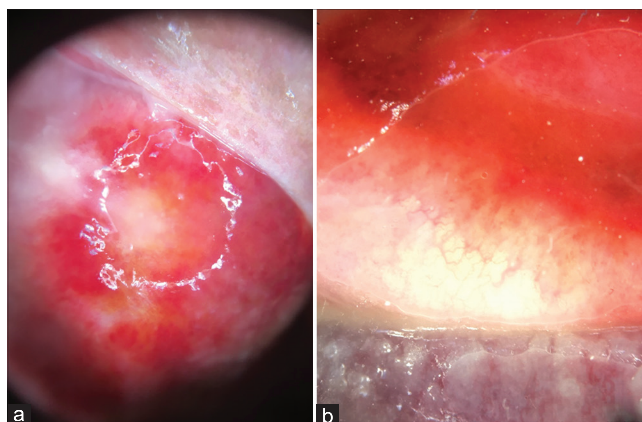

Figure 2: (a) Dermoscopy shows diffuse orange-brown structureless areas, (b) dilated linear irregular, dotted, and convoluted vessels

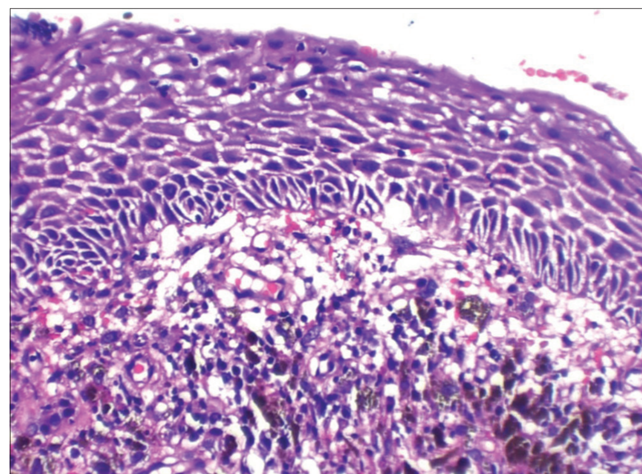

Figure 3: Histopathology shows dense lymphoplasmacytic infiltrate with melanophages and vascular dilatation in the upper dermis (H and E, ×40)

Various medical and surgical modalities have been used for the treatment of ZB. Medical management includes topical steroids, topical calcineurin inhibitors-topical tacrolimus ointment (both 0.1% and 0.03%) and topical pimecrolimus 1% cream, imiquimod 5%, topical fusidic acid 2% cream,

oral dapsone, topical antifungals, and Griseofulvin therapy has also been tried. Photodynamic therapy, circumcision, carbon dioxide (CO_2) laser, Erbium (Er):YAG laser, superficial electrodesiccation, and cryotherapy are other modalities used in the management of ZB.[3]

Monochromatic excimer light (MEL) represents a new source of narrow-band UVB emitting at 308 nm and guarantees a safe and effective approach to treat wide range of focal inflammatory and hypopigmented conditions.[4] Since balanitis was resistant to the conventional treatment, pimecrolimus 1% cream has been successfully used in resistant cases by inhibition of T-cell activation, also UVL causes cellular apoptosis in T-cells and plasma cells so we considered adding excimer light as it is 308 nm UVL. MEL induces apoptotic activity on T-lymphocytes and plasma cells.

Treatment is generally well tolerated, with few adverse reactions due to its potent and selective immunosuppressant action.[5] Since it has been used in various chronic and recurrent skin conditions we thought of using it in our patient The good immediate clinical response seen in our patient is encouraging and it may prove to be an effective and safe treatment.

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Conflicts of interest

There are no conflicts of interest.

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