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Verrucous Psoriasis-Presenting as Multiple Cutaneous Horns: A Case Report

Talwar R[1,*], Narad R[2] and Talwar A[3]

[1]*Specialist Dermatologist, Department of Dermatology, NMC Specialty Hospital, Al Ain, United Arab Emirates*
[2]*Specialist Radiologist, Department of Radiology, NMC Specialty Hospital, Al Ain, United Arab Emirates*
[3]*Consultant Dermatologist, Talwar skin clinic, Lucknow, India*

[*]**Corresponding author:** Talwar R, Specialist Dermatologist, Department of Dermatology, NMC Specialty Hospital, Al Ain, United Arab Emirates; E-mail: drrachitatalwar@gmail.com

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Abstract

A cutaneous horn is a yellow or white-colored conical projection made up of complex keratin that arises from the surface of the skin. It is usually diagnosed clinically but requires histologic examination to rule out malignancy or determine the underlying lesion. Psoriasis is a common inflammatory disease with a range of clinical presentations and a chronic relapsing course. There have been few reports of verrucous psoriasis, which is distinguished by its warty appearance and characteristic histology. We report a case of a 45-year-old male who presented with multiple cutaneous horns overlying the previous psoriatic plaques on unique locations, dorsa of hands, elbows, lumbosacral area and dorsa of feet. Post-excision biopsy revealed a diagnosis of a verrucous psoriasis-associated cutaneous horn.

Keywords: Verrucous psoriasis; Cutaneous horn; Verrucous carcinoma; Arsenical keratosis; Verruca vulgaris

Introduction

Verrucous psoriasis (VP) is a rare variant of psoriasis characterized by hyperkeratotic, papillomatous plaques that clinically resemble verrucous carcinoma (VC) in lesion appearance and distribution. It is amenable to medical treatments. A cutaneous horn, less commonly described as cornu cutaneum or Devil's horn, is a conical, protruding, hyperkeratotic growth, sometimes large enough to resemble an animal horn. Due to their clinical ambiguity and potential malignancy, these lesions must undergo biopsy from the base for histopathological analysis. Only then can subsequent, appropriate treatment be initiated. We report a case of a rare clinical variant, verrucous psoriasis, presenting as multiple cutaneous horns.

Case History

A 45 year old man presented to us:

- He had a past history of psoriasis for 10 years when he presented to us with complaints of flare up of his psoriatic plaques and development of new verrucous hyperkeratotic growths overlying the previous plaques since the last 1 year. The lesions had become so tender and verrucous that it was interfering with his daily chores. The patient was also unable to wear proper footwear due to the growth on the leg. He had been taking homeopathic treatment for the same since the past 4 years. His medical history was otherwise unremarkable.
- On examination, the patient had multiple warty, hyperkeratotic horn like projections over the dorsa of the hands (Figures 1,2), elbows (Figure 3), lumbosacral area (Figure 4) and the dorsa of the feet (Figure 5). Some of these horns were present over pre-existing erythematous, scaly psoriatic plaques while some horns (like dorsa of feet) were present de novo over underlying normal skin. The largest of these horns, present over the left foot (Figure 5) measured about 6 cm in height and 5 cm in diameter. All the lesions were firm-to-hard on palpation, slightly tender but non-infected with no sign of oozing, bleeding and ulceration.
- The nails and mucous membrane of mouth and genitalia were spared. There was no arthropathy.

Differential Diagnoses

- Verrucous psoriasis: This was the first consideration in view of his long standing history of chronic plaque psoriasis.
- Verrucous carcinoma: However, this condition usually presents as a solitary lesion and not such multifocal involvement.
- Arsenical keratosis: This condition is also associated with pigmentary changes and nail abnormalities which were not seen in our patient.
- Multiple cutaneous horns: Sudden onset of such extensive horns de novo was difficult to explain.
- Verrucous venous malformation: In view of the verrucous nature and colour of the lesion.

Investigations

Routine investigations: These included complete hemogram, blood sugar, uric acid, and thyroid function tests, all of which were within normal limits.

Arsenic level estimation: This was done from nail and hair samples and the report was normal.

Vascular/Doppler Ultrasound: Showed marked irregular-thickening of the epidermis with a superficial exophytic polypoidal outgrowth demonstrating no significant colour-flow or any sizeable enlarged, tortuous veins or feeding arteries. Dermis-epidermis junction appears relatively-preserved.

Skin Biopsy: A wide excision biopsy was done from two different sites. The HPE showed marked psoriasiform epidermal hyperplasia with acanthosis, hyperkeratosis, parakeratosis and papillomatosis (Figure 6). In addition, inward bowing of the peripheral rete ridges toward the centre of the lesion (buttressing) was noted. Collections of neutrophils within the stratum corneum and stratum spinosum was also noted (Figure 7). Dermis showed a superficial perivascular, lymphocyte-predominant inflammatory infiltrate. No dysplasia was noted.

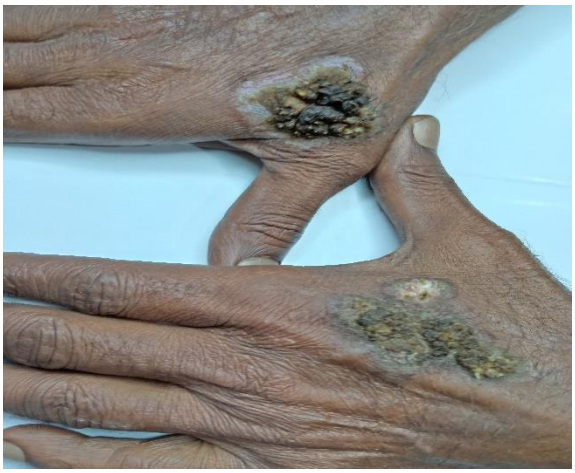

Figure 1: *Verrucous plaques on dorsal aspect of both hands.*

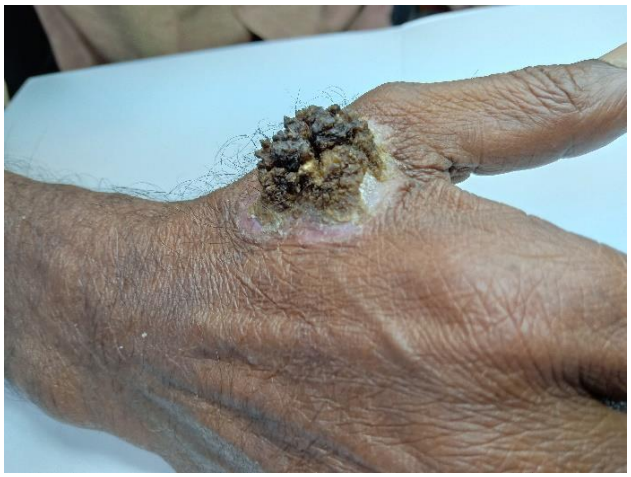

Figure 2: *Close up view of the psoriatic plaque with overlying cutaneous horn on dorsa of right hand.*

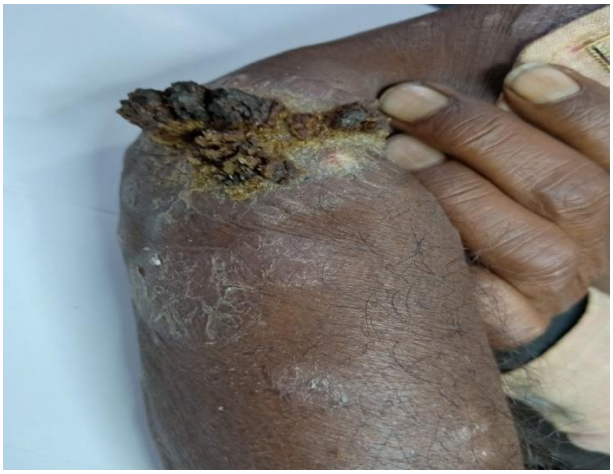

Figure 3: *Cutaneous horn overlying the psoriatic plaque noted over the elbow.*

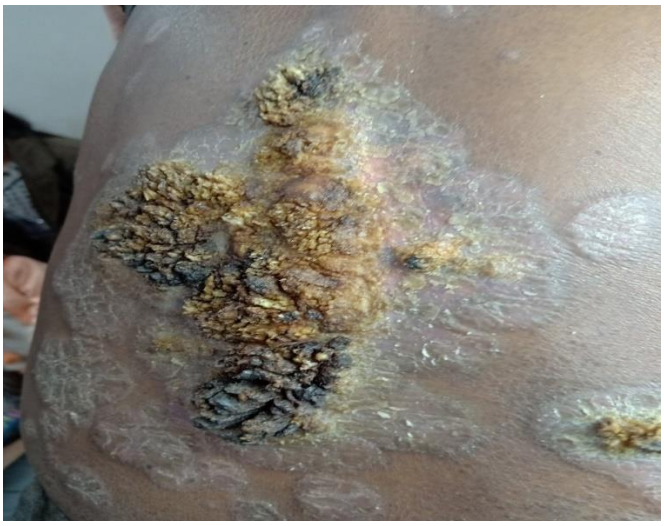

Figure 4: *Plaque over the lumbosacral area with horny projections.*

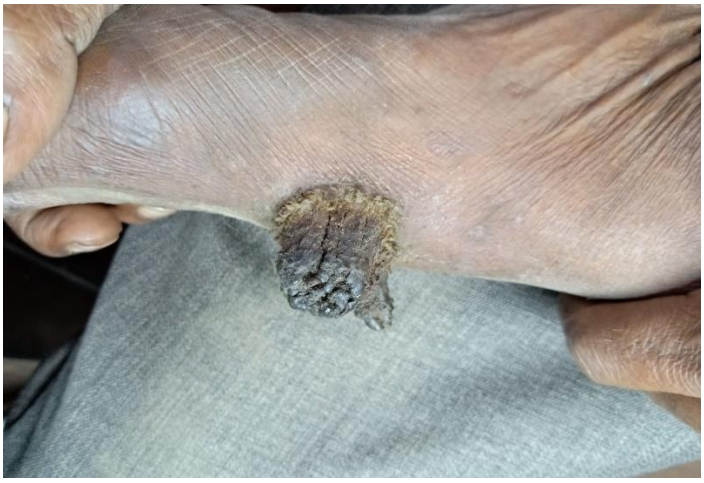

Figure 5: *Giant cutaneous with underlying normal skin noted over the dorsa of foot.*

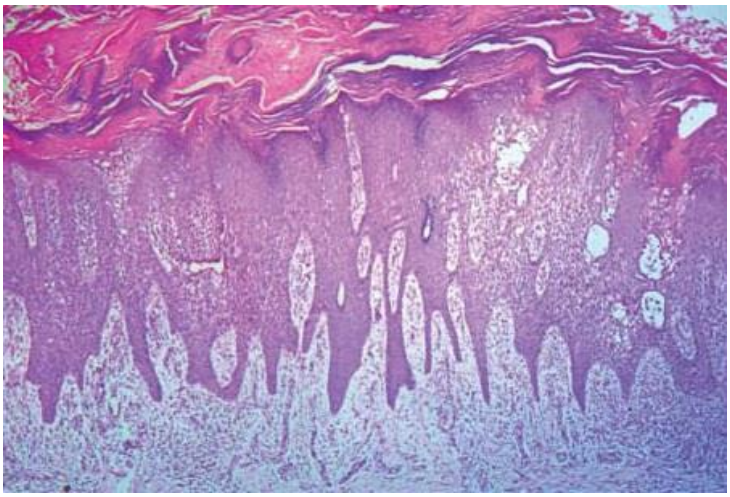

Figure 6: *Low power view showing marked psoriasiform epidermal hyperplasia with acanthosis, hyperkeratosis, parakeratosis and papillomatosis.*

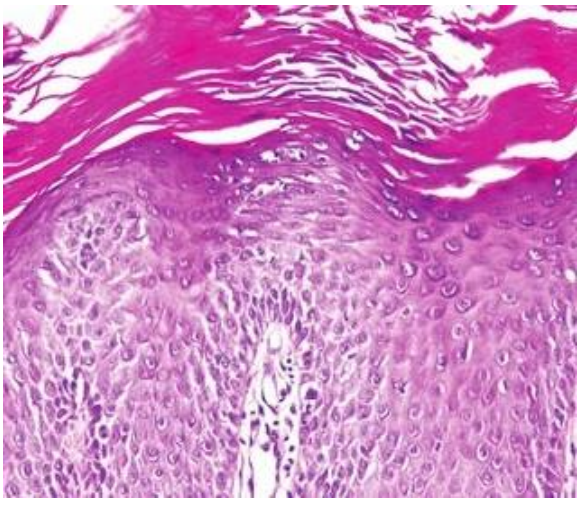

Figure 7: *Close up view showing collections of neutrophils within the stratum corneum and stratum spinosum.*

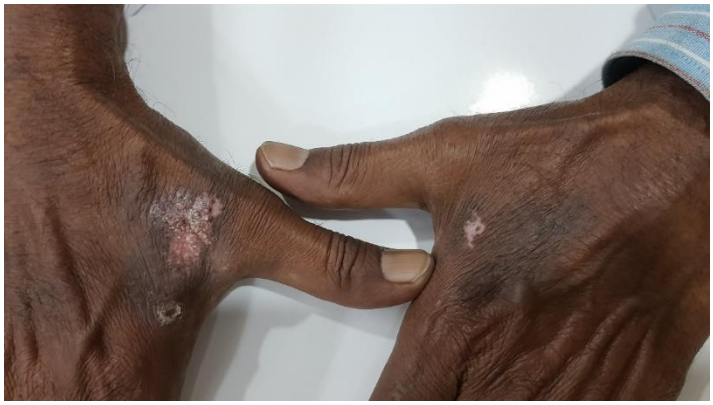

Figure 8: *Marked resolution of the plaques and horns over the dorsa of hands 6 months following treatment.*

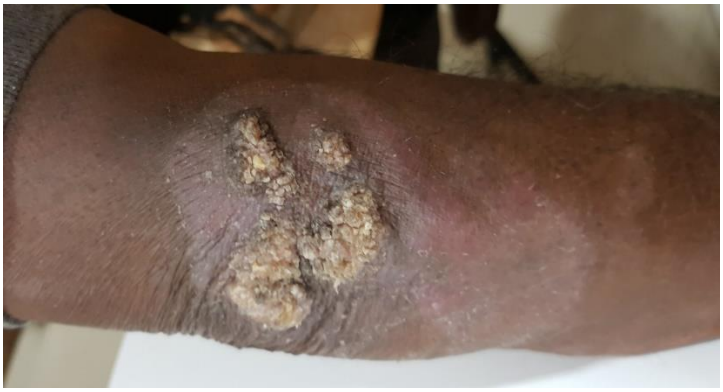

Figure 9: *Resolution of the horn with residual psoriatic plaque over the elbow following treatment.*

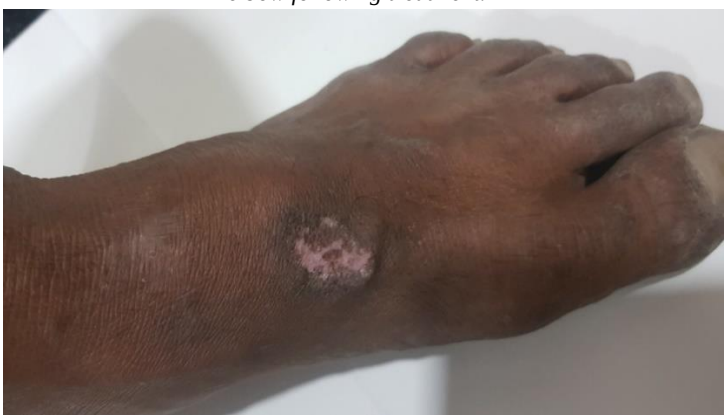

Figure 10: *Near complete resolution of the cutaneous horn over the dorsa of foot.*

Final Diagnosis

Verrucous Psoriasis

Treatment

The prior homeopathic treatment was stopped. The patient was started on a combination of oral weekly methotrexate with acitretin 25mg daily in accordance with a case report of

successful management of VP with this combination [5]. Topically, the patient was advised 12% salicylic acid cream to be applied over the most hypertrophic areas together with emollient application multiple times in a day.

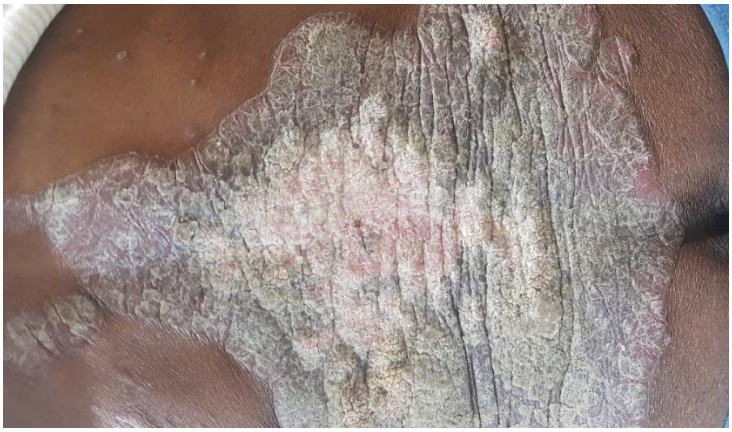

Figure 11: *Resolution of the horny projections was noted over the back following treatment, however, the erythematous scaly plaque persisted.*

The patient showed significant improvement 6 weeks into the treatment. The thick horns started to flatten out and became softer on palpation. By 3 months, the horns had shrunk to half their original size and the scaly psoriatic plaques had disappeared everywhere except the back. By 6 months, most of the horns had regressed (Figures 8-10). Only the scaly psoriatic plaques at the back remained (Figure 11). The patient continues to be under treatment and regular follow up.

Case Discussion

Verrucous psoriasis (VP) is a rare variant of psoriasis with wart-like changes clinically and histologically. It is characterized by symmetric hypertrophic verrucous plaques that may have an erythematous base and involve the legs, arms, trunk, and dorsal aspect of the hands [1]. Cutaneous horn is a conical markedly hyperkeratotic excrescence or overgrowth of epidermis that is usually seen in squamous cell carcinoma, basal cell epithelioma, nevoid conditions, wart, and keratoacanthoma. They are usually solitary and frequently associated with malignant change of the underlying epidermis [2]. To our best knowledge, there have been just 2 case reports of verrucous psoriasis presenting as multiple cutaneous horns to date.

Histologically, VP is characterised by overlapping features of verruca vulgaris and psoriasis. A large histopathologic study of 12 cases of VP reported regular psoriasiform epidermal hyperplasia with acanthosis, hyperkeratosis, and neutrophil collections in the stratum corneum (Munro microabscesses) or stratum spinosum (spongiform pustules of Kogoj) [1]. In addition, they reported papillomatosis with bowing of the peripheral rete ridges toward the centre of the lesion (buttressing). These findings are highly suggestive of verrucous psoriasis. These changes were noted in our case too. Hypergranulosis and koilocytic change, typical of verruca vulgaris, are usually not observed.

The etiology of this entity is unknown. Others have reported repeated trauma as contributing to the pathogenesis [3]. In our patient, there was no history of trauma but intake of a combination of homeopathic drugs for a long duration may have precipitated his condition.

Verrucous psoriasis can be recalcitrant to therapy. Although there are no studies addressing treatment modalities, several recommendations can be derived from individual case reports. The use of topical therapies, including topical corticosteroids, keratolytic agents and calcipotriene, provide only minimal improvement when used as monotherapy [3]. There have been successful reports of management of VP with systemic therapies like methotrexate and acitretin [4,5]. Of particular significance was a case report using a combination of acitretin with methotrexate for successful clearance of a case of VP [5]. In view of the extremely hyperkeratotic nature of the lesions and their high number in our patient, we chose to go with this combination. This combination has traditionally been avoided because of the risk for hepatotoxicity. However, a case series has demonstrated a moderate safety profile with concurrent use of these drugs in treatment-resistant psoriasis [6]. Our patient showed a tremendous clinical response with this combination with most lesions flattening out over a 6 month period. No side effects have been noted till date and the patient continues to be in treatment with regular follow up.

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