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Case Report

Sorafenib induced pustular psoriasis in a patient of hepatocellular carcinoma: a rare case report

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ABSTRACT

Pustular psoriasis is the least common form of psoriasis characterized by the formation of psoriatic plaques studded with pustules. Sorafenib is an oral multi-targeted kinase inhibitor approved for the management of hepatocellular carcinoma. We report a biopsy proven case of pustular psoriasis induced by Sorafenib in a patient of hepatocelluar carcinoma. Cutaneous adverse effects with Sorafenib are rare but are not life threatening. We are reporting this case because of the rarity of association and for highlighting the need for early detection and management.

Keywords: Pustular psoriasis, Sorafenib

INTRODUCTION

Pustular psoriasis is an uncommon form of psoriasis. Its prevalence is estimated to be about 1.76/million.[1] In this form of psoriasis, the psoriatic plaques are studded with superficial, sterile pustules. It is broadly categorized into two types, localised and generalised. The objective of reporting this case is for the rarity of association and treating physician should keep this implication in mind while managing the patient with sorafenib.

CASE REPORT

A Fifty year old male patient presented to us in dermatology OPD with a painful discharging ulcer over left buttock since 15 days and multiple erythematous lesions and pus filled lesions over scalp, forehead, chest, abdomen, arms, back and groin area since 8-10 days. Lesions were associated with pain and mild itching. No systemic symptoms were present. There was no history of fever, joint pains, arthralgia, bowel and bladder disturbances and loss of appetite. There was no past or family history of psoriasis. Patient was non-alcoholic and non-smoker. He was a diagnosed case of hepatocellular carcinoma. Surgical resection was performed and he was on tablet sorafenib 400 mg twice daily since one and a half year.

On examination, multiple erythematous papules and pustules with scaly hyperpigmented plaques were present on scalp, forehead, chest, abdomen, arms, thighs, back and groin area. There was no history of predominance of lesions over flexural folds. Lakes of pus were present on fingers (Figure 1) and feet. There was no history of any spontaneous resolution of lesions. An ulcer 5×4 cms in size with well-defined margins and healthy granulation tissue was present on left buttock (Figure 2).

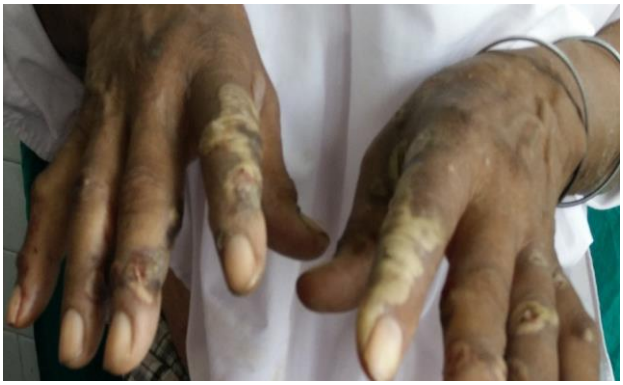

Figure 1: Lakes of pus over fingers.

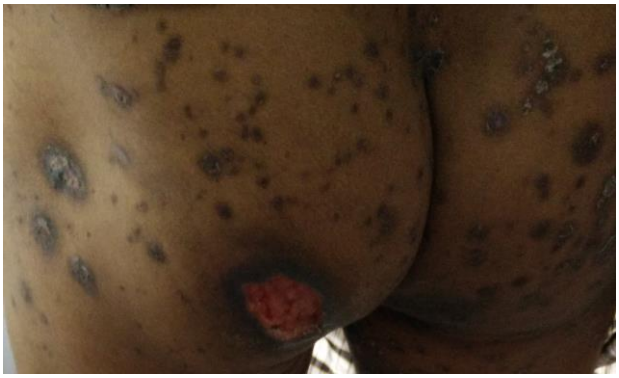

Figure 2: Ulcer 5×4 cms in size with well-defined margins and healthy granulation tissue was present on left buttock.

Keeping in mind the history and examination, we kept the differential diagnoses of pustular psoriasis, acute generalized exanthematous pustulosis, sub-corneal pustular dermatosis and vesiculobullous disorder. All routine investigations were within normal limits. SGOT was 83 U/l and SGPT was 93 U/l (slightly raised). Viral markers (HBV, HCV, HIV) were non- reactive. Skin swab was sent for culture and sensitivity from both pustule and ulcer which came out to be negative.

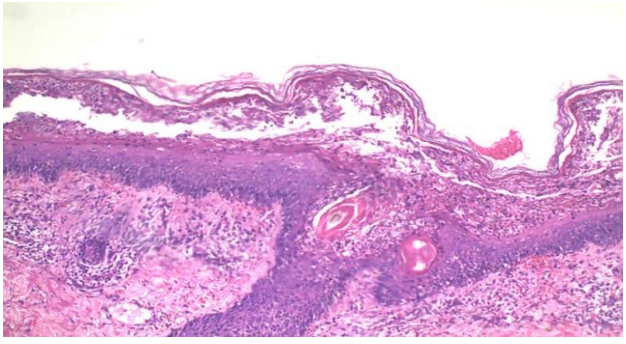

Figure 3: Biopsy showed neutrophillic spongiosis of epidermis with upper epidermal spongiform pustules. Stratum corneum had mounds of parakeratosis containing neutrophils. Superficial perivascular infiltrate of lymphocytes and neutrophils with dermal edema was seen.

Biopsy of the patient was performed which showed neutrophillic spongiosis of epidermis with upper epidermal spongiform pustules (Figure 3). Stratum corneum had mounds of parakeratosis containing neutrophils. Superficial perivascular infiltrate of lymphocytes and neutrophils was seen. Papillary dermal edema with dilatation of vessels was seen. These features were suggestive of pustular psoriasis. Hence, we reached the final diagnosis of sorafenib induced pustular psoriasis with hepatocellular carcinoma.

The patient was started on acitretin 25 mg twice daily and rest symptomatic treatment was given. Significant improvement was seen after 4 weeks.

DISCUSSION

Sorafenib is an oral multi-targeted kinase inhibitor with anti-angiogenic and anti-proliferative activity.[2] It is approved for the management of unresectable hepatocellular carcinoma. It acts by inhibiting tyrosine kinase receptors such as vascular endothelial growth factor receptor (VEGFR) and platelet-derived growth factor receptor (PDGFR) and epidermal growth factor (EGF).[3,4]

Cutaneous toxicity is relatively common with this drug.[5] Sorafenib might alter keratinocyte proliferation and differentiation by an unknown mechanism. Most case reports are on hand, foot and mouth disease but development of pustular psoriasis with sorafenib seems paradoxical.[6] Since it blocks VEGF, a cytokine whose role in the pathogenesis of psoriasis is well documented. Though, there have been reports of a papulopustular rash with EGFR inhibitor, cetuximab, and MEK inhibitors, selumetinib and trametinib.[7]

In our patient sorafenib seems the most likely culprit:

- No previous history of psoriasis and no family history of psoriasis.
- No history of intake of any other drug known to be associated with psoriasis.
- Temporal relationship between the intake of drug and occurrence of lesions.
- Also, recurrence of lesions on rechallenge with sorafenib after 6 months of administration.

According to the literature, types of pustular psoriasis are

Localized pustular psoriasis

- Palmoplantar pustulosis
- Acrodermatitis continua

Generalized pustular psoriasis

- Acute GPP
- GPP of pregnancy
- Infantile and juvenile

- Circinate
- Localized (not hands and feet).[8]

Our patient didn't fit into a classical case of generalized pustular psoriasis. So this presentation can be considered as an atypical form.

On extensive research of literature, we could find only four previously reported cases of sorafenib induced annular pustular psoriasis (Milian Katchoura type) but none of these reported cases were consistent with the findings of our case.[9-12] Hence, we are reporting this case because of the rarity of association.

CONCLUSION

Cutaneous toxicities with sorafenib are usually manageable and not life-threatening, but they may affect critical antineoplastic therapy regimen by causing dose modification or discontinuation of sorafenib. Therefore, early detection and proper management is crucial. Furthermore, these adverse events are an indicator of good response to therapy and are usually associated with longer survival rates.

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