

Images/Instrument in Dermatology/Dermatosurgery

# Capecitabine-induced palmar-plantar erythrodysesthesia

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A 68-year-old male with colon carcinoma developed redness and swelling over the hands shortly after the first cycle of capecitabine. It was associated with pain and burning sensation which resulted in difficulty in carrying out routine activities. On examination, well-defined blanchable erythema with edema was noted over the palms with prominent involvement of the

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Received: 06 April 2024

Accepted: 02 July 2024

Published: 30 July 2024

**DOI**

10.25259/CSDM\_43\_2024

**Quick Response Code:**



**Figure 1:** Well-defined erythema over the palms with more involvement of thenar and hypothenar eminence.

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**Figure 2:** Focal areas of erythema and hyperkeratotic plaques over periarticular area.

thenar and hypothenar eminences [Figure 1]. The dorsum of the hands showed focal erythema with hyperkeratotic plaques over the proximal interphalangeal joints and distal interphalangeal joints [Figure 2]. Diagnosis of palmar-plantar erythrodysesthesia was made, and the patient was started on emollients, topical steroids, and pregabalin. There was a significant improvement in the patient's symptoms by 2–3 weeks.

Palmar-plantar erythrodysesthesia, also known as hand and foot syndrome, is a major dose-dependent adverse effect of capecitabine, seen in 22–77% of cases. It is hypothesized to occur secondary to toxic accumulation of capecitabine in eccrine glands of palm and soles which lead to cellular injury, that is, keratinocyte apoptosis and thinning of stratum corneum.<sup>[1,2]</sup> This translates clinically as erythema, with or without edema, desquamation, and fissuring. Severe cases may develop blisters and ulceration, hampering their quality of life.<sup>[2]</sup> Based on severity, it can be classified into three grades:<sup>[1]</sup> Grade I: Minimal skin changes or dermatitis (erythema, edema, and hyperkeratosis), no pain. Grade II: Moderate skin changes (scaling, blisters, bleeding, cracking, and erosion) with pain, relative limitation. Grade III: Severe skin changes (scaling, blisters, bleeding, fissures, erosions, and hyperkeratosis) with pain.

Palmar-plantar erythrodysesthesia is a dose-dependent condition that is generally observed after a median of three

cycles of chemotherapy. This case presented relatively early after starting capecitabine and peculiarly with erythema and swelling rather than macular hyperpigmentation which is characteristic of palmar-plantar erythrodysesthesia in the skin of color.<sup>[1]</sup> Management includes symptomatic treatment with emollients, topical steroids supported with cold compresses, and limb elevation. Systemic treatment and cessation of the offending drug is considered in severe cases.<sup>[2,3]</sup>

### Ethical approval

The Institutional Review Board approval is not required.

### 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.

### 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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**How to cite this article:** Sihag Y, Tyagi S. Capecitabine-induced palmar-plantar erythrodysesthesia. *CosmoDerma*. 2024;4:83. doi: 10.25259/CSDM\_43\_2024