ejpmr, 2022,9(8), 331-333

SJIF Impact Factor 6.222

EUROPEAN JOURNAL OF PHARMACEUTICAL AND MEDICAL RESEARCH

www.ejpmr.com

Case Study

ISSN 2394-3211

EJPMR

TOXIC ERYTHEMA OF CHEMOTHERAPY SECONDARY TO DOCETAXEL

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Article Received on 27/06/2022 **Article Revised on 17/07/2022** **Article Accepted on 7/08/2022**

ABSTRACT

Toxic erythema of chemotherapy is a self-limiting cutaneous toxicity reaction to chemotherapeutics agents such as taxanes, methotrexate, doxorubicin and others. The diagnosis is based mainly on the typical clinical presentation involving intertriginous and acral areas. Management includes supportive treatment in the form of emollients and topical steroids. The case discussed presented with erosions over intertriginous and periorbital region, after receiving docetaxel for breast carcinoma.

KEYWORDS: Toxic erythema of chemotherapy, Eccrine glands, Docetaxel.

INTRODUCTION

Chemotherapy is a vital component of all the cancer management, and with the increasing cancer cases, one will see an increasing incidence of chemotherapy-related skin toxicity. Toxic erythema of chemotherapy (TEC) includes a cluster of dermatological manifestations that are ascribed to the toxicity caused by chemotherapeutics. The most associated drugs include capecitabine, cyclophosphamide, cytarabine, daunorubicin, taxanes, 5-Fluorouracil, hydroxyurea, mercaptopurine, methotrexate, sorafenib, sunitinib, vinblastine, vincristine. Skin eruptions associated with chemotherapy includes acral erythema, alopecia, photosensitivity, recall reactions, acneiform eruptions, skin necrosis, neutrophilic eccrine hidradenitis, eccrine squamous metaplasia, palmoplantar erythrodysaesthesia, intertriginous eruption of chemotherapy, sclerotic dermal reactions and others.[1] TEC often presents as erythematous patches and plaques, more predisposed over the acral or intertriginous areas, which usually resolves with desquamation. Histologically, it is characterized by vacuolar degeneration of the basal layer, sparse inflammatory infiltrates, perieccrine neutrophilic infiltrates.

Case

The patient was a 67 years old female, known case of carcinoma of right breast stage III, presented to OPD with complain of cutaneous eruption. She had received 4 cycles of chemotherapy, which consisted of doxorubicin and cyclophosphamide. In 5th cycle of chemotherapy, she received docetaxel and trastuzumab. She developed erythema over hands and feet after 4 days of chemotherapy. After 20 days, the 6th cycle of chemotherapy with docetaxel and trastuzumab was given. The rash exacerbates after 10 days with development of pus-filled lesions over trunk, lower limbs and oral and genital erosions, with episodes of low-grade fever. Examination revealed superficial erosions over chest, upper limbs and lower limbs with crusting at few sites [Figure 1a]. Superficial erosions were present over vulval region and perianal area [Figure 1b]. Periorbital erosions were also present [Figure 1c]. Desquamation was seen over the hands and feet [Figure1d]. Tzanck smear was unremarkable. A skin biopsy was obtained from the upper limb, which revealed focal basal vacuolar degeneration with some apoptotic keratinocytes. There was also mild inflammatory infiltrate of lymphocytes in the dermis [Figure 2]. The patient was started on topical and oral antibiotics for 5 days. Topical treatment with corticosteroids and emollient therapy and oral antihistamines were also initiated. As the rash was recognized as part of the self-limiting TEC spectrum secondary to docetaxel, docetaxel was stopped and it was advised to avoid taxanes for chemotherapy.

DISCUSSION

Toxic erythema of chemotherapy (TEC) encompasses a range of nonallergic cutaneous eruptions that develops after chemotherapy. It is believed to develop as a result of the toxic accumulation of chemotherapeutic agents in the eccrine glands. The time of onset of TEC is highly variable, the eruptions may develop 2 days to 3 weeks after initiation of chemotherapy [2]. TEC may mimic a drug hypersensitivity response, as it may not occur after first exposure to the chemotherapeutic agent. TEC may recur and worsen on drug rechallenge [3]. The diagnosis of TEC is confirmed by the histological findings.

Clinically accentuation of rashes in skin creases and intertriginous sites, where sweat production is more, is in accordance with the pathomechanism in TEC. Eccrine glands are also present in high density in the periorbital region [4]. This explains the distribution of rash in our case in the periorbital and intertriginous areas. TEC is a self-limiting toxic reaction [5]. Chemotherapy can be allowed to continue but there might be an increase in the severity of the rash with dose escalation. Reduction in the dosage and increasing the interval between doses have been reported to ease the cutaneous toxicity. In the meantime, the cutaneous eruption can be managed supportively with emollients, topical steroids and analgesics and concomitant infection should be treated [2].

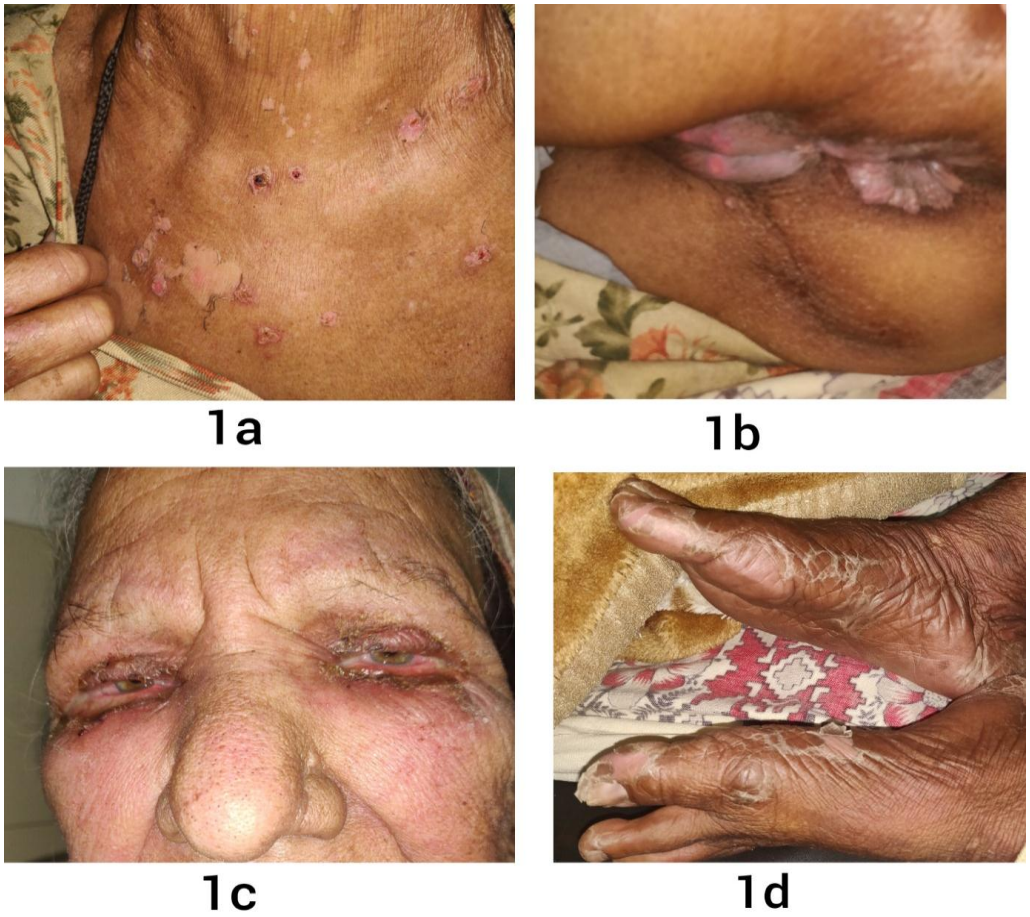

Figure 1: Photograph showing (1a) superficial erosions over chest with desquamation and crusting (1b) erythematous plaques and superficial erosions over vulval and perianal areas (1c) periorbital erosions with crusting (1d) desquamation of skin of both feet.

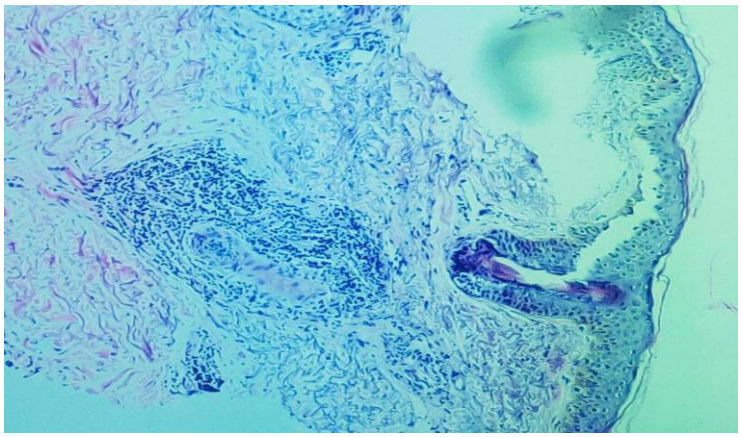

Figure 2: Photomicrograph shows focal basal vacuolar degeneration with a few apoptotic keratinocytes and scant inflammatory infiltrate of lymphocytes scattered in the dermis (H & E, x 40).

Conflict of interest: None

Funding source: None

Ethical approval: Not required

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