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Case Report

Chemotherapy induced toxic erythema mimicking toxic epidermal necrolysis: a case report

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ABSTRACT

Toxic erythema of chemotherapy (TEC) refers to a variety of skin eruptions secondary to the use of antineoplastic drugs. We report a case of 49-year-old female, diagnosed case of right- side Ca breast, on chemotherapy for 3 months after MRM, who presented with gradually progressive skin rash on bilateral dorsa of hands, forearms, neck folds, bilateral axilla, groins, perianal area and buttocks with pain and burning sensation on lesions. Sloughed skin, denudation, and ruptured bullae generate a broad range of differential diagnoses, including toxic epidermal necrolysis (TEN), PNP and acute GVHD. Topical corticosteroids applied two to three times daily for several weeks can be beneficial in treating affected areas in TEC along with dose reduction of offending agent, extending the interval between treatment cycles, or discontinuing the offending chemotherapeutic agent.

Keywords: Toxic erythema, Chemotherapy, Skin rash, Corticosteroids

INTRODUCTION

Toxic erythema of chemotherapy (TEC) refers to a variety of skin eruptions secondary to the use of antineoplastic drugs.¹ This condition is marked by areas of painful erythema, in many cases, swelling, which primarily involve the hands and feet, intertriginous zones like, axillae, groin and less often, the elbows, knees, and ears. This may presents with bullous eruption too.² These lesions are self-limited, and often resolve with desquamation and post-inflammatory hyperpigmentation. Often, they are confused with other skin conditions like Steven Johnson syndrome-(SJS-TEN), allergic drug reactions and paraneoplastic syndrome (PNP).¹

CASE REPORT

We report a case of 49-year-old female who presented to dermatological emergency with chief complain of swelling of bilateral forearms for 3 weeks with gradually increasing red patches, followed by desquamation of skin of bilateral forearm. Also, for last 10 days patient complaint of

multiple fluid filled lesions chiefly involving neck, bilateral axilla, bilateral groins, vulva and perianal area. All these lesions busted to form painful moist erosions with burning sensation and mild oozing of blood and discharge from few lesions. She also had erythematous moist erosions on bilateral outer canthus of eyes.

Patient was a diagnosed case of Right-side Ca breast 4 months back. MRM was performed and was started on chemotherapy with Pertuzumab and Trastuzumab infusions every 3 weekly and Paclitaxel infusion once weekly for last three and half months. There is no history of any graft transplant.

On examination, patient's general condition was sick with dyspnea and hypotension.

The bilateral axilla, flexures of neck, groins, vulva, perianal area and buttocks had erythematous, discrete to confluent superficial, moist erosions of size varying from 0.3 mm to 4 cm in diameter with surrounded desquamative

scaling with surrounding skin having dusky erythema (Figure 1).



Figure 1: Perianal area and buttocks showing erythematous, discrete to confluent superficial, moist erosions of size varying from 0.3 mm to 4 cm in diameter with surrounded desquamative scaling with surrounding skin having dusky erythema.

The bilateral dorsal hands and forearms had erythema, edema, tender to touch with desquamation of skin and areas of normal skin on dorsal surface of fingers (Figure 2).



Figure 2: Bilateral dorsal hands and forearms showing erythematous, edematous, tender to touch with desquamated skin lesions and areas of normal skin on dorsal surface of fingers.

Oral cavity, nasal cavity, vaginal mucosa was normal on examination.

Nikolsky sign was negative.

Laboratory testing revealed pancytopenia, without eosinophilia and elevated blood urea and serum creatinine levels.

Based upon clinical presentation and temporal association with chemotherapy, diagnosis of TEC was made.

Patient was started on treatment with topical corticosteroids.

Due to continuous respiratory distress patient was intubated and shifted to Intensive care unit for further management and unfortunately, she died because of multiorgan failure.

DISCUSSION

Clinically, TEC presents with painful erythema and swelling, typically affecting the hands, feet, and intertriginous areas.¹ Although skin manifestations typically occur 2 days to 3 weeks after chemotherapy administration, some patients may experience a delayed onset, with symptoms appearing several months later.³

Sloughed skin, denudation, and ruptured bullae generate a broad range of differential diagnoses, including TEN, PNP and acute GVHD.

Absence of oral, nasal, ocular, vaginal mucosa involvement ruled out TEN. Unlike TEN, TEC is not a hypersensitivity reaction. TEC is believed to result from the toxic effect of chemotherapy agents on the eccrine ducts, acrosyngia, and epidermis as well as accumulation of cytotoxic agents in the sweat and/or release of granulysin by natural killer cells. Both TEN and TEC can develop within days to weeks after initiation the offending agents.³

Clinical features of PNP such as polymorphous lesions, including lichenoid lesions or targetoid lesions, bullae and severe stomatitis were absent in our patient.

No history of transplant prior to rash making a GVHD unlikely.

Topical corticosteroids applied two to three times daily for several weeks can be beneficial in treating affected areas. Additional treatments include cool compresses, pyridoxine (50-150 mg once daily), and local hypothermia.³

The most common chemotherapeutic agents associated with toxic erythema include cytarabine, anthracyclines, methotrexate, 5-fluorouracil, capecitabine and taxanes. Skin lesions may recur if the same or a higher dose of chemotherapy is reinitiated. Therefore, preventing recurrence may require dose reduction, extending the interval between treatment cycles, or discontinuing the offending chemotherapeutic agent.

CONCLUSION

This case report helps to better understand the spectrum of toxic erythema of chemotherapy, thereby enhancing

awareness of its clinical presentation and outcomes in clinical practice.

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