Malignant intertrigo: A subset of toxic erythema of chemotherapy requiring recognition

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INTRODUCTION

Toxic erythema of chemotherapy (TEC) encompasses a broad spectrum of cytotoxic effects on the skin.[1] Despite increasing awareness of TEC, such eruptions may remain unrecognized and subsequently result in unnecessary hospitalizations. Of the different variants of TEC, intertriginous eruptions have been reported using many terms, such as *intertrigo dermatitis*, *intertriginous eruption of chemotherapy*, *flexural erythematous eruption*, and *intertrigo-like eruption associated with chemotherapy*.[1] *Intertrigo* is a broad term that refers to any inflammatory rash of closely opposed skin, typically presenting with varying degrees of erythema and maceration, and this particular type of TEC has not been identified with consistent nomenclature. We present 6 cases of this distinct subset of TEC, all occurring within a 7-month period at a single institution; these cases were initially unrecognized, resulted in hospitalization, and required inpatient dermatologic consultation to achieve a diagnosis. Although *TEC* is a clinically useful term intended to improve discernment of its noninfectious and nonallergic etiology,[1] the loss of morphologic specificity may prevent its variants from being properly recognized, especially in the intertriginous regions. We therefore propose *malignant intertrigo* (MI) as a useful and encompassing term describing toxic erythema of chemotherapy affecting the intertriginous skin.

Abbreviations used:

MI:	malignant intertrigo
PPE:	palmoplantar erythrodysesthesia
SDRIFE:	symmetrical drug-related intertriginous, flexural exanthema
TEC:	toxic erythema of chemotherapy

REPORT OF CASES

Six patients with various malignancies undergoing chemotherapy presented with intertriginous rashes (Table I and Fig 1). Involved areas included cervical, inframammary and inguinal folds, and axillae, abdomen, antecubital fossae, perineum, buttocks, and thighs. Physical examination found sharply demarcated, erythematous-to-dusky patches and plaques with focal scaling, crusting, and erosions. These lesions were painful and exquisitely tender. Histopathology results showed subtle interface dermatitis with variable epidermal dysmaturation and necrosis, along with perivascular and periadnexal chronic inflammatory infiltrate. Three of these cases showed eccrine squamous syringometaplasia.

Several patients were initially misdiagnosed in the outpatient or emergency setting with infections, contact dermatitis, and, in one case, atypical Stevens-Johnson syndrome, leading to treatments with antimicrobials and corticosteroids, both topical and intravenous. At the time of diagnosis of TEC,

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Table I. Epidemiologic and clinicopathologic findings in the 6 cases

Case	Age/ sex	Malignancy	Prior therapy	Most recent therapy*	Onset of rash (season and chemotherapy cycle)	Clinical findings	Histologic findings	Course and response
1	60 F	AML: 47,XX, +8, t(9;11)	None	Decitabine priming with "7+3" cytarabine and daunorubicin	Autumn, cycle 1	Tender erythematous patches in the bilateral inframammary folds, left axilla, left anterior chest, and cervical skin folds	Atrophic epidermis with prominent interface changes displaying a hydropic pattern of the basal keratinocytes, early squamous metaplasia of the dermal eccrine ducts, and superficial and perivascular lymphocytic inflammatory infiltrate, consistent with interface dermatitis with early associated changes of squamous syringometaplasia	Complete re-epithelialization achieved after application of topical steroids, silver-impregnated mesh gauze, and aluminum acetate soaks
2	43 F	Metastatic rectal adenocarcinoma and renal cell carcinoma	Surgical debulking	FOLFIRI and bevacizumab	Summer, cycle 3 (interrupted because of nausea and vomiting)	Tender, sharply demarcated hyperpigmented and erythematous scaly patches in the inframammary regions and inguinal folds bilaterally, with focal serous crusting in the right inframammary patch	Prominent compact hyperkeratosis of the epidermis with patchy parakeratosis and focal ulceration with a mild chronic inflammatory infiltrate admixed with occasional neutrophils and some impetiginization; mild, predominantly perivascular and periadnexal chronic inflammatory	Initially treated for suspected cutaneous candidiasis, cellulitis, and ACD without improvement. Treatment included nystatin cream, fluconazole (both topical powder and oral), empiric IV antibiotics, and topical corticosteroids. Astringent soaks and higher-potency topical steroids

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