



BRIEF REPORT

Paclitaxel-induced cutaneous change mimicking malignancy in a previous cutaneous eruption



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Received 6 March 2018; accepted 23 April 2018

Available online 26 May 2018

KEYWORDS

Apoptosis;
Dermatotoxicity;
Dyskeratosis;
Intraepithelial
carcinoma;
Mitosis;
Paclitaxel;
Pagetoid invasion

Abstract Taxanes are antineoplastic drugs that can cause dermatotoxicity which can mimic an intraepidermal carcinoma. A 65-year-old woman presented with a cutaneous eruption suggestive of a paraneoplastic syndrome. Imaging studies showed multiple peritoneal nodules and associated ascites. A sample taken from the greater omentum revealed an adenocarcinoma. Clinical data and family history pointed to a gynecological origin of the tumor and the patient was treated with carboplatin and paclitaxel. A new cutaneous biopsy showed that the epidermis was acanthotic with atypical keratinocytes, abundant mitoses, and apoptotic figures, arising concerns of malignancy. According to the Plummer and Shea criteria, the lesion was ultimately interpreted as reactive cutaneous hyperplasia and expression of the taxane effect. We report, for the first time, paclitaxel-induced histologic changes on a previous cutaneous eruption. Pathologists should be aware of the profound cytopathic effects of taxane therapy in order to interpret skin biopsies of patients undergoing this treatment.

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PALABRAS CLAVE

Apoptosis;
 Dermatotoxicidad;
 Disqueratosis;
 Carcinoma
 intraepitelial;
 Mitosis;
 Paclitaxel;
 Invasión pagetoide

Alteración cutánea inducida por paclitaxel simulando malignidad sobre una erupción cutánea previa

Resumen Los taxanos son fármacos antineoplásicos que pueden causar dermatotoxicidad simulando un carcinoma intraepidérmico. Una mujer de 65 años se presentó con una erupción cutánea sugestiva de síndrome paraneoplásico. Los estudios de imagen mostraron múltiples nódulos peritoneales y ascitis asociada. Una muestra tomada del epiplón mayor reveló un adenocarcinoma. Teniendo en cuenta los datos clínicos y la historia familiar se asumió un origen ginecológico del tumor, y la paciente fue tratada con carboplatino y paclitaxel. Una nueva biopsia cutánea mostró que la epidermis era acantótica con queratinocitos atípicos, abundantes mitosis y figuras apoptóticas. Estos hallazgos levantaron la sospecha de malignidad. De acuerdo con los criterios de Plummer y Shea la lesión fue finalmente interpretada como hiperplasia reactiva epidérmica y expresión del efecto taxano. Presentamos por primera vez los cambios inducidos por paclitaxel sobre una erupción cutánea previa. Los patólogos deberían estar al tanto de los profundos efectos citopáticos de la terapia con taxanos con el fin de interpretar adecuadamente las biopsias cutáneas de los pacientes bajo este tratamiento.

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Introduction

Paclitaxel (Taxol) is a taxane widely used as an antineoplastic agent to treat mammary, esophageal, prostatic, ovarian, non-small cell lung carcinoma, AIDS-associated Kaposi sarcoma and other tumors. It acts by binding specifically to microtubules promoting polymerization and inhibiting depolymerization.¹ Microtubule dynamics are crucial for cell-cycle progression. Alteration of microtubules produces centrosomal impairment and abnormal formation and function of the mitotic spindle. Thus, cells exposed to taxanes are unable to separate their chromosomes during mitoses and are stopped in phase G2/M with stimulation of apoptosis. As a result, affected tissues present accumulation of numerous mitotic and apoptotic figures.

Although there are a few reports of cutaneous eruptions induced by taxanes with histopathology suggestive of cutaneous malignancy,^{2,3} the general pathologist is not usually familiar with these lesions.

We present a case of a cutaneous eruption with unusual histopathological findings attributed to paclitaxel which posed a diagnostic challenge.

Case report

A 65-year-old woman presented with a recently developed pruritic cutaneous eruption. She showed papular lesions that were grouped in different areas on her back and arms. They were polygonal, bright and flat with a lichenoid aspect, but had an orange-yellowish hue (Fig. 1). Previous familial history was significant; one sister had breast carcinoma and another ovarian carcinoma. Two successive biopsy specimens were obtained in a private center and the pathologic diagnosis was lichen simplex chronicus and dermatitis perivascular and interstitial with slight eosinophilia. The lesions were treated with hydroxyzine and topical

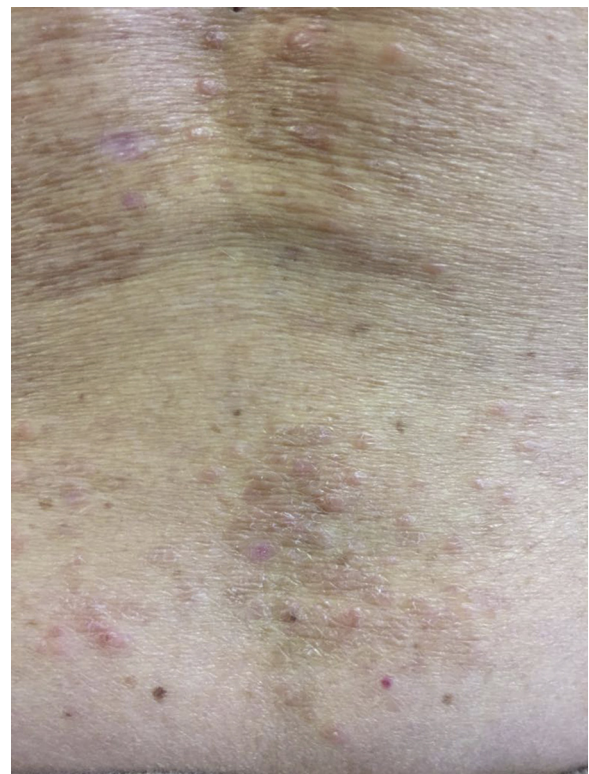


Figure 1 Cutaneous papular eruption on the back. Papular lesions are bright, flat and polygonal with a lichenoid aspect but have an orange-yellowish color.

corticosteroids but with scant response. The clinico-pathological evaluation led to a suspicion of a paraneoplastic syndrome. Abdominal ultrasound and computed tomography showed multiple peritoneal nodules, diffuse thickening of the peritoneum and associated ascites. A sample taken from the greater omentum revealed an adenocarcinoma

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