

Paclitaxel-induced periarticular thenar eminence erythema with onycholysis: A case report

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Abstract

Paclitaxel is a drug frequently used in the treatment of gynecological cancers. Its cutaneous side effects are fairly well documented. A subtype of hand-foot syndrome, periarticular erythema of the thenar eminences with onycholysis, is rarer. Here, we present a case of a woman treated with paclitaxel for recurrent ovarian cancer who developed periarticular thenar eminence erythema with onycholysis syndrome. Involvement presented as an erythematous rash on the top of the left hand progressing up the arm. A lesion was also present on the right lower limb and on the dorsal surface of the right foot with onycholysis. Edema was present in the fingers, hands, forearms, and feet. A punch biopsy and pathological analysis confirmed the diagnosis of periarticular thenar eminence erythema with onycholysis syndrome. Rapid identification and treatment with topical corticosteroids limited irreversible damage.

Keywords

Paclitaxel, hand-foot syndrome, PATEO, ovarian cancer

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Introduction

Taxanes are part of a family of chemotherapy agents that block cell division and induce cell death by altering the function of microtubules. They are used in the treatment of many cancers of digestive and gynecological origin. Their use is not without risk and many cardiac, gastrointestinal, hematological, hepatic, and cutaneous side effects have been observed.¹ Among the cutaneous side effects, the hand-foot syndrome is one of the frequent hypersensitivity reactions. Its incidence varies according to the agent used and the dose administered and could reach up to 58% under docetaxel.² This syndrome has also been associated with a large number of agents such as doxorubicin, fluorouracil, and cytarabine.³ The syndrome which is also called palmoplantar erythrodysesthesia is characterized by erythema with or without edema, desquamation, numbness, and tingling sensations most often in the palms of the hands or the soles of the feet.⁴ A subtype of hand-foot syndrome called periarticular thenar eminence erythema with onycholysis (PATEO) mainly affects the dorsal surfaces of the hands as well as the thenar eminences and Achilles tendons and may be associated with paronychia or onycholysis.^{4,5} Here, we present a new case of PATEO syndrome induced by the administration of paclitaxel.

Case presentation

A 67-year-old woman with recurrent ovarian cancer treated with weekly paclitaxel for several months developed a pruritic erythematous rash on top of the left hand progressing to the left arm sparing her palm. A lesion was also present on the right lower limb and on the dorsal aspect of the left foot with onycholysis. Edema was present in the forearms, hands and fingers as well as in the feet and legs (Figure 1). Before seeing her oncologist, the patient had tried taking an antihistamine for a week, without improvement. A consultation with the dermatology department was then requested and a skin punch biopsy was performed. Paclitaxel was withheld until biopsy results were obtained and symptomatic

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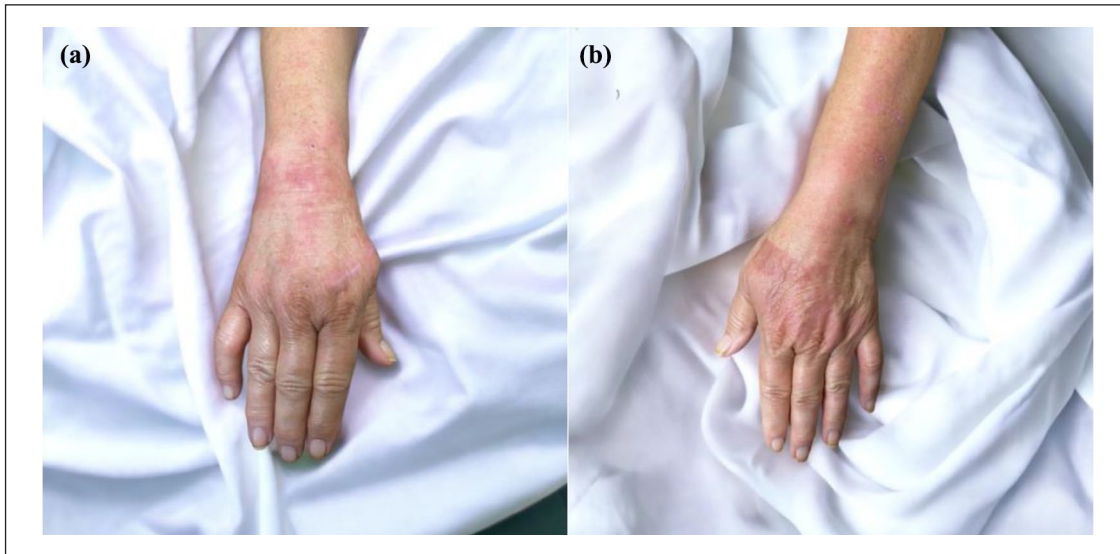


Figure 1. Erythematous rash on the forearm and dorsal side of the hands of the patient (a, right; b, left). It is accompanied with edema in the fingers and onycholysis.

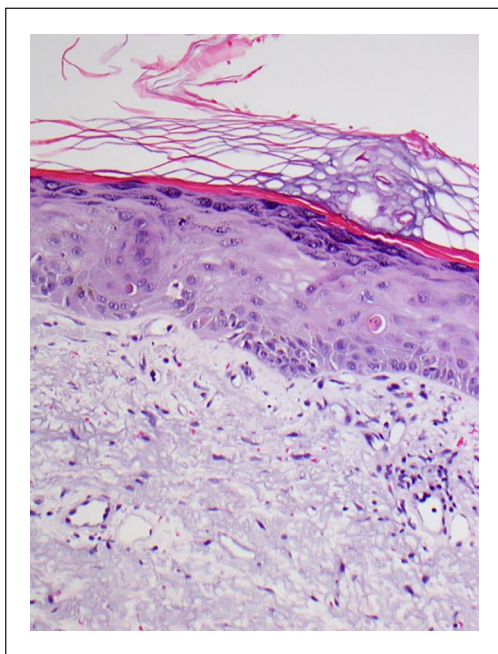


Figure 2. Punch biopsy of the skin. Microscopic analysis shows epidermic acanthosis with dyskeratotic cells and reactive atypia.

treatment was initiated with betamethasone 0.1% applied topically twice daily. Analysis of the punch biopsy later confirmed the diagnosis of PATEO. Epidermal acanthosis, epidermal dysmaturation with atypia, presence of keratinocyte apoptosis, significant hypergranulosis, and minimal perivascular lymphocyte infiltration were seen on pathology (Figure 2). These findings were consistent with the dysmaturation associated with chemotherapy and paclitaxel-induced skin

toxicity. After application of topical corticosteroids for about 2 weeks, the erythematous lesions and edema almost resolved. However, the onycholysis extended to the fingernails. It was then suggested to use cryotherapy on the extremities during subsequent cycles of chemotherapy to prevent further deterioration.

Discussion

The pathophysiology of PATEO remains unknown, but histopathological changes have already been described in the literature.^{2,6} These include an increase in the number of atypical mitotic figures, apoptotic keratinocytes, dyskeratosis, and abnormal maturation of keratinocytes in the epidermis.⁷ These changes are not specific to PATEO syndrome and are found similarly in hand-foot syndrome.⁶ It can be distinguished by the dorsal distribution of its associated lesions, the involvement of the Achilles tendon, and the presence of onycholysis. Cutaneous hypersensitivity reactions to taxanes represent a significant proportion of the side effects of this drug class. Previously more associated with docetaxel, more and more case reports show that PATEO syndrome can occur with paclitaxel.^{4,7-12} Toxicity also appears to be dose related and may explain an improvement in symptoms when paclitaxel is discontinued.¹¹ The grading of toxicity on the National Cancer Institute scale is an important tool in the management of cutaneous toxicity where the severity of the reaction is correlated with a reduction in the quality of life.^{3,13} While grade 1 and 2 toxicities are quite limited in the extent of damage, grade 3 and 4 toxicities may require supporting treatment or interruption and change in treating agents.¹¹ Finally, cryotherapy appears to be the only effective intervention to prevent nail changes.¹¹

Conclusion

This case report presents another example of PATEO syndrome diagnosed in a patient on paclitaxel. The rapid identification of the syndrome made it possible to limit the cutaneous involvement and management before irreversible changes.

Declaration of conflicting interests

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