Case Report

Persistent docetaxel-induced supravenous erythematous eruption *

Karina de Almeida Pinto Fernandes[1] Paulo Antônio Oldani Felix[1,2]

DOI: http://dx.doi.org/10.1590/abd1806-4841.20153296

Abstract: Taxanes are drugs used to treat many types of cancer, including breast and lung cancer. The most common side effects of these drugs are neutropenia and mucositis. Signs of skin toxicity are observed in about 65% of cases and include alopecia, hypersensitivity reactions, persistent supravenous erythematous eruption, nail changes, scleroderma reactions and others. We report two cases of skin reaction to docetaxel and warn that it is not necessary to interrupt the treatment in these cases.
Keywords: Drug eruptions; Skin abnormalities; Taxoids

INTRODUCTION

Taxanes, such as paclitaxel (*Taxol®*) and docetaxel (*Taxotere®*) are drugs used in the treatment of several tumors. Although there are no epidemiological studies on these drugs, cutaneous side effects are frequent, with an estimated incidence of 65%. These reactions may alter the quality of life of the patients, therefore relief for the symptoms and prevention of reactions are essential.[1] We report 2 cases of cutaneous reaction to docetaxel (DCX), with the objective of familiarizing dermatologists with the side effects of chemotherapy with taxanes and advise them about the conduct to be adopted.

CASE REPORT

Case 1: Female patient, 68 years old, diagnosed with breast carcinoma of the infiltrating ductal type, grade 3, being treated with neoadjuvant chemotherapy. She underwent 4 cycles with doxorubicin and cyclophosphamide and 4 cycles with docetaxel and trastuzumab. The patient mentioned that few days after the second session of chemotherapy with docetaxel and trastuzumab she presented an erythematous macule, slightly pruriginous, on the left forearm. The clinical examination revealed a supravenous brownish macule that followed the venous pathway on the left upper limb, onycholysis on the fingers and alopecia

Received on 01.12.2013
Approved by the Advisory Board and accepted for publication on 05.02.2014
* Study carried out at the Hospital Naval Marcílio Dias (HNMD) – Rio de Janeiro (RJ), Brazil.
Financial Support: None.
Conflict of Interest: None.

1 Hospital Naval Marcílio Dias (HNMD) – Rio de Janeiro (RJ), Brazil.
2 Hospital dos Servidores do Estado do Rio de Janeiro – Rio de Janeiro (RJ), Brazil.

(Figure 1). In face of the clinical findings we concluded that it was a persistent erythematous eruption that followed the venous pathway, secondary to use of DCX. Methylpredisolone aceponate was prescribed once a day, for 7 days. The patient progressed with residual hyperpigmentation (Figure 2). Case 2: Female patient, 65 years old, diagnosed with breast carcinoma of the infiltrating ductal type, grade 4, with metastasis to the lung, undergoing palliative chemotherapy with DCX and filgrastim. She mentioned a pruriginous erythematous macule that appeared on the left forearm a few days after the third cycle of chemotherapy and hyperpigmentation of the nail plate after the sixth cycle. The clinical examination revealed erythematous-brownish macules on the back of hand, following the venous pathway on the left upper limb and chromonychia (Figure 3). She was diagnosed with persistent erythematous rash following the venous pathway secondary to use of DCX and treatment was started with methylpredisolone aceponate once a day for 7 days, with complete remission of lesion 3 months after the end of chemotherapy (Figure 4).

DISCUSSION

In Brazil there are two types of taxanes, paclitaxel and docetaxel. They present similar action, but distinct side effects. These drugs act stabilizing the microtubules of mitosis, preventing breakdown and leading to cell death.[1] The antineoplastic drugs are classified according to the aggressive potential of blood vessels and adjacent tissues. They may be irritating or vesicant. The irritating drugs, such as fluorouracil, carmustine, docetaxel and etopiside cause tissue damage that does not progress with necrosis. They my cause erythema, pain, inflammation at the puncture site and venous pathway and a burning sensation. The vesicant drugs, such as dactinomycin, doxorubicin, vincristine and vinblastine, cause erythema, edema, vesicles and cutaneous necrosis with functional and estethic damage.[2,3] The skin, the mucous membranes and skin appendages are tissues that have

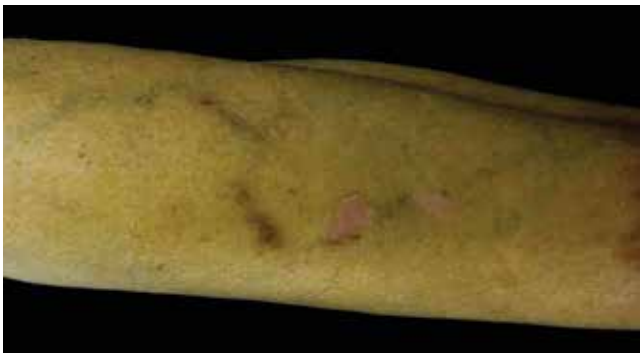

Figure 1: Brownish macule following the venous pathway on the upper left limb

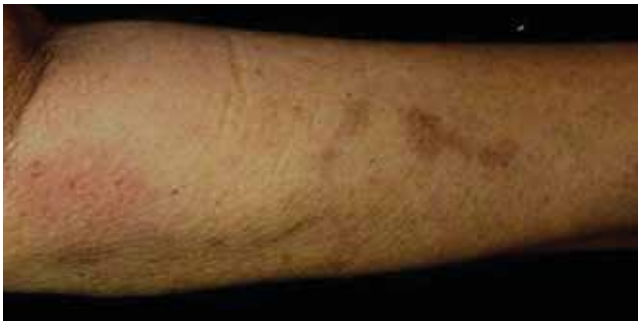

Figure 2: Residual hyperpigmentation following venous pathway on the upper left limb

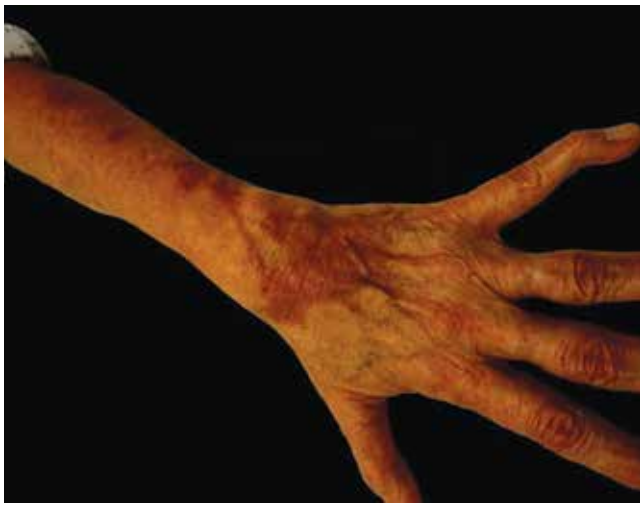

Figure 3: Erythematous-brownish macules on back of hand following venous pathway on the upper left limb

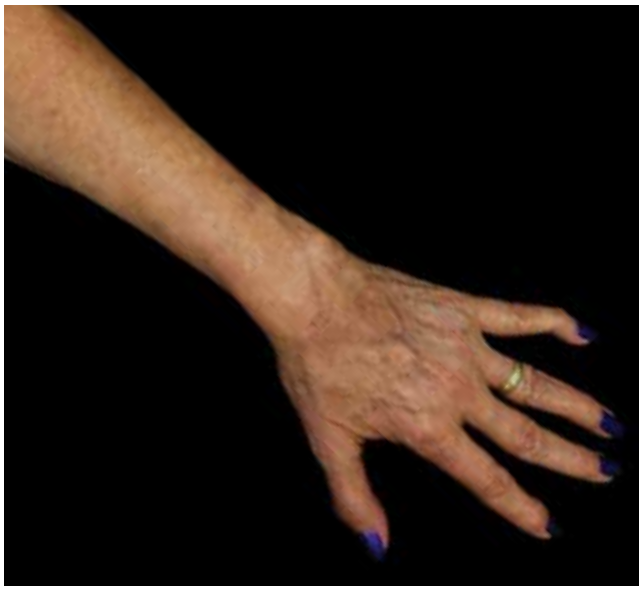

Figure 4: Complete remission of lesion 3 months after the end of chemotherapy

rapid cellular proliferation, therefore are very susceptible to adverse reactions resulting from anticancer systemic treatment. Docetaxel may cause a variety of side effects as alopecia, acral erythrodysesthesia, onycholysis, hyperpigmentation of the nail plate, urticaria, angioedema and persistent erythematous rash that follows the venous pathway [2,4]. The persistent erythematous eruption that follows the venous pathway, also known as serpiginous eruption, is characterized by erythematous macules or erythematous-purpuric papules at the site of infusion of the chemotherapeutic agent or along the venous pathway, which many times can progress with residual hyperpigmentation. These lesions may appear between 24 hours and 15 days after infusion of the cytotoxic drug and disappear spontaneously in weeks or months. Numerous drugs may cause this reaction, including 5-fluorouracil, docetaxel, vinorelbine and dacarbazine.[5,6] The etiology is not well defined. It is believed that a chemotherapeutic agent generates a direct cytotoxicity in the vascular endothelium, increasing its permeability and contributing to the leakage of the medication out of the vessel, producing a direct toxic effect on keratinocytes and melanocytes.[6] The histopathological findings of this reaction are unspecific, characterized by vacuolar interface dermatitis. The presence of spongiosis and occasional dyskeratotic cells have been reported.

Prevention of this eruption can be achieved through a saline infusion before and after chemotherapy.[5,6] In long chemotherapeutic sessions, lasting over one hour, with vesicant drugs, peripheral venous access should be replaced by central access.[2] Some articles defend the use of oral corticosteroids before and after chemotherapy, with the objective of suppressing the inflammatory response.[6,7] An increased incidence of cutaneous toxicity has been reported when docetaxel is infused rapidly, in a short period of time.[8] The management of this reaction includes immediate interruption of infusion and elevation of the affected member. Application of cold compresses is beneficial due to venous constriction and more intensive degradation of toxic metabolic substances, in addition to alleviating pain and inflammation.[2,3] The use of topical or systemic corticosteroids associated with antihistamines has also been reported.[6,9] In cases of leakage of vesicant drugs some antidotes may be used[3,7] It is important to emphasize that the interruption of chemotherapy or modification of the standard dose of the chemotherapeutic drug is not indicated in face of this reaction because it is self-limited.[6]❑

REFERENCES

1. Donati A, Castro LG. Cutaneous adverse reactions to chemotherapy with taxanes: the dermatologist's point of view. An Bras Dermatol. 2011;86:755-8.
2. Criado PR, Brandt HR, Moure ER, Pereira GL, Sanches Júnior JA. Adverse mucocutaneous reactions related to chemotherapeutic agents: part II. An Bras Dermatol. 2010;85:591-608.
3. Susser WS, Whitaker-Worth DL, Grant-Kels JM. Mucocutaneous reactions to chemotherapy. J Am Acad Dermatol. 1999;40:367-98.
4. Sanches Junior JA, Brandt HR, Moure ER, Pereira GL, Criado PR. Adverse mucocutaneous reactions to chemotherapeutic agents: part I. An Bras Dermatol. 2010;85:425-37.
5. Aydogan I, Kavak A, Parlak AH, Alper M, Annakkaya AN, Erbas M. Persistent serpentine supravenous hyperpigmented eruption associated whit docetaxel. J Eur Acad Dermatol Venereol. 2005;19:345-7.
6. Mataix J, Betlloch I, Palmero F, Romero A. Persistent supravenous eruption induced by intravenous bortezomib therapy. Br J Dermatol. 2008;158:863-4.
7. Cifuentes L, Ring J, Brockow K. Extravasation of docetaxel. J Dtsch Dermatol Ges. 2012;10:662-3.
8. Chew L, Chuen VS. Cutaneous reaction associated with weekly docetaxel administration. J Oncol Pharm Pract. 2009;15:29-34.
9. Ho CH, Yang CH, Chu CY. Vesicant-type reaction due to docetaxel extravasion. Acta Derm Venereol. 2003;83:467-8.

Mailing address:
Karina de Almeida Pinto Fernandes
Rua Cezar Zama, 185
Lins de Vasconcelos
20725-090 - Rio de Janeiro, RJ
Brazil
E-mail: *kfernandesugf@hotmail.com*

How to cite this article: Fernandes KAP, Felix PAO. Persistent docetaxel-induced supravenous erythematous eruption. An Bras Dermatol. 2015;90(5):728-30.