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Docetaxel-induced Psoriasis

I. Allende, R. González-Hermosa, M. Lázaro, and J.L. Díaz-Pérez
Servicio de Dermatología, Hospital de Cruces, Baracaldo, Vizcaya, Spain

To the Editor:

The taxanes are chemotherapy drugs that have been widely used since their introduction in the late 1980s.[1,2] Various types of skin toxicity have been described due to their increased use and range of indications. We present a case of docetaxel-induced psoriasis that has not been previously reported.

The patient was a 65-year-old man with no known drug allergies, a history of silicosis and generalized arthrosis, and a brother with psoriasis. He was diagnosed with squamous cell carcinoma of the lung in 2007 and began treatment with docetaxel because of tumor progression in April 2008. Eight days after the first cycle of docetaxel, disperse psoriasis-like punctuate erythematosquamous lesions began to spread over his trunk and limbs (Figure 1). The nails, genitals, mucus membranes, and scalp were unaffected and the patient was in a generally good state with no systemic symptoms or arthritis. Tests confirmed only slight anemia, with a normal total and differential white blood count.

A biopsy was taken of a lesion to confirm the diagnosis made on the basis of symptoms and the family history of psoriasis. Pathologic study showed an epidermis with psoriasiform hyperplasia, acanthosis, parakeratosis, elongation of the interpapillary ridges, isolated lymphocytes, and a polynuclear infiltrate in the mid and upper layers of the epidermis forming spongiform pustules of Kogoj. The dermis showed a perivascular inflammatory infiltrate associated with dilated capillaries (Figure 2)—all compatible with psoriasis. Topical treatment with corticosteroids and calcipotriol was initiated and the patient responded well to treatment. The lesions returned in May 2008 with the

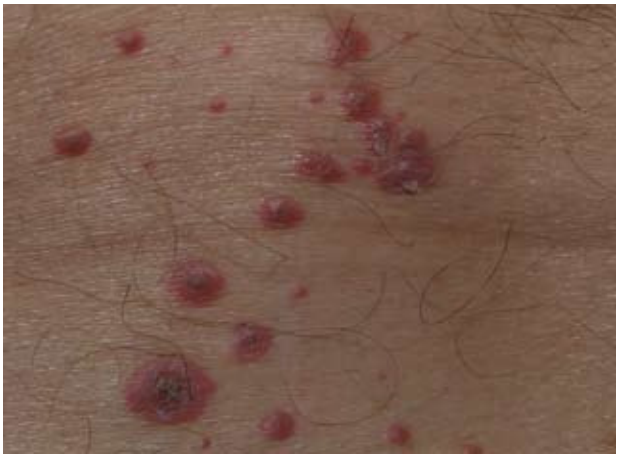

Figure 1. Scaly erythematous plaques on the trunk.

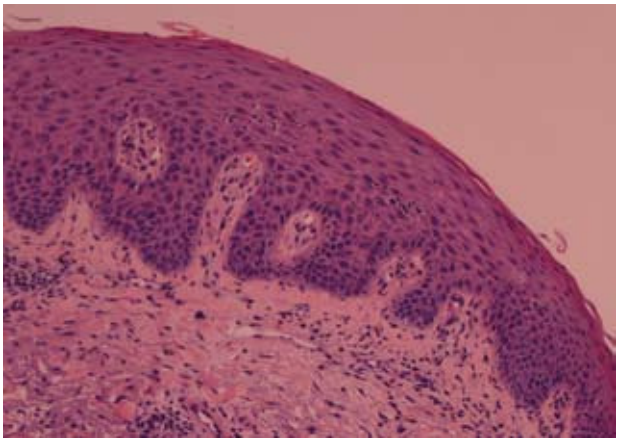

Figure 2. Histopathology image of the lesion on the back (Hematoxylin-eosin ×40).

following cycle of Taxotere and resolved in a few days with the same treatment as before.

The taxanes—paclitaxel (Taxol) and docetaxel (Taxotere)—are cytotoxic chemotherapy drugs used in the treatment of various malignant diseases.[1,2]

Taxotere is a concentrate of a solution for infusion that contains docetaxel in trihydrate form. Docetaxel is a semisynthetic taxane obtained from the leaves of the European yew tree *Taxus baccata*. It is an antineoplastic agent that acts on the microtubules detaining the cell cycle and stopping cell proliferation. It also induces cell apoptosis and inhibits angiogenesis. The drug is administered intravenously and has a half-life of 12 hours.[1]

Docetaxel is indicated in both monotherapy and in combination with other antineoplastic drugs for the treatment of solid malignant tumors such as breast, prostate, or stomach cancer, and non-small cell lung cancer. It is generally administered as an infusion for 1 hour every 3 weeks.[1,3]

The most common adverse drug reactions include myelosuppression and consequent neutropenia (reversible and nonaccumulative). Others include neuropathy, hypersensitivity, anemia, nausea, vomiting, stomatitis, diarrhea, myalgia, fluid retention, and asthenia.[1]

Dermatological adverse reactions include toxic skin reactions in 50% to 70% of patients[4]—one of the most common nonhematological adverse events.

Acute reversible skin reactions have been observed following intravenous administration of the drug, although these are generally of a weak to moderate intensity. Lesions vary from a single erythematous and edematous plaque close to the site of infusion (fixed erythrodysesthesia) to maculopapular drug eruption lesions, diffuse or predominantly acral erythema, urticariform lesions, and edema.[3,4] All these lesions can be asymptomatic or pruriginous and resolve after 2 or 3 weeks following scaling.[3,4] These effects can be idiosyncratic or may be related to increased blood flow and concentrations of the drug in sweat potentially leading to local tissue toxicity.

Reversible alopecia (anagen and telogen effluvium) is a common adverse effect in these patients—an adverse effect also common to other chemotherapy drugs.

Nail abnormalities due to docetaxel present in 35% to 58% of patients.[2,4,5] Nail symptoms include: onycholysis, onicomadesis, subungual suppuration, acute paronychia, subungual abscesses, nail pigmentation, subungual hemorrhage/hematoma, Beau lines or transverse leukonychia, nail bed hyperemia, nail bed dyschromia, subungual hyperkeratosis, and periungual erythema.[2,4-6]

Another adverse cutaneous reaction is erythrodysesthesia of the palms and soles,[5,7,8] which occurs in 5% of cases[7] and manifests as confluent erythema that resolves in a matter of weeks following scaling.[7] There have also been cases reported of stomatitis, mucositis, radiation recall reaction, squamous eccrine syringometaplasia, generalized pustular reaction, inflammation of preexisting actinic keratoses, and fixed drug eruptions.[9]

Flagellate erythema,[10] subacute cutaneous lupus erythematosus and sclerodermiform changes[7] have also been reported following the administration of docetaxel.

We consider this case worthy of publication as there have been no previous reports of a dermatological complication in the form of generalized psoriasis following treatment with docetaxel—a widely used chemotherapy drug with an ever broader range of indications.

Correspondence:
Irati Allende Markixana,
Servicio de Dermatología,
Hospital de Cruces,
Plaza de Cruces s/n,
48903 Baracaldo, Vizcaya, Spain
iratiallende@telefonica.net

Conflicts of Interest
The authors declare no conflicts of interest.

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