

## Vesicant-type Reaction Due to Docetaxel Extravasation

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Accepted May 26, 2003.

Sir,

Docetaxel (Taxotere<sup>®</sup>), belonging to the taxoid family, is a relatively new antineoplastic agent that has sometimes been associated with severe tissue injury after extravasation (1–5). We report on a patient who presented a vesicant-type reaction resulting from extravasation of injected docetaxel.

### CASE REPORT

A 65-year-old woman with stage IIIA lung adenocarcinoma had received a right middle- and lower-bilobectomy followed by six cycles of chemotherapy with gemcitabine and cisplatin. Docetaxel was administered because of poor response to the previous therapy. The treatment schedule for each cycle was intravenous infusion of docetaxel for 30 min on days 1, 8 and 15. The dosage was 36 mg/m<sup>2</sup> weekly for each injection. After the first administration on day 1, extravasation of docetaxel into the dorsum of her left hand occurred. Local injection with hydrocortisone and ice packing were administered at that time. The lesion persisted and mild painful swelling was noted afterwards. She received a second injection of docetaxel on the right

hand one week later – a smooth process without any complications. An erythematous swelling with tenderness and bulla formation developed on the dorsum of her left hand several hours after the second injection on the other hand. The next day she visited the oncological clinic of our hospital. Under the impression of cellulites, a prescription of cephalexin, acetaminophen and tramadol was given after intravenous injection of cefazolin 1g. The skin lesion continued to progress and extended to the whole left hand. She presented to us 14 days after the extravasation insult.

On cutaneous examination, one palm-sized, well-demarcated, erythematous and slightly violaceous patch with flaccid bulla formation was noted on the dorsum of her left hand (Fig. 1) extending slightly to the volar aspect of the thenar region. She had neither palpable lymph nodes over the left antecubital fossa and the left axilla nor any systemic toxic signs. The range of motion of the left wrist was limited by tenderness and severe oedema. A vesicant-type reaction of docetaxel extravasation was diagnosed. The patient was instructed to use topical betamethasone valerate cream and chloramphenicol ointment to suppress the inflammation and for wound care.



*Fig. 1.* One palm-sized, well-demarcated, erythematous and mild violaceous patch with flaccid bulla formation on the left hand 2 weeks after docetaxel extravasation.

At her next visit, 29 days after the extravasation insult, only a mild hyperpigmentation and desquamation were noted. The prescription was changed to a combination of hydrocortisone acetate ointment and tetracycline ointment for dryness of the skin lesion. During the following 3 weeks, the erythematous patch resolved gradually. However, dysaesthesia over the involved area persisted later. Sensory nerve injury was highly suspected. During a 3-month follow-up period, the skin lesion of her left hand resolved smoothly, but the change in sensations persisted.

#### DISCUSSION

Extravasation is a leakage or direct infiltration of a chemotherapeutic drug from a vessel to the surrounding tissues (1, 2). In an adult population, the incidence of such events is around 0.1% to 6% and is higher in children (6). The vesicant-type damage is considered a reaction likely to result in surrounding tissue damage varying from mild erythema, swelling and sclerosis to ulceration or necrosis. Severe reactions differ from those of irritant-type reactions, which present with discoloration, desquamation or induration and that do not result in bulla formation, necrosis or ulceration (1).

Early manifestations are often insidious and may appear immediately after leakage or be delayed for as long as weeks. Reviewing the literature, docetaxel has

been classified as an irritant rather than a vesicant (1), although a case of possible vesicant-type extravasation has been reported previously (9). However, another member of the taxoid family, paclitaxel, has been reported to be a vesicant by Bicher et al. (3). Hence, docetaxel may have similar properties in tissue reaction. Our patient had a remarkable dysaesthesia after resolution of the skin lesion. One previous report of docetaxel extravasation described similar symptoms (9). It was thought to result from local nerve injury by the extravasated chemotherapeutic agent.

The differential diagnosis of the skin lesions includes a recall dermatitis or a fixed drug eruption. Persistent skin lesions after the extravasation insult and aggravation of the symptoms within 7 days combine to make a diagnosis of recall dermatitis unlikely (1). Since the skin lesions developed only at the extravasation site, and there was no previous history of docetaxel treatment, an extravasation reaction is favoured rather than a fixed drug eruption.

Although there is no consensus on the treatment of docetaxel extravasation, some antidotal measures may be proposed, including local aspiration, cold or hot compression, injection of steroids and the administration of antidotes (1–10).

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