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A Case of Squamous Cell Carcinoma Treated with Chlorine Photodynamic Therapy

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Dear Editor:

Owing to relatively high recurrence rates and the metastatic potential of squamous cell carcinoma (SCC), there is currently insufficient evidence to support the routine use of topical photodynamic therapy (PDT) for SCC[1]. Now the advent of second-generation photosensitizers such as chlorine, which are more effective, penetrable and less phototoxic to the skin than their forerunners, makes this treatment a feasible alternative to surgery[2].

A 79-year-old woman presented with a 2-year history of recurrent ulcerated lesion on the scalp vertex. There was no history of skin disease or trauma on the affected area. Clinical examination revealed a walnut-sized central crusted ulcer surrounded by erythematous, elevated indurative border (Fig. 1A). The histological features showed invasion of the dermis by irregular masses of epidermal cells that were predominantly mature squamous cells showing relatively slight atypicality. The depth of microscopic invasion was 3 mm. There was no presence of perivascular or perineural invasions (Fig. 2). A diagnosis of well-differentiated SCC was made on the basis of these clinical and histological findings. Because of her age and refusal of surgery, we decided to treat her with chlorine PDT. At first, we considered topical PDT with chlorine. But as the optimal topical agent could not penetrate to the needed full depth, we planned instead systemic chlorine PDT. Pretreatment evaluation included a history and physical examination, routine laboratory evaluation and photographic documentation. She has no photosensitivity and there were no signs to imply any other systemic diseases including internal malignancy. No further systemic workup was performed as is usual with cutaneous SCC. The patient was admitted to the hospital and the photosensitizer Radachlorin® (RADA-PHARMA, Moscow, Russia) was injected intravenously for 30 minutes at a dose 0.9 mg/kg. Laser irradiation was carried out for 2 hours after the injection. As a light source we used a fiber coupled diode laser 'LAHTA-MILON®' (Milon Laser, St. Petersburg, Russia). The lesion was photo-activated by 2.5 W, 662 nm in light doses of 250 J/cm^2. The patient reported a mild burning sensation during the whole illumination time, but did not ask to interrupt the procedure. Erythema and slight edema were observed immediately after illumination. No serious adverse event occurred. For a day after irradiation the patient stayed in a black-out ward without TV. Follow-up visits for wound dressing were scheduled every 3 to 7 days for the next 3 months. During follow-up, we used only systemic antibiotics and antihistamines as needed. Complete clinical resolution of the lesion was achieved by 3 months, and histologically confirmed with biopsy (Figure is not included). Currently, 24 months after PDT, the patient remains disease free with only cicatricial change of skin and no clinical signs of recurrence or metastasis (Fig. 1B). No photosensitivity reaction was reported.

The first photosensitizer, Photofrin has several disadvantages, particularly prolonged patient photosensitivity[3]. Systemic PDT with porfimer sodium for invasive SCC responds less well, with recurrence rate of up to 50% within 6 months[4]. Radachlorin®, an aqueous solution of

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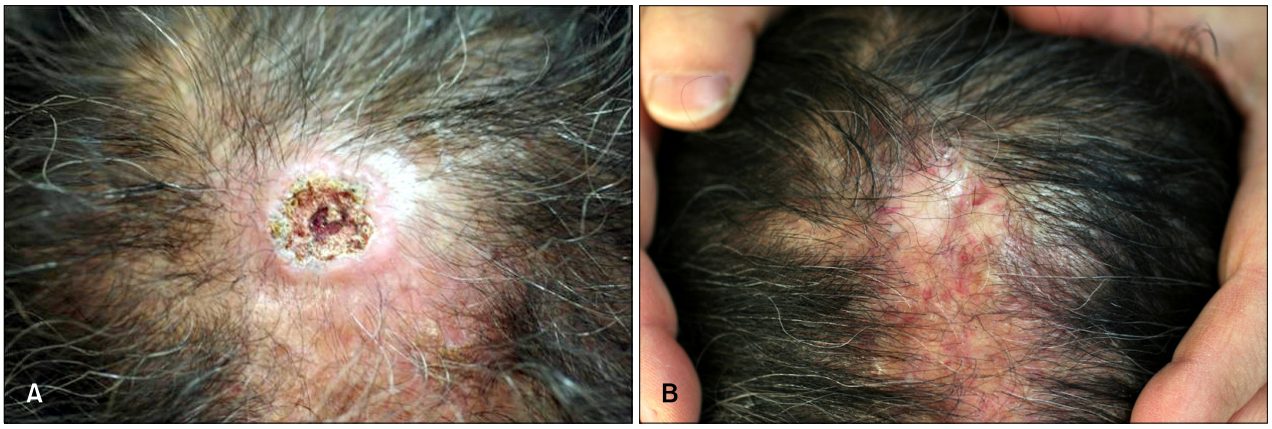

Fig. 1. (A) Before the treatment, there is a walnut-sized central crusted ulcer surrounded by erythematous, elevated indurative border on the vertex. (B) Clinical appearance after 24 months with photodynamic therapy. The patient remains disease free with only cicatricial change.

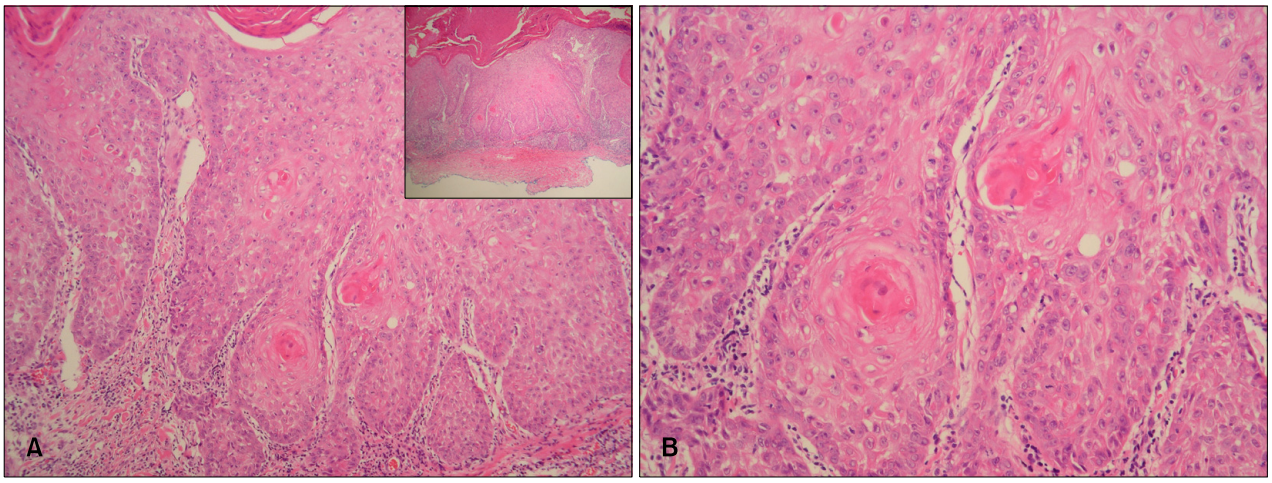

Fig. 2. (A) There is extension of atypical keratinocytes beyond the basement membrane and into the dermis. (H&E stain, ×100, Inset: H&E stain, ×40). (B) At high power magnification, there are irregular masses of epidermal cells that are predominantly mature squamous cells showing relatively slight atypicality. More than 75% of the tumor is keratinized. (H&E stain, ×200).

three chlorines, including sodium salt of chlorine e6 (80%), sodium salt of purpurin 5 (15%), and sodium salt of chlorine p6 (5%), has a strong absorption peak at 662 nm, giving better depth penetration of light in tissue than the earlier photosensitizers such as porfimer sodium or 5-amino-levulinic acid[5]. Most importantly, it has a lower propensity to cause prolonged photosensitivity compared with the first-generation photosensitizers[5,6]. Intracellular fluorescence of this agent decreased slowly after 4 hours and the main part (98%) excreted from the organism in the first 24 hours[5].

Although there are several studies of treatment of SCC of head and neck with chlorine PDT in otorhinolaryngological field[7], there has not been any case in Korean dermatologic literature. This case showed that systemic PDT with chlorine could be an appropriate clinical selection in the treatment of elderly cutaneous SCC patients unable to receive surgery.

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Hydroxychloroquine-Induced Reversible Hypomnesis in a Patient with Reticular Erythematous Mucinosis

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Dear Editor:

Hydroxychloroquine is an antimalarial drug, which is also extensively used in the treatment of dermatology and rheumatology. Its side effects, besides ocular toxicity, include gastrointestinal discomforts, such as nausea, vomiting, cramping and diarrhea[1]. Hydroxychloroquine can lead to hyperpigmentation on the skin, mucosa membrane, and nails; and to a white discoloration of blond, red, and light-brown hair;[1] and in rare cases, it can cause hair loss[1] and pruritus[2]. Side effects of the central nervous system include dizziness, headache, hyperexcitability, nervousness, insomnia, psychosis/depression, and reduced seizure threshold[1]. Although some kinds of the drugs, including anticholinergic, sedative-hypnotics, antidepressant and antianxiety, antiepileptic, analgesics, antiarrhythmic and statins, etc., have been reported with drug-induced hypomnesis, to our knowledge, no case of hydroxychloroquine-associated hypomnesis has been described before. Herein, we reported a man with reticular erythematous mucinosis (REM) who developed reversible hypomnesis after treated with hydroxychloroquine.

A 40-year-old Chinese male was referred with 1 year history of cutaneous lesion on his posterior chest, showing slow and progressive growth, causing occasional pain. The lesion didn't respond to antibiotics, such as penicillins or cephalosporins, or to systemic steroids, but mild response was noted to intra-lesional prednisolone. Cutaneous examination showed a clearly delimited reticulated erythematous plaque of 12×7 cm in the left back chest, with slight infiltration of the borders. Skin biopsy and pathology study showed abundant interstitial deposits of mucin in the dermis together with moderated perivascular and perifollicular lymphocytic infiltrate. After excluding secondary diseases, REM was diagnosed. The patient was then prescribed hydroxychloroquine 0.2 g, twice daily alone, which led to an excellent result after 2 months treatment, but the patient developed a progressive hypomnesis hereafter. He also noticed that the hypomnesis was milder when he took hydroxychloroquine 0.2 g daily than 0.2 g, twice daily; and the symptom would recover after stopping the medication for about 1 week, and recurred after taking it again. He recovered completely after stopp-

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