LP improved by conventional treatment or discontinuation of drug.
In summary, physicians should be aware of the potential development of such cutaneous adverse events when administrating nivolumab therapy.

CONFLICTS OF INTEREST

The authors have nothing to disclose.

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Alitretinoin Treatment for Gefitinib-Induced Paronychia

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Dear Editor:
Gefitinib is an epidermal growth factor receptor (EGFR) inhibitor used for various cancers, especially lung cancer. It is known to affect epidermal keratinocyte of skin and commonly induce variable dermatologic reactions including follicular and pustular rash, paronychia and fissuring, hair changes, dry skin, hypersensitivity reactions, and mucositis[1]. Nail abnormalities with paronychia induced by EGFR inhibitors have been reported but there are no evidence-based treatments clinically recommended.
A 48-year-old female presented with paronychia of all fingernails and both great toenails for eight months which developed after treatment with gefitinib 250 mg daily for her underlying lung cancer. She also had chronic vesicu-

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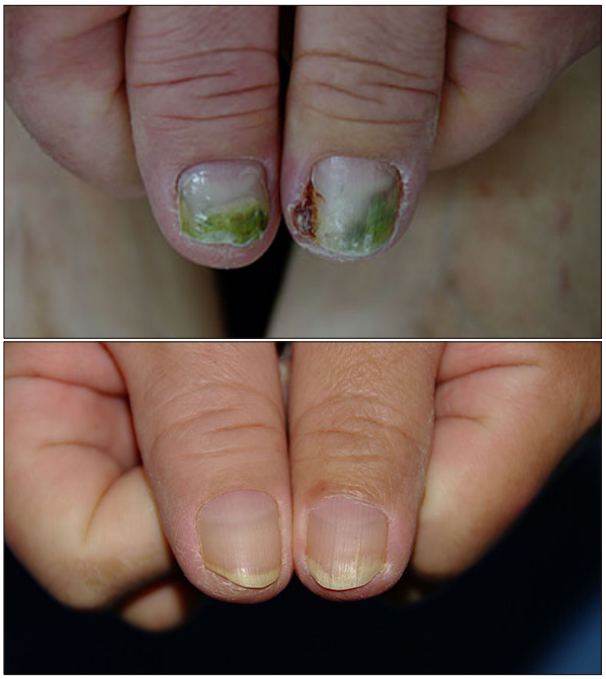

Fig. 1. The patient showed substantial improvement of hand eczema, paronychia and onychodystrophy after six months of treatment.

lar hand eczema on both palms and soles and was treated with alitretinoin 10 mg daily. After six months for alitretinoin, the patient showed substantial improvement of hand eczema, paronychia and onychodystropy (Fig. 1). The patient took alitretinoin with gefitinib for one year and showed improvement with no sign of recurrence. We received the patient's consent form about publishing all photographic materials.

Alitretinoin (9-*cis*-retinoic acid) is a form of vitamin A which activates both intracellular retinoic acid receptor (RAR) and retinoid X receptor (RXR). It has anti-inflammatory, immunomodulatory effects on the proliferation, and differentiation of keratinocytes. It is approved for treatment of chronic hand eczema which is unresponsive to topical steroids[2].

Some studies reported alitretinoin treatment for nail lichen planus or nail dystrophy, and the presence of retinoid receptor on the nail matrix has been evaluated as well[2-4]. However, the treatment mechanism for alitretinoin on the nail apparatus diseases has not yet been fully elucidated.

We report a case of nail dystrophy with paronychia which was successfully treated with alitretinoin. In an epidermal reaction induced by EGFR inhibitor which is prescribed in many patients who have cancer—especially in paronychia—alitretinoin is more effective than other retinoid agents. Patients with acneiform eruption induced by EGFR inhibitor have been treated with isotretinoin which, however, induces paronychia[5]. On the other hand, alitretinoin improves paronychia and therefore can be treated as a better alternative for nail dystrophy.

We suggest alitretinoin as a treatment option for onychodystrophy induced by EGFR inhibitors.

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