Correspondence

Acute Paronychia and Reactive Capillary Proliferation in a Patient on Erlotinib

Ishmeet Kaur, Vijay Gandhi, Deepak Jakhar
From the Department of Dermatology and STD, University College of Medical Sciences and GTB Hospital, New Delhi, India.
E-mail: ishmeet.kaur.dr@gmail.com

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Sir,

Erlotinib is an epidermal growth factor receptor (EGFR) inhibitor which targets epidermal growth and metastasis in solid cancers such as lung, pancreas, breast, and gastrointestinal tract. Cutaneous side-effects described with erlotinib include acneiform eruptions, xeroderma, pruritus, and nail changes. A 67-year-old female presented with painful red swelling around bilateral great toenails for the past 6 months with no history of prior trauma. The patient underwent incision/drainage and multiple courses of antibiotics with only transient relief. The patient had periampullary carcinoma, and oral erlotinib 150 mg once daily was given for the last 8 months. On examination, left great toe revealed an ill-defined tender, erythematous swelling in the periungual region with a well-defined vascular growth at the junction of proximal and lateral nail folds with bloody discharge, suggestive of pyogenic granuloma. The right great toenail had similar changes (Figures 1 and 2). Rest of the nails were normal. Pus culture showed a growth of methicillin-resistant Staphylococcus aureus, sensitive to linezolid. Biochemical profile and X-ray of feet were normal. A clinical diagnosis of erlotinib-induced acute paronychia with reactive capillary proliferation in the form of pyogenic granuloma was made. The patient was started on linezolid and levofloxacin which improved the swelling. A partial nail plate avulsion with debridement of granulation tissue and radiofrequency ablation of pyogenic granuloma was done. Follow-up for the next 8 months did not reveal any relapse.

EGFR inhibitors including small molecule tyrosine kinase inhibitors (erlotinib and gefitinib) and their chimeric monoclonal antibody (cetuximab) are increasingly been used in the management of various solid malignancies, such as non-small cell lung cancer and pancreatic cancer. Epidermal growth factors are commonly over-expressed in such malignancies and play an important role in the progression of the tumor. These receptors are expressed in the skin and appendages where they regulate the cell proliferation and differentiation. The adverse effects of EGFR inhibitors are most commonly cutaneous and gastrointestinal. While acneiform eruption (49%–67% of cases) is the most common cutaneous side effect, paronychia with pyogenic granuloma is seen only in 10%–15% of patients on erlotinib. The big toe is usually first to get affected, usually within 4–8 weeks of treatment. In a study, five out of 14 patients on EGFR inhibitors developed periungual pyogenic granuloma, out of which, three were on erlotinib. Four patients had paronychia. One of the possible mechanisms behind paronychia due to EGFR inhibitors is impaired growth and migration of keratinocytes; and increased expression of inflammatory chemokine leading to epidermal thinning. This causes an increased penetration of nail fragments into periungual tissue causing paronychia with reactive capillary proliferation. The management depends on the grade and severity of paronychia. In recalcitrant cases, nail plate excision with debridement of granulation tissue is recommended, as was done in our case. To conclude, paronychia with pyogenic granuloma is a known adverse effect of erlotinib. Foot care and definitive treatment based on grading of paronychia helps in relieving the symptoms and continuation of treatment.

Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form the patient(s) has/have given his/her/their consent for his/her/their images and other clinical information to be reported in the journal. The patients understand that their names and initials will not be published and

Figure 1: Left great toe showing paronychia with a vascular growth suggestive of pyogenic granulomas

Figure 2: Right great toe showing paronychia
due efforts will be made to conceal their identity, but anonymity cannot be guaranteed.

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Nil.

**Conflicts of interest**
There are no conflicts of interest.

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