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CLINICAL QUIZ

JCHS-CQ-01-2018

An Unusual Case of Paronychia

ANSWER TO JCHS-CQ-01-2018

Diagnosis: EGFR TKIs (Afatinib) - Induced paronychia

Discussion

EGFR TKIs such as erlotinib, gefitinib, afatinib and osimertinib are considered first-line treatment for advanced stage non–small cell lung cancer with sensitizing epidermal growth factor receptor (EGFR) mutation. As EGFR is mainly expressed in epithelial cells, such as the skin and gastrointestinal tract, the most common adverse effects are cutaneous and gastrointestinal manifestations [1].

Common side effects of EGFR TKI are acneiform rash, mucositis and paronychia. This patient had adverse effects of severe oral ulcers (mucositis), paronychia and intermittent diarrhoea. The detailed pathogenesis of EGFR TKIs remains unclear but it involves epidermal-derived tissues; the effects include impaired keratinocyte growth, migration, and chemokine expression, which leads to inflammatory cell recruitment and cutaneous injury, resulting in rashes and periungual inflammation [2].

Paronychia is the clinical outcome from periungual inflammation. *EGFR TKIs*- associated paronychia is sterile and corresponds with nail fold inflammation consisting primarily of plasma cells, lymphocytes, and neutrophils [3, 4]. Drug induced is an uncommon cause of paronychia, in the normal population it is commonly due to soft tissue infection cause by bacterial or fungal and in the chronic form, is typically associated with *Candida albicans* infection.

About 10-15% of patients on first and second-generation EGFR TKI developed paronychia, which typically occurs 4-8 weeks into treatment and can present up to 6 months post treatment. *EGFR TKIs* grading system for paronychia ranges from grade 1 to grade 3.

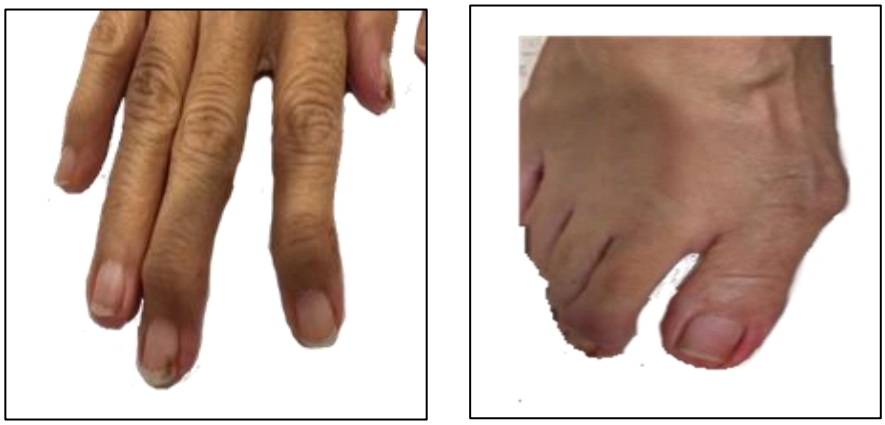
Grade 1 paronychia presents with nail fold oedema and/or erythema with cuticle disruption. In grade 2, there is nail fold oedema/bogginess and erythema is associated with pain, discharge, onycholysis and instrumental activities of daily living are affected.

Grade 3 paronychia may present with intensely painful ingrown nails; pyogenic granuloma and/or exuberant periungual granulation tissue which cause limitations in self-care activities of daily living and surgical intervention could be indicated [5]. Cutaneous side effects are bothersome as these affect patient's quality of life and the adherence to EGFR TKIs treatment.

This lady presented with grade 1 and grade 2 paronychia involving different fingers and toes. Treatment includes local care to all grades which consist of petroleum jelly, cushioning of affected areas, nail trimming, avoidance of irritants substances, avoidance from trauma, aggressive manicure and pedicure and avoidance of prolonged water exposure. Soaking fingers or toes in a solution of diluted antiseptic soaks such as chlorhexidine and white vinegar for 15 minutes every day may be useful[1]. Topical application include potent topical steroid such as betamethasone valerate 0.1% ointment and Clobetasol Proprionate 0.05% in grade 2 and 3 can also be added. Silver nitrate application may be used to treat exuberant granulation tissue and if topicals failed. Short term of 2 weeks and long-term up to 6 weeks of prophylactic anti-inflammatory antibiotic, like doxycycline, is recommended in grade 2 above[1]. Temporarily

discontinuation of EGFR TKIs is only recommended in grade 3 paronychia and is ceased for 2-4 weeks till the grading comes down to 1 before it is restarted.

This patient was advised on local care and treated initially with oral doxycline 100 mg bd for 2 weeks and topicals of Clobetasol Proprionate 0.05% and Fusidin cream twice a day and regular moisturizer of Ceradan 3 times a day for 2 weeks.



(a) **(b)**

Figure 2 (a) & (b) Post-treatment (2 weeks) - Resolution of paronychia in fingers and toes 2-weeks of treatment

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