prove of cosmetic discomfort to the patient.

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**Onycholysis: An unusual side effect of roxithromycin**

Sir,

Onycholysis is a separation of distal part of nail plate from its nail bed and/or lateral supporting structures. One or more nails may be affected. The affected nail plate itself is smooth and firm. The separated portion is usually in the shape of half moon and appears white due to loss of light reflection from the nail bed. It may get discolored green, black or blue due to subungual accumulation of bacteria, yeast or dirt. In most cases onycholysis is acquired following a number of exogenous or endogenous factors. Many drugs especially antibiotics and chemotherapeutic agents are known to cause onycholysis through known or unknown mechanisms.

We describe here a case of onycholysis following therapy with roxithromycin. To the best of our knowledge this is the first case of this unusual side effect of roxithromycin. A 22-year-old office worker having chronic sinusitis had been taking 150 mg roxithromycin twice daily for eight weeks, although prescribed for two weeks only. He noticed whitening of the distal half of all his finger nails and their progressive separation from the nail beds. He had no pain or tenderness of nails. There was no history of any other drug intake or excessive and undue sun exposure. During this period he had not handled any chemicals or been involved in any occupation known to cause onycholysis.

On examination his finger nails showed onycholysis (Figure 1). Free ends of all finger nails were white and had debris underneath. There was no proximal inflammatory band or tenderness. Nail folds, skin of hands and other parts showed no abnormality. Toe nails were normal. His systemic examination and routine laboratory investigations showed no abnormality. KOH mounts from the nail clippings and subungual debris showed no fungal element. Roxithromycin was discontinued immediately. The patient was reassured and asked to come for review after 4 weeks, but did not follow up.

Systemic drugs can affect nails and the nail changes range from pain, discoloration, shedding or loss of nail plate. Nail changes after drugs can be due to toxicity to the nail matrix, nail bed or hyponychium and to the periungual structures. Most of the antibiotics and drugs like psoralens causing onycholysis do so due to

![Figure 1: Onycholysis of all finger nails](image-url)
photosensitivity/photo toxicity. The photo-onycholysis thus seen is often painful and is usually associated with photodermatitis.

Damage to the supporting structures, disruption of the cementing substance binding the nail plate to the surrounding structures or formation of granular layer, which is otherwise absent in a normal nail bed and nail matrix, will produce onycholysis. Trauma from physical factors, manicuring, foreign body implantation or chemicals like solvents, various nail cosmetics and immersion in alkaline soap water etc. will cause onycholysis in occupation-related cases. Psoriasis, lichen planus, eczemas, pemphigus, Darier’s disease, leprosy, bacterial, fungal or viral infections and congenital ectodermal defects are some of the dermatological diseases associated with onycholysis. It may also be secondary to general medical conditions like hypo-or hyperthyroidism, porphyrias, syphilis, peripheral ischemia, bronchiectasis, anemia and pregnancy. Drugs like tetracyclines, psoralens, fluoroquinolones and phenothiazines may produce photoonycholysis while adriamycin, bleomycin, 5-fluorouracil, cephaloridine and cloxacillin cause onycholysis through toxicity to nail matrix or nail bed. Benign or malignant tumors underneath the nail plate may also present clinically with onycholysis. However, most cases of onycholysis remain idiopathic.

Roxithromycin, a new semisynthetic, long acting, acid stable macrolide has antibacterial spectrum similar to that of erythromycin. It has a low potential for hepatotoxicity or gastrointestinal side effect unlike older macrolides. Transient deafness, allergic reaction are seen uncommonly and association with pancreatitis is questionable. It is not reported to have any photosensitizing potential. Its side effects are either immune mediated or occur due to primary parenchymal toxicity.

The exact pathogenesis of onycholysis in our patient due to roxithromycin is unclear. Absence of skin photosensitivity and nail tenderness excludes photo-onycholysis. It appears to be due to toxicity to nail bed/nail matrix similar to what is described for cephaloridine and cloxacillin. Excessive concentration of roxithromycin under the free edge of nail due to its prolonged intake perhaps resulted in direct parenchymal toxicity to nail matrix/nail bed manifesting clinically as onycholysis. In spontaneous onycholysis patients, an adverse reaction to systemic drug must be suspected.

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Hydroxyurea induced non-healing leg ulcer

Sir,

Hydroxyurea is a commonly used chemotherapeutic agent in chronic myeloid leukemia in India. Rarely its long term use can lead to leg ulceration. Such an ulcer generally does not respond to the usual measures but heals when hydroxyurea is stopped.

A 40 year old man, case of chronic myeloid leukemia (CML) on therapy with hydroxyurea for over two years, presented with a non-healing ulcer on the right foot near the lateral malleolus. There was no history of trauma at the site of the ulcer. He was not a diabetic and there was no family history of diabetes.