

Skin as a Mirror to Internal Malignancy: A Rare Co-presentation of Nail Bed Squamous Cell Carcinoma and Renal Cell Carcinoma

Abstract

Squamous cell carcinoma (SCC) of the nail bed is not encountered commonly although it is the most common primary malignancy at this site. In general, it has a low rate of spread, except for high risk types which carry a greater risk of spread. Screening for systemic tumours should be done in all cases especially in the elderly. We present the case of a 67 year old male who was otherwise healthy and presented with just nail discoloration associated with pain and occasional profuse bleeding with minor trauma which turned out to be SCC of nail bed on biopsy. Subsequently, he was screened for internal malignancies and was found to have clear cell Renal cell carcinoma of right kidney and a metastatic nodule in right lung. This presentation has not been previously described in literature.

Keywords: Lung nodule, multiple primary malignancies, nail bed, pyogenic granuloma, renal cell carcinoma, squamous cell carcinoma

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Introduction

Squamous cell carcinoma of the nail bed is a less commonly encountered tumor with literature having around 153 case reports so far. Important differentials are subungual warts, onychomycosis, chronic paronychia, subungual exostosis, keratoacanthoma, amelanotic melanoma and pyogenic granuloma.^[1] Clinical manifestations include discoloration of nail plate, onycholysis and ulceration in advanced stages. A multi-disciplinary approach is required for its assessment, management, and follow-up. By careful examination and using modern diagnostic methods, including dermoscopy and histopathology, early diagnosis is possible.

Case Report

A 67-year-old male, in his good health, presented to dermatology OPD with 4 years history of pain, bleeding, and discoloration of left thumb nail. Bleeding was profuse even on trivial trauma to nail. Pain was intermittent, throbbing type and had increased in intensity since the last 1.5 months. It got relieved only after taking oral analgesics. There was no history of any major trauma to the left thumb or bleeding disorders. The patient

was on oral aspirin 75 mg per day since the last 5 years. He was earlier treated as a case verruca vulgaris of nail bed by another practitioner and had received three intralesional injections of Measles Mumps Rubella (MMR) vaccine without any relief. On external examination, the nail plate showed yellowish discoloration and distal onycholysis [Figure 1a]. On avulsion of nail plate, an erythematous elevated tender plaque measuring 1.5 cm × 1 cm was visualized on the medial half of the nail bed [Figure 1b]. There was no evidence of regional lymphadenopathy. The possibility of pyogenic granuloma, glomus tumor and SCC was considered. Dermoscopy revealed a fuzzy lesion edge, structureless white areas and multiple reddish areas with white rail lines [Figure 2]. So, glomus tumor was ruled out and a nail bed punch biopsy was done with differential diagnosis of pyogenic granuloma and SCC. Finally, histopathological examination showed an invasive tumor with squamoid differentiation and keratin pearl formation [Figure 3a and 3b]. These features were consistent with SCC. The patient then underwent partial amputation of the left thumb at distal interphalangeal joint under digital block with posterior flap

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coverage at higher center. The surgery went well and the resection margin (bone and soft tissue) was free of tumor. Considering the age of the patient and the metastatic nature of SCC, routine screening for internal malignancy was done. On USG, a solid exophytic heterogenous, predominantly hyperechoic mass was seen in the right kidney. Contrast Enhanced CT scan of abdomen showed heterogeneously enhancing exophytic mass lesion in the

interpolary region of the right kidney--highly suggestive of renal cell carcinoma (RCC) [Figure 4]. A right sided nephron sparing surgery was done and microscopic examination of the surgical specimen showed clear cell RCC (different cell type than the SCC over nail bed), grade 2 without any capsular invasion. Further, Positron Emission Tomography (PET) CT showed right lung nodule--suspicious of metastasis, hence patient was advised a regular follow-up to assess progression.



Figure 1: (a): Nail plate showing onycholysis and yellowish discoloration. (b): After removal of nail plate, nail bed showing erythematous, moist plaque over medial half of nail bed

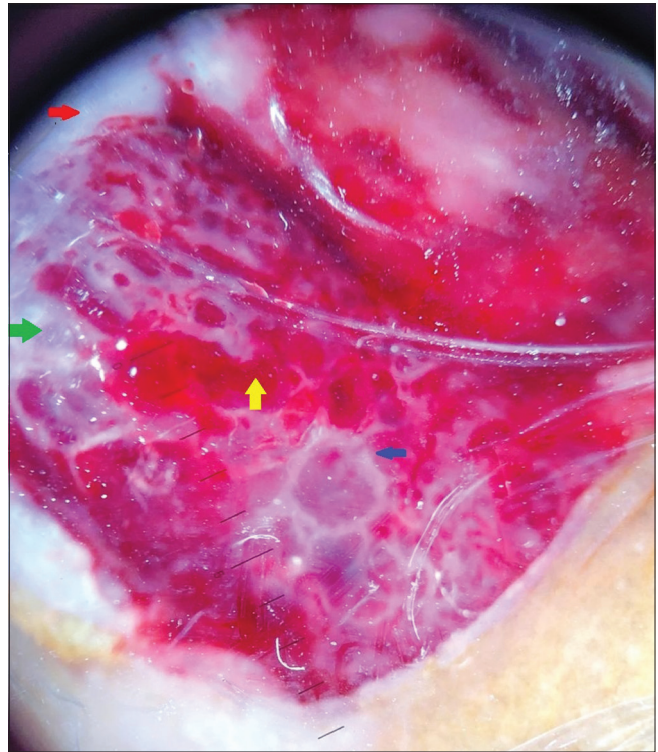


Figure 2: Dermoscopy showing fuzzy lesion edge (red arrow), structureless white areas (green arrow) and multiple reddish areas (yellow arrow) with white rail lines (blue arrow). (Heine Delta 10x polarized mode)

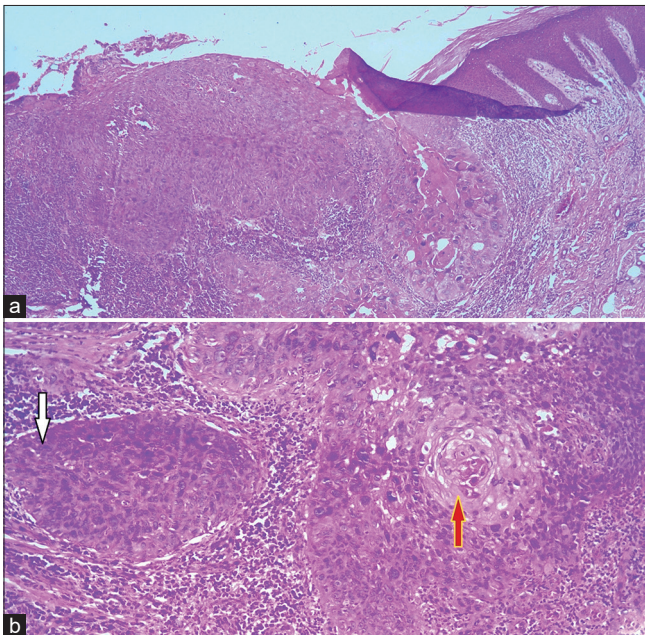


Figure 3: (a): Invasive tumor with squamoid differentiation (H & E stain, 10x). (b): Islands of tumor cells (white arrow) with keratin pearl formation (red arrow) and lymphomononuclear infiltrate (H & E stain, 40x)

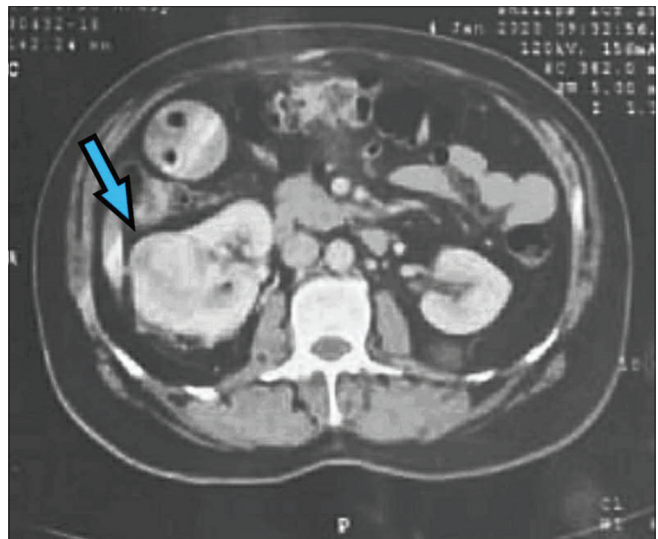


Figure 4: CECT abdomen showing exophytic mass lesion in right kidney

Discussion

Our case is interesting not only because SCC of nail bed is rare but it also fits into the scenario of multiple primary malignancies (MPM) which is even rarer.

MPM are defined as primary malignant tumors of different histological origins in one person.^[2] According to Warren Gates criteria,^[3] diagnosis of MPM requires the following criteria to be fulfilled [Table 1].

The usual sites for MPM described in literature include breast, respiratory, gastrointestinal, and genitourinary systems.^[4,5] Our case is again odd with sites of MPM presentation being skin and kidney.

Squamous cell carcinoma is a malignant tumor that arises from epidermal keratinocytes or its appendages. Trauma, chronic inflammation, solar or ionizing radiations, and human papilloma virus serve as important risk factors.^[1] The diagnosis of cancer of nail bed is usually late because it grows slowly and mimics many benign conditions. But onychoscopy is a non-invasive diagnostic modality which can give clue for early diagnosis of various benign and malignant conditions of nail unit. Onychoscopic features of nail bed SCC include onycholysis, unparallelled or fuzzy edges of lesion, irregular vascularity or haemorrhages with a rough to verrucous surface. However, none of these features is exclusive and histopathological examination is mandatory.^[6] Onychoscopic features generally correlate with histopathology as in our case where structureless white areas on onychoscopy corresponded with keratin pearls in histopathology. Likewise, reddish areas represented dilated and congested blood vessels. It is better that onychoscopy should be performed both before and after nail plate avulsion. But, we could not perform onychoscopy with intact nail plate in our patient as he complained of profuse bleeding on minor pressure to the nail plate.

RCC is the most common type of renal tumor noted in adults.^[7] Mostly, RCC is asymptomatic until late in the course of disease when metastasis has occurred. Similarly, our patient did not have any clinical features of RCC like hematuria, flank pain, or palpable mass at the time of presentation. Most frequent site of metastasis in RCC is the lung, with more than 50-60% of patients developing lung metastases.^[8] Thus, explaining the active nodule seen on PETCT lung as metastasis from RCC in our case.

Table 1: Warren Gates criteria for diagnosis of MPM^[3]

- (a) each tumor should present a definite picture of malignancy
- (b) each tumor should be histologically distinct
- (c) the possibility that one is metastasis of the other must be excluded

In our knowledge, presentation of SCC of nail bed with clear cell RCC has not been reported in literature previously.

Conclusion

Squamous cell carcinoma of the nail unit is exceedingly uncommon. It can mimic many other benign and infectious lesions. Hence, a high index of suspicion for malignancy should be kept for benign looking lesions of nail bed that do not respond to conventional therapies. Also, screening for internal malignancy is an important step, even if cutaneous malignancy does not show any signs of spread, as was our case. Thus, skin is rightly said as the mirror to many systemic manifestations.

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 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.

References

1. Tambe SA, Patil PD, Saple DG, Kulkarni UY. Squamous cell carcinoma of the nail bed: the great mimicker. *J Cutan Aesthet Surg.* 2017;10:59-60.
2. Jena A, Patnayak R, Lakshmi AY, Manilal B, Reddy MK. Multiple primary cancers: An enigma. *South Asian J Cancer.* 2016;5:29-32.
3. Das S. Synchronous and Metachronous Cancers: An Update. *Ann Clin Case Rep.* 2017; 2: 1388.
4. Cercato MC, Colella E, Ferraresi V, Diodoro MG, Tonachella R. Report of two cases of quintuple primary malignancies and review of the literature. *Anticancer Res.* 2008;28:2953-8.
5. Mohanti D, Pohare YH, Kumar S, Biswal BM, Kumar L. Breast cancer followed by cervix cancer: A rare form of double malignancy. *Indian J Med Paediatr Oncol.* 1998;19:90-3.
6. Starace M, Alessandrini A, Dika E, Piraccini BM. Squamous cell carcinoma of the nail unit. *Dermatol Pract Concept.* 2018;8:238-244.
7. Flanigan RC, Campbell SC, Clark JI, Picken MM. Metastatic renal cell carcinoma. *Curr Treat Options Oncol.* 2003;4:385-90.
8. Hofmann HS, Neef H, Krohe K, Andreev P, Silber RE. Prognostic factors and survival after pulmonary resection of metastatic renal cell carcinoma. *Eur Urol.* 2005;48:77-81.