

## Digital squamous cell carcinoma presenting as an abscess

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### Abstract

*Paronychia and local infections of digits can present commonly. However, a squamous cell carcinoma posing as an abscess is not common. We present a case of chronic digital infection which then went on to develop an abscess. Surgical drainage and subsequent histopathological studies revealed this to be a squamous cell carcinoma.*

*Our case is discussed in light of current literature and with specific attention to a possible aetiology.*

### Case Report

A 63-year-old male presented to the Accident and Emergency (A&E) department with a two-month history of sudden onset of increased swelling over the dorsal distal phalanx of the right middle finger. There had been no history of trauma and a seven-day course of Flucloxacillin (as prescribed by his general practitioner) was to no avail.

A plain radiograph was performed which revealed scalloping of the radial aspect of the distal phalanx shaft (Figure 1). A week later he was seen in the orthopaedic outpatient setting where a paronychia of the right middle finger was noted. At the time a good range of movement in the distal inter-phalangeal joint with no flexor sheath involvement and no neurovascular deficits nor any evidence of a sinus was recorded. Additionally, there was no regional lymph node enlargement. Prior to this there was no history of weight loss or any bowel/bladder disturbance. The impression at the time was osteomyelitis changes secondary to infection or a glomus tumour. The patient was commenced on Augmentin and a magnetic resonance imaging (MRI) and bone scan were arranged.

The MRI scan demonstrated a well-defined mass (1.5 x 2.3 cm) causing distortion and pressure of the terminal phalanx. However, there was no significant signal alteration within the remaining phalanx. The consultant radiologist felt this to be an extension of a subungual tumour and possibly glomus tumour. Other possibilities included that of a melanoma but there was a clear transition zone between the tumour mass and bone making a benign pathology more likely.

The bone scan revealed that the lesion had no uptake. The rest of the hands and wrists showed degenerative changes only. Most interestingly just after these investigations the swelling had increased markedly, and a palpable collection had now developed around the phalanx.

Other investigations such as blood tests revealed a white cell count of  $11.7 (10^9/L)$  and neutrophils of  $9.4 (10^9/L)$ . Inflammatory markers including a c-reactive protein were normal. A chest

radiograph and abdomino-pelvic ultrasound scan were within normal parameters too.

The gentleman was subsequently taken to theatre where the fluctuant swelling was incised revealing a thick pus like material. Microscopy and culture suggested scanty skin flora. Granulations were curetted and sent to histopathology which showed multiple fragments of well differentiated but atypical squamous epithelium, suggestive of squamous cell carcinoma.

Following this the patient underwent a local amputation. During current follow up (twelve months) there has been no occurrence of any further disease.



**Figure 1.** Radiographs showing scalloping of the distal phalanx of the right middle finger.

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## Discussion

Digital squamous cell carcinoma is a relatively rare condition although the most common primary malignant tumour of the nail bed. This may present as secondary disease in patients with primary lung neoplasm [1,2].

The aetiology can be multifactorial ranging from trauma, radiation and viral infections such as human papilloma virus to recurrent infections [3]. The condition is more likely to occur in fingers than toes although the thumb and big toe are both commonly affected in each sub group [3,4].

Within the literature cases have been reported highlighting infection as a common presentation in such cases which often compounds the initial diagnosis and management. Although an abscess is a much more seldom presentation, previously O'Sullivan et al. [5] reported of a case in a 43-year-old man who underwent a digital amputation for recurrent abscess after which squamous cell carcinoma was confirmed from histopathological studies.

Our case had a fluctuant swelling with normal inflammatory markers. During incision and drainage, a thick white pus like material was evacuated and sent for microbiology assessment, however no organisms were isolated.

Liquefactive necrosis of tumours has been reported previously. Gorich et al. [6] studied bronchial carcinomas and their soft tissue metastasis from a radiological viewpoint. Albeit in this case there was no radiological or clinical evidence of pulmonary involvement.

Liquefactive necrosis itself could manifest as result of the underlying tumour or following the presence of a bacterial infection. Either way autolysis by white blood cells leaves a well circumscribed mass of semisolid/ fluid material, namely an abscess.

Management of such patients depends on the extent of disease. From Moh's microscopic or wide local excision, to amputation of the phalanx with or without block lymph node dissection are all widely used [7].

Thus, it is imperative that any prolonged infection of distal digits is reviewed with a high index of suspicion and during initial debridement biopsy samples are taken to exclude malignant disease.

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