A 30-year-old, left-handed male patient, presented with a subungual mass of the third finger of the left hand with secondary nail dystrophy (Fig. 1). The patient did not recall any injury to that finger.

**Imaging Findings:**

Conventional radiography revealed soft tissue swelling with cortical scalloping of the dorsal and ulnar part of the distal phalanx of the third finger (Fig. 2).
The patient underwent a high resolution 3T MRI of the nail apparatus with coronal and axial SE (spin echo) T1-w (Fig. 3-4), sagittal and axial proton density with fat saturation (Fig. 5-6), axial post gadolinium i.v injection SET1-w (Fig. 7), coronal post gadolinium i.v injection SET1-w with fat saturation (Fig. 8) and 3D VIBE post gadolinium i.v injection with multiplanar reconstructions (Fig. 9).
On MRI, the soft tissue mass corresponds to a medial subungual process within the dermis of the nail bed, iso- or low-intensity on all sequences without enhancement post gadolinium injection compatible with keratinised or fibrous tissue.
The surgical biopsy showed a keratinising cystic lesion with no atypical cells.

**Discussion:**

The epidermoid cyst is a benign cystic lesion related to the proliferation of epidermal cells whose aetiology remains controversial. The two main hypotheses are that of post-traumatic cell implant and that of embryonic cell rest [1].
The locations of intraosseous epidermoid cysts are preferentially described in the skull and distal phalanges of the fingers, especially the distal phalanx of the third finger of the left hand in men as in our case [2].
Clinically, these lesions manifest as a soft tissue swelling that is sometimes warm, tender and red. Deformation of the overlying nail has also been described in subungual locations [2].
In this clinical context, an assessment by conventional radiography is generally prescribed and shows soft tissue swelling, cortical scalloping and possibly well-defined lytic bone lesion with a sclerotic rim. In our institution, we generally complete this assessment by 3T HR MRI which allows us to specify the exact location and signal characteristics of the lesion. The epidermoid cyst typically has an intermediate signal or low signal on all sequences [3].
The differential diagnosis includes keratoacanthoma, skin carcinomas and fibromas [2, 3]. The keratoacanthoma is a benign tumour characterized by a rapid endoexophytic growth of squamous epithelium with a central keratin-filled...
crater of low signal intensity on all sequences; because of their similarities keratoakanthoma and squamous cell carcinoma cannot be differentiated at MRI [3]. Fibromas are slow growing lesions composed of thick hypocellular collagen bundles with low signal on all MRI sequences and no contrast enhancement [4].

The diagnosis is confirmed on histology by the presence of a stratified squamous epithelium encapsulated lesion that contains keratinised debris [2]. Surgical resection with curettage of the lesion and its wall reduces the risk of recurrence and is the treatment of choice [5].

In conclusion, the epidermoid cyst is a benign but symptomatic lesion relatively easy to treat and it should be mentioned in the differential diagnosis of lesions in the distal end of the finger, especially in the post-traumatic context.

**Differential Diagnosis List:** Subungual epidermoid cyst, Keratoacanthoma, Squamous cell carcinoma, Fibromas

**Final Diagnosis:** Subungual epidermoid cyst

**References:**


Figure 1

Description: Subungual mass on the third finger of the left hand with secondary nail dystrophy. Origin: Department of Radiology, Geneva University Hospital, Switzerland.
Description: Conventional radiography of the third finger on the left hand showing cortical scalloping of the dorsal and ulnar aspects of the distal phalanx (red arrow), adjacent to the soft tissue swelling.

Origin: Department of Radiology, Geneva University Hospital, Switzerland.
Figure 3

Description: Coronal SET1-w demonstrating a medial subungual process within the dermis of the nail bed, isointense to the dermis. Origin: Department of Radiology, Geneva University Hospital, Switzerland.
Description: Coronal SET1-w demonstrating a medial subungual process within the dermis of the nail bed, isointense to the dermis. Origin: Department of Radiology, Geneva University Hospital, Switzerland.
Description: Coronal SET1-w demonstrating a medial subungual process within the dermis of the nail bed, isointense to the dermis. Origin: Department of Radiology, Geneva University Hospital, Switzerland.
Description: Axial SET1-w demonstrating a medial subungual process within the dermis of the nail bed, isointense to the dermis. Origin: Department of Radiology, Geneva University Hospital, Switzerland.
**Description:** Axial SET1-w demonstrating a medial subungual process within the dermis of the nail bed, isointense to the dermis. **Origin:** Department of Radiology, Geneva University Hospital, Switzerland.
Description: Sagittal proton density with fat saturation showing a heterogeneous, low-intensity, subungual lesion. Origin: Department of Radiology, Geneva University Hospital, Switzerland.
**Description:** Axial proton density with fat saturation showing a heterogeneous, low-intensity, subungual lesion. **Origin:** Department of Radiology, Geneva University Hospital, Switzerland.
**Description:** Axial proton density with fat saturation showing a heterogeneous, low-intensity, subungual lesion. **Origin:** Department of Radiology, Geneva University Hospital, Switzerland.
Description: Axial post gadolinium i.v injection SET1-w showing a low-intensity, non enhancing, medial subungual process within the dermis of the nail bed. Origin: Department of Radiology, Geneva University Hospital, Switzerland.
Description: Axial post gadolinium i.v injection SET1-w showing a low-intensity, non enhancing, medial subungual process within the dermis of the nail bed. Origin: Department of Radiology, Geneva University Hospital, Switzerland.
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Description: Coronal post gadolinium i.v injection SET1-w showing a low-intensity, non enhancing, medial subungual process within the dermis of the nail bed. Origin: Department of Radiology, Geneva University Hospital, Switzerland.
**Description:** 3D VIBE post gadolinium i.v injection with multiplanar reconstructions (sagittal, axial and coronal) of the medial subungual process. **Origin:** Department of Radiology, Geneva University Hospital, Switzerland.