Case Report

Case report – Solitary finger nail bed neurofibroma

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ABSTRACT

Neurofibromas arise along a nerve fiber and usually involve nerves in or near the skin. They rarely develop in the hand and fingers. Nail bed solitary neurofibroma is an exceptionally rare event with no more than eight cases described in the literature. We present the case of a 39-year-old female patient with a lesion located in the radial side of the nail bed of the right-hand index finger. These tumors are slow-growing and rarely painful. Imaging tools are not very helpful in making the diagnosis. Final diagnosis rests on histopathology. No case of nail bed solitary neurofibroma showed recurrence. Complete surgical excision should be considered a diagnostic and therapeutic procedure.

Key words: Collagenous stroma, Nail bed, Neurofibroma, Schwann cells, Solitary

Neurofibromas are benign tumors arising from nerve-sheath Schwann cells and are 5% of all benign soft-tissue neoplasms [1]. Neurofibromas arise along a nerve fiber and usually involve nerves in or near the skin. They rarely develop in the hand and fingers. Nail bed solitary neurofibroma is an exceptionally rare event with no more than eight cases described in the literature. The diagnosis is necessary to prevent delay in treatment. Understanding its occurrence and diagnosis has great value, as these cases may go unnoticed due to being asymptomatic. We report a rare case of a right index finger nail bed solitary neurofibroma.

CASE REPORT

A 39-year-old female patient came with a complaint of a lesion located on the radial side of the nail bed of the right-hand index finger for 6 months. The lesion was slow-growing and had no history of trauma.

On general examination, there were no other swellings anywhere on the body. All other systemic examinations were unremarkable, and vital signs were normal. A dark brown-colored solid nodular growth with an irregular surface, with a diameter of approximately 0.5–1 cm, was seen on the radial side of the nail bed of the right-hand index finger. The growth was painless and non-tender, with involvement of the cuticle on the radial aspect of the nail plate. There was no involvement of the nail plate (Fig. 1a). No clinical features of neurofibromatosis type I were found.

The patient completed and signed the informed consent. X-ray examination of the hand revealed no bone involvement. Surgery was performed under local anesthesia. Intraoperatively, after raising the nail plate, a well-circumscribed, smooth, and relatively soft tumor expanding toward the nail bed was seen. The excision was simple and left a small defect. The specimen size was 10 mm. Healing with secondary intention was attempted, and the wound healed completely after 15 days with regular alternate-day dressing.

The histopathological examination showed well-defined neurofibroma tumor proliferation, consisting of bundles of fusiform cells with elongated nuclei and thick collagen bands (Fig. 2). Immunohistochemical staining for S100 protein was positive. There was no local recurrence 12 months after surgery (Fig. 1b).

DISCUSSION

Nail bed solitary neurofibroma is a rare finding. Until now, only eight case reports of finger nail bed solitary neurofibroma have been documented. They tend to be small tumors (range 0.5–1.8 cm) with non-specific clinical features. These tumors are slow-growing and rarely painful. The longest history was 6 years (average 2.4 years) for a left thumb tumor in a 60-year-old female [2]. Middle-aged women with 8 out of all 10 cases seem to be more affected by this type of tumor. Our case

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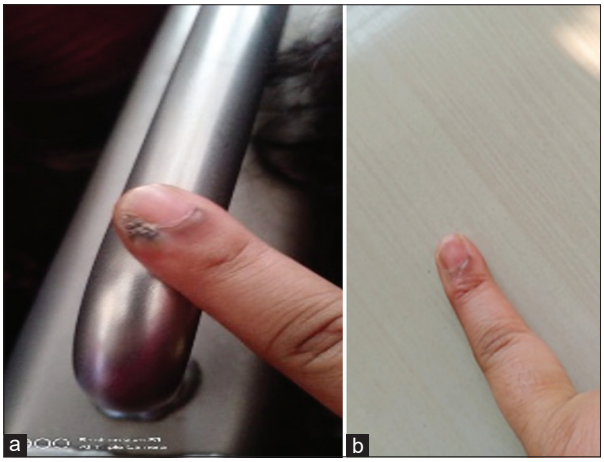

Figure 1: (a) A dark brown-colored solid nodular growth with an irregular surface was seen on the radial side of the nail bed of the right-hand index finger; (b) follow-up after 12 months of surgery

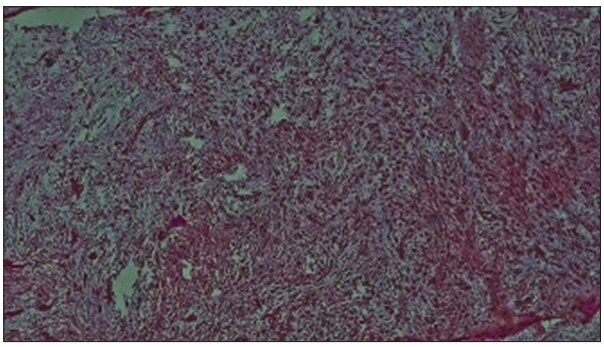

Figure 2: Histopathological examination showed well-defined neurofibroma tumor proliferation, consisting of bundles of fusiform cells with elongated nuclei and thick collagen bands

is a 39-year-old female with a lesion of size 0.5–1 cm involving the right hand index finger nail bed. A nail bed solitary neurofibroma may cause nail plate deformity, onychodystrophy, or hyperkeratosis. Thickening and elevation of the nail plate were described in three cases, whereas onychodystrophy was mentioned in the other three cases. There were two cases with no nail plate deformity, including our case [3].

As nail bed solitary neurofibroma is difficult to diagnose, other diseases must be included in the differential diagnosis, such as onychomycosis with features of thickened nail bed with dark brown discoloration [4] or even trauma presenting with compression of soft tissue and disfigurement of nail bed [5].

X-rays as imaging tools are not very helpful in making the diagnosis, in five out of nine cases, the radiology was normal, including our case. In three formerly reported patients, a bone print without bony invasion was noted. Due to the small tumor size, peripheral location, and non-specific imaging features of nail bed solitary neurofibroma, magnetic resonance imaging (MRI) was rarely used. In only one case, an MRI was done with findings of a neurofibroma as a hyperintense mass on a T2-weighted image [6].

The growth can be easily removed, which was also the case with our patient. In none of the reported cases, plastics for the reconstruction of the nail bed or marginal edges were used [7]. Final diagnosis rests on histopathology. In all cases, histopathological examination showed a well-circumscribed non-encapsulated tumor consisting of interlacing neural filament bundles of spindle cells with elongated nuclei and pale cytoplasm in variable myxoid to collagenous stroma, with the same findings in our case. Niizuma and Iijima [8] used electron microscopy, which demonstrated Schwann cells, fibroblasts, and perineurial cells. No case of nail bed solitary neurofibroma showed recurrence, including our case with a maximum follow-up of 17 months [9].

CONCLUSION

Nail bed solitary neurofibromas are rare, with non-specific physical and imaging features. Histopathological examination of spindle cells in variable myxoid to collagenous stroma will confirm the diagnosis, so they must be included in the differential diagnosis of nail bed tumors. We present our case of solitary finger nail bed neurofibroma without Recklinghausen disease. Complete surgical excision should be considered a diagnostic and therapeutic procedure.

REFERENCES

1. Noah SS. Cystic lesions on the hands. Clin Advis 2008;12:113-6.
2. Baran R, Haneke E. Subungual myxoid neurofibroma on the thumb. Acta Derm Venereol 2001;81:210-1.
3. De Almeida Stolarczuk D, Silva AL, Da Marca Filgueiras F, Alves MF, Silva SC. Solitary subungual neurofibroma: A previously unreported finding in a male patient. An Bras Dermatol 2011;86:569-72.
4. Zaikovska O, Pilmane M, Kisis J. Morphopathological aspects of healthy nails and nails affected by onychomycosis. Mycoses 2014;57:531-6.
5. Nanninga GL, De Leur K, Van Den Boom AL, De Vries MR, Van Ginhoven TM. Case report of nail bed injury after blunt trauma; what lies beneath the nail? Int J Surg Case Rep 2015;15:133-6.
6. Huajun J, Wei Q, Ming L, Chongyang F, Weiguo Z, Decheng L. Solitary subungual neurofibroma in the right first finger. Int J Dermatol 2012;3:335-8.
7. Seo BM, Lim JS, Jung SN, Yoo G, Byeon JH. Solitary Subungual myxoid neurofibroma of the thumb: A case report. Arch Plast Surg 2011;4:398-400.
8. Niizuma K, Iijima KN. Solitary neurofibroma: A case of subungual neurofibroma on the right third finger. Arch Dermatol Res 2005;283:13-5.
9. Pertea M, Grosu OM, Terinte C, Poroch V, Velenciuc N, Lunca S. Nail bed solitary neurofibroma: A case report and literature review. Medicine (Baltimore) 2019;98:e14111.

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