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ONYCHOMATRICOMA: UNCOMMOM NAIL MATRIX TUMOR

Dr. Pooja Kumari, Dr. Amit Kumar Yadav , Department of Pathology, Vardhman Mahavir Medical College and Safdarjung Hospital, New Delhi, India.

INTRODUCTION

- Onychomatricoma is rare, benign fibroepithelial tumor arising from nail matrix, characterized by finger-like projections that extend to nail plate.
- The lesion may closely mimic other ungual diseases, leading to frequent diagnostic confusion.
- Despite its distinct clinical and histopathological features, the rarity of the condition and limited awareness often result in misdiagnosis and delayed recognition.
- We describe a rare case of onychomatricoma, emphasizing its diagnostic challenges, the potential for clinical misinterpretation, and the importance of early and accurate detection.

CASE REPORT

- A 71-year-old male known case of diabetes mellitus presented with a lesion on the nail of **right 3rd digit** for past 7 months.
- The lesion was painless and showed gradually increasing size with yellow discoloration of nail plate.
- The lesion was initially **treated as onychomycosis**, and **antifungal therapy** was administered.
- However, after 2months , due to **lack of response to treatment**, the patient was **referred to Safdarjung hospital** for further evaluation.
- Dermatological examination revealed thickened yellowish nail plate with **increased curvature**, longitudinal ridging and grooves, distal **subungal hyperkeratosis** (Fig.1), and irregular free edge with filiform projections.
- **Surgical excision** performed; intra-operative findings: **Papillations** growth seen(Fig.2).
  Specimen sent for histopathological examination.
- **Gross findings**: 2 containers were received
- Container one labelled as Nail Tumor: Grey brown soft tissue piece measuring 1.5x1.7xx0.5cm
- Container two was labelled as Nail Plate: Nail Plate measuring 2x1.2x1cm.
- **Microscopy:** Sections examined show presence of a **fibroepithelial neoplasm**, the tumor is covered by papillomatous nail matrix epithelium.
  The stroma is cellular and shows mainly **fine, wavy collagen fibers and fibroblasts** with distinct cytoplasmic cell boundaries. (Fig.3&4)
  In sections containing both the tumor with its nail plate shows filiform projections extending into the nail substance and forms channels in nail plate.
  These are lined by **normal matrix epithelium** and dense stroma.
  No atypical squamous cell or no mitotic figures seen .
- **Immunohistochemistry:** The stromal cell were **positive for CD10 and CD34**.(Fig.5&6)
- Based on clinical features , intra-operative findings and histopathology findings final diagnosis of **onychomatricoma** was made.
- Clinical Followup : After 6month of followup patient is doing well and **no recurrence** lesion has been observed.

DISCUSSION

- Onychomatricoma is typically slow-growing and painless nail matrix tumor .
- Since the first description of onychomtaricoma by Baran and Kent in 1992, nearly 200 cases have been published worldwide .
- The diagnosis mainly made on basis of its **characteristic clinical features** supplemented by **dermoscopy** (which shows parallel lesion edges and splinter hemorrhages) , USG Doppler (Hypoechoic tumoral lesion in nail matrix and hyperechogenic area corresponding to fingerlike projections with low blood flow), and **histopathology** which is **gold standard**.
- The classic tetrad sign include thickening of nail plate, transverse or longitudinal over-curvature, xanthonychia and multiple splinter haemorrhages .
- It is associated with **chronic or repetitive trauma** to the nail matrix , **genetic predisposition**,underlying nail or inflammatory skin disorders (psoriasis or lichen planus) , poor nail hygiene and systemic condition like **diabetes** or autoimmune diseases.
- The clinical differential diagnosis includes fibrokeratoma, onychomycosis,melanonychia and squamous cell carcinoma.(Table 1)
- The treatment for onychomatricoma is surgical excision , the tumor must be removed completely and it is typically curative.

CONCLUSION

- This case is presented to highlight importance of ruling out onychomatricoma which mimic onychomycosis.
- There is need for timely expert opinion for better patient outcome.
- Histopathology is Gold Standard for accurate diagnosis and classification for this case.
- Specialised nail surgery unit is crucial for definitive management.

REFERENCES

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2)Miyamoto J et al .successful treatment of onychomatricoma with minimally invasive surgical procedurece:Acase report.Jdermatol.2024:51(5):719-721.

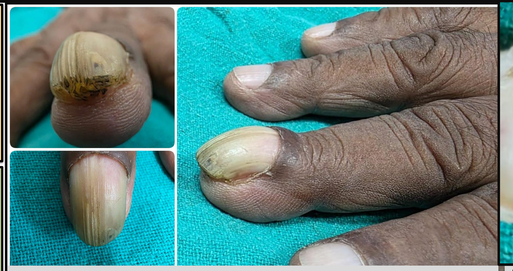

Fig1:Subungal hyperkeratosis & increased curvature

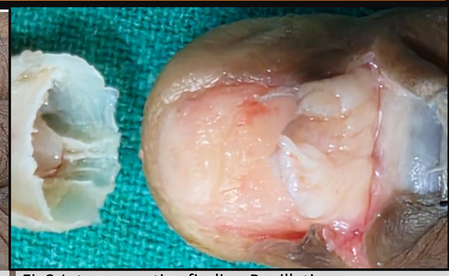

Fig2:Intra-operative finding:Papillations

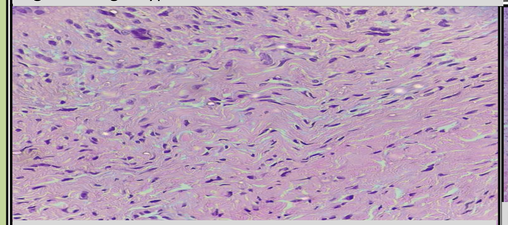

Fig3:H&E:Fibroblasts with dense stroma(40X)

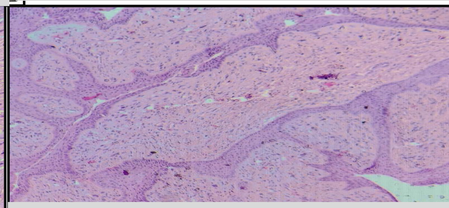

Fig 4:Fibroepithelial neoplasm covered by papillomatous nail matrix(20X)

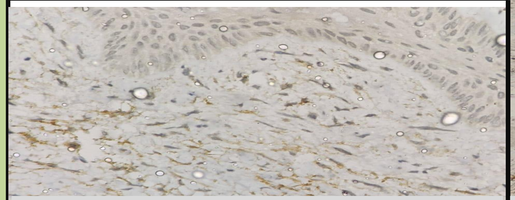

Fig5: CD34 membranous positivity in stromal cell on immunohistochemistry (40X)

Fig6: CD10 Cytoplasmic Positivity in stromal cells (20X)

Table 1:
Differential Diagnosis

Onychomycosis	Very common mimic Dermoscopy: Jagged edges, spikes , yellow white debris. Histopathology: fungal hyphae in nail plate. PAS stain is confirmatory.
Fibrokeratoma	Clinical presentation: Firm nodule, hyperkeratotic collarette. Histopathology:Mature fibroblast,small blood vessels ,elastic tissue. Acanthotic epidermis polypoid lesion with hyperkeratosis
Melanonychia	Dermoscopy:Regular pigmented longitudinal bands. Histopathology:Melanin and melanocytic proliferation.
Squamous cell carcinoma	Malignant counterpart, Dermoscopy: Linear Irregular vessels, ulceration,yellow crust, Histopathology: Atypical squamous cell,mitotic figures,nuclear atypia