Section: Dermatology

Case Report

IS IT FUNGAL FOE OR A VASCULAR SHOW? VERRUCOUS HEMANGIOMA MIMICKING DEEP FUNGAL INFECTION!

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ABSTRACT

Verrucous hemangioma is a rare vascular malformation involving dermis and subcutaneous tissue. Clinically, it presents as hyperkeratotic, verrucous plaques that may resemble infectious, inflammatory, or neoplastic lesions. We present the case of a 12-year-old female with hyperpigmented nodules and verrucous plaques over the left knee since birth, associated with localized swelling and hyperhidrosis. Radiological imaging suggested soft tissue neoplasm, while Doppler failed to demonstrate vascularity. Histopathology revealed proliferating capillaries in superficial and deep dermis with overlying epidermal hyperplasia, confirming the diagnosis of verrucous hemangioma. This case emphasizes the role of histopathology in differentiating vascular malformations from conditions such as deep fungal infection, epidermal nevi, and neoplasms, thereby preventing misdiagnosis and unnecessary treatment.

INTRODUCTION

Verrucous hemangioma (VH) is a rare congenital vascular malformation first described by Imperial and Helwig in 1967.[1] Unlike angiokeratomas, which are confined to the papillary dermis, VH characteristically extends into the deep dermis and subcutaneous tissue.[2] Clinically, the lesions begin as bluish-red macules or papules at birth or early childhood and progressively evolve into hyperkeratotic, verrucous plaques due to repeated trauma or secondary infections.[3,4]

The condition most frequently involves the lower extremities and presents as unilateral, localized, and slowly progressive lesions.[5] Although VH is benign, its deep extension and verrucous morphology often mimic other conditions such as angiokeratoma, verrucous epidermal nevus, lymphangioma, viral warts, and deep fungal infections, leading to frequent diagnostic dilemmas.[3,6]

Radiological imaging is often nonspecific, and the vascular nature may not always be appreciated. Histopathology remains the gold standard for diagnosis, revealing proliferating capillary and cavernous vascular channels extending deep into the dermis and subcutis, accompanied by reactive epidermal changes such as acanthosis, papillomatosis, and hyperkeratosis.[2,5,7]

Early and accurate recognition of VH is crucial, as superficial destructive methods like cryotherapy, electrocautery, or laser ablation often fail due to deep extension of the lesion, and complete surgical excision remains the treatment of choice to prevent recurrence.[6,8]

CASE REPORT

A 12-year-old female presented with multiple hyperpigmented nodules and verrucous plaques clustered around the left knee since birth. The lesions were associated with excessive sweating but no bleeding, pain, or ulceration.

Clinical examination: Multiple verrucous plaques with surrounding hyperpigmentation and nodularity around the left knee.

No systemic abnormalities detected.

Investigations:

MRI: Multiple masses in the subcutaneous plane and along muscular fascia around the knee, suggestive of soft tissue neoplasm.

USG Doppler: Subcutaneous thickening over distal thigh and knee (anterolateral) without obvious vascular malformation.

Histopathology: Sections revealed:

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Numerous capillary channels in superficial and deep dermis, some intermingling with eccrine glands.
Dilated lymphatics and thin-walled capillaries.
Epidermis with marked acanthosis, elongation of rete ridges, papillomatosis, and hyperkeratosis.
Deep dermis with proliferating capillaries admixed with eccrine structures and eosinophilic secretions.
Findings were consistent with Verrucous Hemangioma.

DISCUSSION

VH is a congenital vascular malformation with progressive clinical course. The deeper involvement distinguishes it from angiokeratomas. Lesions are commonly located on lower extremities and usually present in childhood. Secondary changes due to infection or trauma result in verrucous appearance.
Differential diagnoses include: Deep fungal infections (chromoblastomycosis, mycetoma) → mimic verrucous hyperkeratotic plaques.
Epidermal nevi / viral warts → share verrucous morphology but lack deep vascular proliferation.
Soft tissue neoplasms → suggested radiologically but excluded by histology.
Diagnosis: Histopathology remains the gold standard, showing vascular proliferation extending deep into dermis and subcutis with reactive epidermal changes.
Management: Simple excision is often insufficient due to deep extension.
Wide and deep excision is recommended to prevent recurrence.
Alternative therapies like cryotherapy, laser ablation, or electrocoagulation are generally ineffective.
This case underlines the need for clinicopathological correlation, as radiology may fail to show vascularity, and superficial resemblance may mislead towards infectious etiologies.

CONCLUSION

Something thought as subtle and obvious as nevus lipomatosis or a deep fungal infection, when aided by the expertise of histopathology, was precisely and timely diagnosed as verrucous hemangioma, thereby avoiding futile fiscal time, labour, and expense. This highlights the indispensable role of histopathological confirmation in differentiating rare vascular malformations from more common mimickers. Early diagnosis not only prevents mismanagement but also ensures timely surgical intervention, which is critical to reduce recurrence. Thus, a multidisciplinary approach combining clinical suspicion, imaging, and histopathology remains the cornerstone for accurate diagnosis and optimal patient care.

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