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Verrucous Hemangioma in an Adult: Report of a Rare Case

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Conflicts of Interest: Nil

Abstract

Verrucous hemangioma is a rare congenital vascular malformation. It usually occurs at birth, but can appear later in adulthood. Clinically it presents as well demarcated papules, plaques or nodules of bluish- red colour with an irregular or warty surface mostly involving the lower limbs. It is often wrongly diagnosed as angiokeratoma, simple hemangioma, lymphangioma circumscriptum, verrucous epidermal nevus, even malignant melanoma therefore histopathology plays an important role. Hereby we report a case of a 32 year old male due to its unusual presentation and its rare occurrence in this age group. Histopathological examination is an indispensable tool for an accurate diagnosis and appropriate management of the patient.

Keywords: hemangioma, verrucous, vascular malformation, angiokeratoma.

Introduction

Verrucous hemangioma is a rare congenital vascular malformation. It may be considered as one of the variants of capillary or cavernous hemangioma.[1] It was first outlined by Halter in 1937 and later on it was revised by Imperial and Helwig in 1967.[2]

It mostly occurs at birth, but can emerge even later in adulthood. Clinically it presents as well demarcated papules, plaques or nodules of bluish- red colour having an irregular or warty surface with a predilection for lower limbs.[2] It is usually misdiagnosed as angiokeratoma, simple hemangioma, lymphangioma circumscriptum, verrucous epidermal nevus, even maliganant melanoma therefore histopathology plays an important role in affirming a definitive diagnosis and for an appropriate management.

Histopathologically, it is characterised by dilated capillaries and large cavernous spaces lined by endothelium extending into the reticular dermis and subcutaneous fat. Excision of these lesions with a wider clearance is advisable as recurrence rates are very high.

Here we report a rare case of verrucous hemangioma in a 32 year old male.

Case Presentation

A 32 year old male presented with dark red coloured raised lesions over the leg. On examination the lesion was well defined, solitary, hyperpigmented plaque situated in the lower limbs. Surface of the lesion was verruciform with central ulceration of 4x3 cm with adjoining purpuric plaque measuring 2x1cm. There was no asymmetry of the lower limbs and the lesions were not pulsatile. There was history of itching and bleeding present. No history of trauma was found. Systemic examination was normal. Routine laboratory investigations were within normal limits. An incisional biopsy was performed from the

lesion and sent for histopathological examination. On microscopic examination, overlying epidermis revealed hyperkeratosis, acanthosis and papillomatosis. Papillary dermis showed numerous thin walled dilated capillaries of varying size. Dilated blood vessels lined by flattened endothelial cells with no atypia were also seen in the reticular dermis and subcutaneous tissue filled with red blood cells [Fig 1 and 2]. The lesion was CD-34 positive. Based on these findings, the diagnosis of verrucous hemangioma was made. The patient is currently under follow up period.

Discussion

Verrucous hemangioma (VH) is an uncommon congenital cutaneous vascular malformation. The term was first used by Halter in 1937 and was then elucidated in detail by Imperial and Helwig in 1967 that helped in an absolute differentiation from angiokeratoma circumscriptum.[3]

VH is generally present at birth whereas angiokeratoma circumscriptum (AC) is an acquired dermatosis. VH is usually a solitary lesion that varies from 1-7 mm in diameter, arranged in a linear or serpiginous configuration and mostly has satellite lesions while AC typically is formed of punctuate lesions that have an average size of 1- 5 mm in diameter that rarely coalesce to form plaques.

Most common site of involvement is lower extremity.[4] Despite the fact it usually occurs at birth but can also appear later during infancy or even in adulthood.[4,5] At the beginning it emerges as a unilateral, well- defined, bluish coloured macule that changes into a erythematous violaceous colour and commonly develop into a verrucous plaque or nodule following secondary infections and trauma.[6,7] The differential diagnosis includes Cobb syndrome, angioma serpiginosum, lymphangioma circumscriptum, cutaneous keratotic hemangioma, blue rubber bleb nevus, papillomas and rarely even malignant melanoma.[8] VH is often misdiagnosed as angiokeratoma or simple hemangioma. Therefore histopathological examination plays an important role in differentiating these two entities.[2,8] Both the lesions show vascular spaces beneath a hyperkeratotic and papillomatous epidermis. On the other hand, contrary to angiokeratoma, in verrucous hemangioma, the vascular channels also involve the lower dermis and subcutaneous tissues. The vessels are round with thick walls and a multilamellar basement membrane. The dilated vessels located in the papillary dermis are thin walled, often contain blood and are vertically oriented while the vessels in deep dermis may contain blood or are empty. The abnormal vessels are located in the dermis and hypodermis, and extend along the vertical vascular channels without involvement of the reticular dermis.Verrucous hemangiomas are true vascular malformations as compared to angiokeratomas that basically are telengiectasias that occur subsequent to trauma.[8] Its classification is still unclear to categorize it under a neoplasm or a malformation. It clinically presents features similar to vascular malformations but explicit immunohistologically WT1 and GLUT- 1 positivity alike vascular neoplasms.[9] Imaging studies help in visualising the deeper tissues thereby assisting in an appropriate management of the patient. Wide local excision is advisable to prevent chances of recurrence.[3]

Conclusion

Here we report this case of a 32 years male because of its rare occurrence in this age group and unusual presentation. Histopathological examination is the key to a definite diagnosis and therefore a biopsy of sufficient depth is required as superficial biopsy can lead to a misdiagnosis.

Declarations

Consent for publication- Written informed consent was obtained from the patient and her parents for publication of this case report and accompanying images.

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Figures

Fig 1- Microphotograph shows hyperkeratosis with irregular acanthosis and papillomatosis. Thin walled dilated capillaries are seen in the papillary dermis. (H & E, 10X)

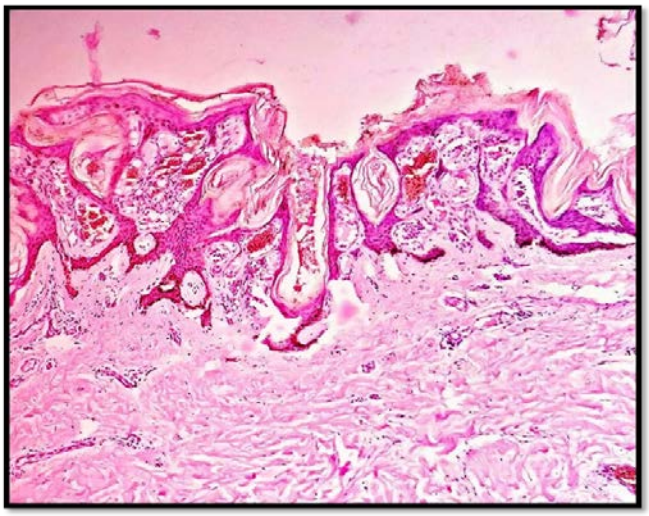

Figure 2- Microphotograph showing vascular channels lined by flattened endothelial cells filled with red blood cells. (H & E stain, 40x)

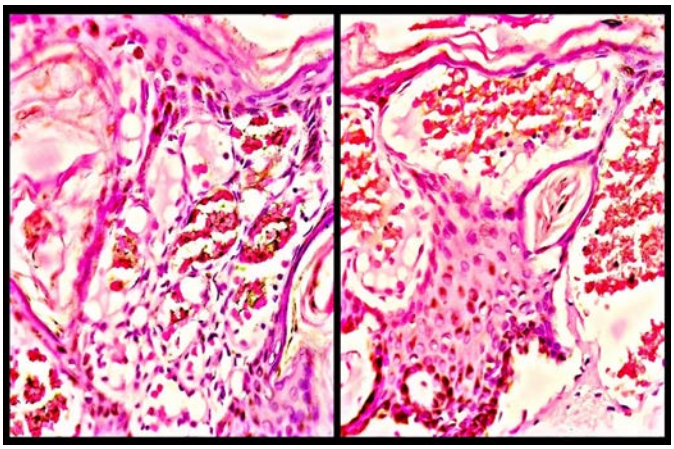

Figure 3- Microphotograph showing multiple dilated blood filled spaces showing CD-34 positivity. (10X and 4X, CD34 immunostain)

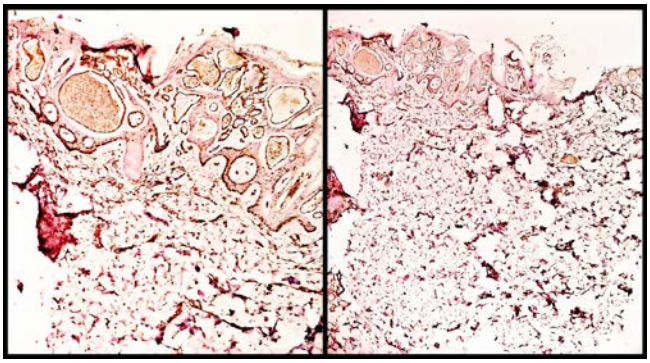

Figure 4- Microphotograph showing lobules of thin walled vessels of varying sizes extending to the deep

dermis and subcutaneous tissue. (CD34 immunostain, 10x)