Case Report

Verruca vulgaris in a case of benign fibrous histiocytoma – a case report

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Abstract

Benign fibrous histiocytoma is a fairly common soft tissue neoplasm composed of storiform pattern of spindle cells and histiocytes, usually seen in the dermis rarely infiltrating the sub cutis. Verruca vulgaris is another common skin lesion caused by human papilloma virus which affects only the epidermis at any site in the body. Both these lesions favor the extremities and are mostly common in female population. Verruca vulgaris coexisting with benign fibrous histiocytoma is rarely documented. We document here a case of 43 year old male presenting with elevated lesions in his skin all over the body, clinically suspected to be neurofibromatosis but the biopsy proved otherwise.

Keywords: warts, benign tumor of skin, human papilloma virus.

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INTRODUCTION

Benign fibrous histiocytoma (BFH) is a common soft tissue neoplasm accounting for approximately 3% of skin lesions received in a dermatopathological laboratory.[1] It is usually seen in the dermis and superficial subcutis, composed of a mixture of fibroblasts and histiocytes. A very small subset is seen arising from deeper structures. Common sites of involvement include the extremities followed by trunk. Verruca vulgaris also known as "Warts" is a keratotic lesion involving only the epidermis commonly localized to the extremities and genital region. Rarely in immunocompromised patients it is seen as a generalized lesion involving trunk and face. Etiology of benign fibrous histiocytoma is still unclear while verruca vulgaris is known to be caused by human papilloma virus.[2] Verruca vulgaris coexisting in a case of benign fibrous histiocytoma is rarely documented in literature and hence its significance still remains unknown. We document here one such rare association of benign soft tissue tumor with a lesion of infective aetiology.

CASE REPORT

A 55 year old man presented with well defined skin covered nodules all over the body and ill defined hyperpigmented plaques over the extremities for past 7 years. The lesions were asymptomatic initially and appeared in the lower limbs which then gradually extended to his trunk sparing his face and neck. On examination the lesions were well circumscribed, nodular, skin covered and numerous in the upper and lower extremities. Hyperpigmented plaques were seen over the nodules present in thigh and lower limb. Clinical diagnosis of neurofibroma was made and one such nodule was excised along with hyperpigmented plaque and was sent for histopathological examination. On macroscopic examination, two globular skin covered soft tissue bits, largest measuring 3x2x1cm and smallest measuring 0.5 cm in diameter were received. Cut surface of larger bit was grey white and glistening and smaller bit was grey brown with numerous vascular spaces. Microscopic examination of larger nodule showed well circumscribed unencapsulated tumor composed of spindle cells arranged in storiform pattern admixed with histiocytes with overlying epidermis showing flattening and focal papillomatosis. Grenz zone was seen in the dermo epidermal junction. No ulceration or extension into the epidermis was noted (Fig 1and2). No evidence of

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necrosis, atypia or mitotic activity was noticed. Immunohistochemical examination with immunostain S-100 was negative hence ruling out neurofibroma. Smaller tissue showed epidermis with hyperkeratosis, mounds of parakeratosis, hypergranulosis and papillomatosis (Fig3). Hypergranulosis and characteristic koilocytic cells with cytoplasmic vacuolation were seen in the granular layer of epidermis (Fig 4). Hence with the histopathological and immunohistochemical examination a diagnosis of cutaneous benign fibrous histiocytoma (dermatofibroma) with coexisting verruca vulgaris was made.

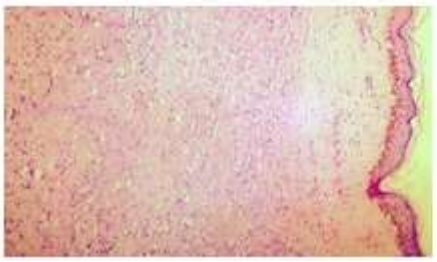

Figure 1: BFH- Tumor in the dermis separated from thinned out epidermis by a Grenz zone (arrow), HandE, 10X

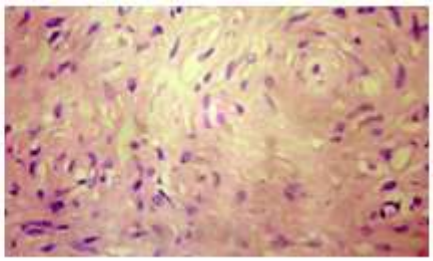

Figure 2: Spindle cells arranged in storiform pattern, HandE, 40X

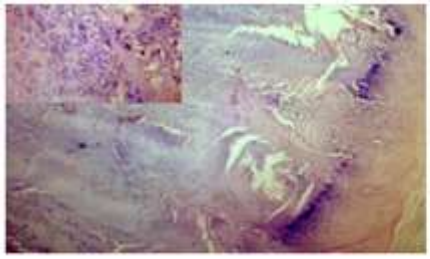

Figure 3: Verruca vulgaris- Hyperkeratosis, parakeratosis and hypergranulosis in epidermis, HandE, 10X.(INSET-Hypergranulosis with Koilocytic cells in the granular layer, HandE, 40X)

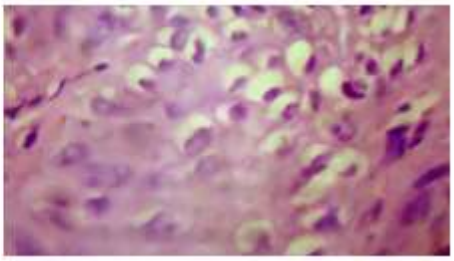

Figure 4: Koilocytes in the epidermis, H and E, 100x

DISCUSSION

Benign fibrous histiocytoma is commonly a solitary, slow growing neoplasm usually seen in individuals of third and fourth decade. About one-third of these tumors present as multiple skin colored and sometimes pigmented nodules commonly involving the extremities.[1] These lesions can present as sessile/ pedunculated nodules hence clinically mimicking neurofibromatosis which can be differentiated only with histopathological examination. Histologically BFH made up of short intersecting fascicles of fibroblastic cells in a storiform pattern. These cells can be interspersed with rounded histiocytic cells hence the name 'Histiocytoma'.[3] Occasional nerve twigs with wavy nuclei can be seen within the tumor but can be differentiated from neurofibroma which will contain a population of S-100 positive schwann cells with serpentine nuclei.[1] These lesions are seen only in the dermis and are never seen involving the epidermis. Very rarely these lesions are known to have a local invasion into the sub cutis when these lesions are seen closer to mucosal surfaces. Benign fibrous histiocytoma are also reported in deeper tissues hence the name 'dermatofibroma' was coined for lesions involving only the skin.[4] Numerous histological variants of benign fibrous histiocytoma arising from dermis are documented – such as cellular, fibrous, epithelioid and aneurysmal variants. The malignant counterpart of this entity can be identified with the presence of nuclear atypia, mitotic activity and areas of necrosis which were absent in our case.[1] Verruca vulgaris is a viral lesion of the skin which presents as circumscribed, firm, elevated papules with hyperpigmented surface. These lesions appear hyperkeratotic, hypergranular with mounds of parakeratosis, irregular acanthosis and characteristic vacuolated cells known as koilocytic cells.[2] Human Papilloma virus (HPV) is known to cause lesions in the epidermis like verruca vulgaris however it is not implicated in any lesions involving the dermis. These lesions are often associated with HPV-2 but may be induced by HPV-1,4,7,49.[5] Koilocytic cells are squamous epithelial cells that contain a peripherally placed nucleus displaced by a large perinuclear vacuole in the cytoplasm a characteristic feature of human papilloma virus infection of the skin.[6] These cells are considered to be premalignant in cervical smear when the nuclei exhibit atypia. Histopathological examination revealed the lesion to be a typical case of benign fibrous histiocytoma with the overlying epidermis showing features of verruca

vulgaris characterized by koilocytic atypia of cells. Treatment for benign fibrous histiocytoma is surgical resection which has a fair recurrence rate and for verruca vulgaris is excision of warts using electrocautery.

CONCLUSION

Verruca vulgaris and benign fibrous histiocytoma are two distinct lesions with distinct zones of involvement with no overlapping features. The etiological factors are also very different from each other. Coexistence of two lesions with different aetiology, morphology and location is an incidental finding, which influences the outcome of treatment. Further these lesions can clinically mimic other skin lesions as seen in our case, which was clinically diagnosed as neurofibroma. Final diagnosis can be obtained only by histopathological examination. This case report is a testament for the importance of microscopic examination in a lesion which can present with an entirely different clinical picture.

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