International Surgery Journal
Kotera SS et al. Int Surg J. 2016 Feb;3(1):364-366
http://www.ijsurgery.com
pISSN 2349-3305 | eISSN 2349-2902

DOI: http://dx.doi.org/10.18203/2349-2902.isj20160259

Case Report

Verrucous carcinoma of foot: a diagnostic enigma

Sai Suraj Kotera*, Manjunath K., Rajagopalan S.

Department of General Surgery, Rajarajeswari medical college and hospital, Bangalore, India

Received: 06 October 2015
Accepted: 16 November 2015

***Correspondence:**
Dr. Sai Suraj Kotera,
E-mail: surajsai@gmail.com

ABSTRACT

We present two cases of Verrucous Carcinoma (VC) of the foot in middle aged men. This is a rare locally invasive, well differentiated and low grade squamous cell carcinoma (SCC) with Human Papilloma Virus as a possible causative agent. It follows a chronic course and mimics various skin lesions which lead to delay in diagnosis by up to 15 years. The diagnosis is made histologically and treatment is wide local excision. Though at 1 year follow up showed no signs of recurrence. Due to confusion of diagnosis in the early stage, there will be delayed diagnosis. So early pathological diagnosis and intervention are key determinants for better prognosis.

Keywords: Verrucous carcinoma, Dermal malignancy, Wide excision

INTRODUCTION

Verrucous Carcinoma was first defined by Ackerman in 1948, hence known as Ackerman Tumour.[1] Ackerman tumour is a rare, locally invasive, well differentiated, low grade squamous cell carcinoma with low metastatic potential, following a chronic course and mimicking various skin lesions which leads to delay in diagnosis by up to 15 years. The need for pathological correlation for an early diagnosis is important,[2] as it may recur and involve deeper structures leading to amputations.

CASE REPORT

Case report 1

A 48-year-old man presented with a large ulcero-proliferative growth of 2 years duration over the sole of the left foot, He had undergone various kinds of local treatment, but it recurred every time to grow bigger, the exophytic tumor measured 5x5 cm, was tender and appeared to have invaded deeply. It had an erythematous border with hard warty surface. Regional lymph nodes were not enlarged and there were no signs of metastasis elsewhere. Blood examination and other standard tests were normal. The patient had no underlying diabetic or neuropathic skin changes. Radiographs showed no bony involvement. Incision biopsy was done and reported as Verrucous Carcinoma. HPV typing was not performed.

The patient underwent wide local excision. Wound was left open which healed well with no post-operative complications. One year follow up showed no signs of tumour recurrence.

Case report 2

A 56-year-old man, chronic smoker, presented with ulcero-proliferative growth of 2x3 cm in the lateral aspect of 5th toe of left foot of 1 year duration. The clinical presentation was similar to the first case but had secondary infection with palpable ipsilateral inguinal lymph nodes. After a course of antibiotics lymph nodes were not palpable. Blood examination showed raised leucocyte count and other standard investigations were normal. Radiographs showed no bony involvement. Incision biopsy was done but the report was inconclusive. HPV typing was not performed. With a suspected clinical diagnosis of squamous cell carcinoma, patient underwent wide local excision with no complications.

Figure 1: Case 2 - Ulcero proliferative growth in the lateral aspect of left foot.

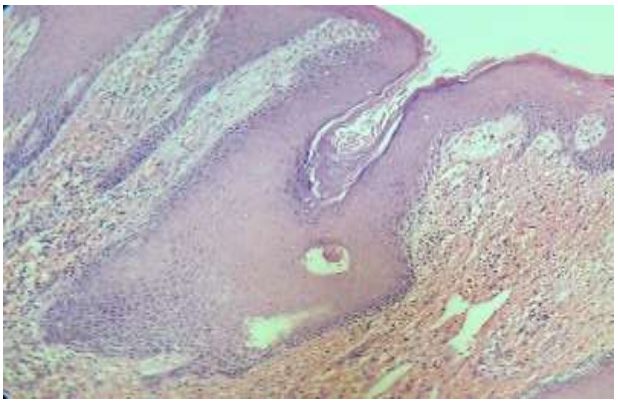

Figure 2: Histopathology slide showing para keratin plugging and papillomatosis features of verrucous carcinoma.

DISCUSSION

Verrucous Carcinoma (VC / epithelioma cuniculatum plantare) is a subtype of SCC, not an SCC with a verrucous presentation. The trigger of VC is unclear, but all arise de-novo in the weight bearing areas of foot. VC has histological similarities to plantar warts and HPV may be the causative agent.[3,4] It typically occurs in men in their 4th to 6th decade of life. It follows a chronic course evolving from a small skin lesion to a large fungating deeply penetrating mass. The nature of slow growth and confusing early stage appearance can lead to delayed diagnosis of up to 15 years.[5] Differential diagnosis includes viral warts, pseudocarcinomatous hyperplasia, and deep mycosis.

Clinical and macroscopic findings can be marked with formation of bulky exophytic growth that may ulcerate with numerous sinuses from which foul smelling purulent keratinous material is often discharged, Diagnosis is made histologically. Proliferations are usually composed of large endophytic and exophytic growth patterns with pale staining well differentiated keratinocytes and presence of pronounced hyperkeratosis and papillomatosis.[2,5,6] Keratin pearl formation is uncommon. Tumour strands may extend deep into the dermis forming keratin filled intra-epidermal abscesses and sinuses. The sinus tracts are 'rabbit burrow' like spaces from which epithelioma cuniculatum word is derived.[7]

VC is a locally invasive tumour which almost never metastasises, and thus has a favourable outcome.[7,8] The recommended treatment is wide local excision. As VC often causes structural distortion of adjacent tissues the margins are not apparent intra-operatively. The residual defect can then be covered by flap or skin graft.[9] Other therapeutic modalities include topical chemotherapy, electro cautery, cryotherapy and laser therapy but all have high rate of recurrence.[10,11] Radiotherapy is not recommended because of a possibility of malignant transformation.[12] Partial or radical amputations are required in aggressive invasive disease with bone involvement, poor vascular status and massive skin defects and in tumour recurrence secondary to incomplete excision.

Although being a rare diagnosis, awareness should be raised of VC due to enigmatic early stage appearance which leads to delay in diagnosis and poor prognosis.[9] Pathological diagnosis is mandatory so the importance of close co-operation of clinicians with pathologists is essential. Long term prognosis of definitively treated VC is good but patients should be reviewed annually as recurrence remains a possibility.

Funding: No funding sources
Conflict of interest: None declared
Ethical approval: Not required

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Cite this article as: Kotera SS, Manjunath K, Rajagopalan S. Verrucous carcinoma of foot: a diagnostic enigma. Int Surg J 2016;3:364-6.