Verrucous Carcinoma of Foot Managed by Wide Local Excision with Split Skin Grafting

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Case Report

ABSTRACT

Verrucous Carcinoma of foot is a rare disease, and requires early diagnosis and proper management. A case of 54 year old male who presented with Verrucous Carcinoma of foot, reported here is a rare, locally invasive and well differentiated, low grade squamous cell carcinoma with HPV as a possible causative agent. It follows a chronic course and mimics a variety of skin lesions, delaying diagnosis by up to 15 years. Definitive diagnosis is achieved histologically and recommended treatment is wide local excision. Our patient had an exophytic growth between the 4th and little toe of right foot, was managed by wide local excision of growth with approximately 5 mm of skin margin, followed by split skin grafting. Complete excision was achieved with no post-operative complications. After one and a half years of follow up there is no recurrence and no functional impairment.

KEY WORDS: amputation, split skin grafting, verruous carcinoma, wide excision

INTRODUCTION:

Verrucous carcinoma (VC) is a rare, locally invasive, well-differentiated, low grade squamous cell carcinoma (SCC), and with low metastatic potential. It has variety of different terms which are distinguished by its different location of occurrence but represent the same pathological condition. These terms include: Epithelioma cuniculatum plantare; Giant condylomata accuminata of the anorectal region (Buschke-Loewenstein tumour), Verrucous carcinoma of the oropharynx; Papilloma Cutis Carcinoids; Epithelioid tumour; Cutaneous squamous carcinoma.

HPV is known to be a possible causative agent. The definitive diagnosis is made histologically, and treatment by wide local excision is recommended with or without amputation. Most patients with verrucous carcinoma have a good prognosis, though local recurrence is not uncommon. Metastasis to distant parts of the body is rare. Verrucous carcinoma may occur in several locations viz, gingiva, buccal mucosa, hard palate, floor of the mouth, larynx, oesophagus, penis, vagina & scrotum. The oral cavity is the most common site of this tumour. Verrucous carcinoma of the foot is a rare condition.

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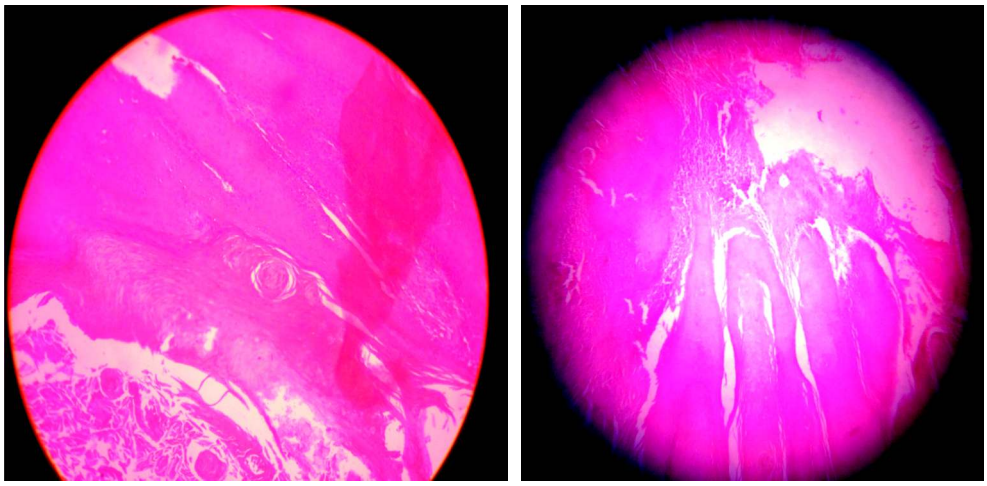
CASE REPORT:

A 54 year old male presented in our OPD with complaint of growth on the right foot involving the 4th web space between the 4th toe & little toe. The growth was exophytic, cauliflower like which was present on the dorsum as well as extending partially on to the plantar aspect. The lesion had been present since one year. Patient came to the surgery OPD only when he realised that the growth on his right foot had considerably increased in size over the year to cause him concern. The patient had no diabetes mellitus or neuropathic skin changes. There was no regional lymph nodal enlargement.

Investigations:

All routine blood investigations were within normal limits. Chest x-ray and abdominal ultrasonography ruled out metastatic spread. X-ray foot showed no bony involvement. HPV viral typing was not performed. Histopathology was suggestive of



Keratin pearl formation | Verrucous growth pattern

Figure 1: Microscopic view.

Figure 2: Exophytic growth over the dorsum of foot in 4th web space between the 4th toe and little toe.

Figure 3: Post operative photograph.

well differentiated squamous cell carcinoma with verrucous growth pattern, keratin pearl formation along with moderate to dense lymphoplasmacytic infiltrate and no lymphovascular emboli or perineural invasion (Figure 1).

Surgery:

Wide excision of the growth including 5 mm of healthy skin margin surrounding the growth was done. The defect was primarily surfaced with "Split Skin Graft" harvested from the left thigh of size approximately 8 x 4 cm (Figure 2).

Post-operative Management

Patient was put on iv fluids and iv antibiotics. Right lower limb immobilisation was achieved by above ankle POP cast along with right lower limb elevation. First dressing was done after 7 days, and

graft acceptability was almost 98 – 100% with no pus discharge or slough. POP cast was removed after 16 days once the graft became stable. Patient was discharged on oral medication (Figure 3).

DISCUSSION:

Verrucous carcinoma is subtype of low-grade squamous cell carcinoma. The pathogenesis of VC is unclear, but all arise de novo in the weight-bearing areas of the foot[21]. In our case the tumour arose from the dorsum of the foot which is similar to the finding of *Vaidya et al.* [15] . VC has histological similarities to plantar warts, and HPV may be a causative agent[1-5]. The DNA of HPV types 6, 11, 16, and 18 have been identified in VC specimens[3]. It commonly affects men in their 4th to 6th decades, although it has been seen in patients as young as 16 years[6]. It follows a chronic course, evolving from a discrete focal lesion to a large fungating deeply penetrating mass. The slow growth and confusing early-stage appearances can lead to delays in diagnosis of 8 to 15 years[2], and hence leading to under treatment. Differential diagnoses include *viral warts, pseudo-carcinomatous hyperplasia, deep mycosis*[5,9]. Although the clinical and macroscopic findings can be marked (the formation of a bulky, exophytic mass, which may be ulcerated with numerous sinuses from which foul-smelling purulent keratinous debris is expressed), the definitive diagnosis is made histo-pathologically[7]. Lesions exhibit both endophytic and exophytic growth patterns[10]. Proliferations are usually composed of large pale staining well-differentiated keratinocytes, with the presence of pronounced hyperkeratosis and papillomatosis. Unlike SCC, keratin pearl formation is uncommon[7]. Tumour strands may extend deep into the dermis and subcutis, forming keratin-filled intra-epidermal abscesses and sinuses connecting with the surface. These sinus tracts are the 'rabbit burrow' like spaces from which epithelioma cuniculatum derives its name[7]. Locally invasive VC almost never metastasises, and thus has a favourable prognosis[20]. The recommended treatment is wide local excision, rather than marginal excision, as VC often causes a structural distortion of adjacent tissues, and the margins are not always apparent intra-operatively. The residual defect can then be covered with a full thickness skin graft or flap[9,11,12]. Other therapeutic modalities include topical chemotherapy, electrocautery, cryotherapy, and laser therapy, but all have high recurrence rates[1,12,13,14]. Moh's microscopically controlled surgery has reported good results for the less invasive VC[16]. Radiotherapy is not recommended, despite being curative in some reports, because of the possibility of malignant change[1,5,9,17-19].

With high clinical suspicion and histo-pathologic examination, bone involvement and amputation may be avoided[21].

CONCLUSION:

Verrucous carcinoma of foot is a diagnostic dilemma for a surgeon. Slow growth, uncommon sites like dorsum of foot and confusing early stage appearances can lead to delay in diagnosis and amputations either major or minor.

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