

CASE REPORT

Squamous Cell Carcinoma in Heel

William Limoa¹, Michael BW¹, Andi Firman Mubarak¹, Henry Yurianto², M. Ruksal Saleh³

Authors' Affiliations: ¹Resident; ²Hip and Knee Consultant; ³Hand & Microsurgery Consultant, Dept. of Orthopaedic and Traumatology. Hasanuddin University, Makassar

Correspondence: Andi Firman Mubarak, Email: andifirmanmubarak@gmail.com, Mobile No.: +6281244869431

ABSTRACT

Squamous cell carcinoma (SCC) is an epithelial malignancy involving many anatomical sites and is the most common cancer capable of metastatic spread. Squamous cell carcinoma (SCC) can involved several different anatomic sites, including the skin, lips, mouth, esophagus, urinary tract, prostate, lungs, vagina, and cervix. Of these anatomic sites, there are four which make up the majority of SCC cases. Given the range of tissues in which it arises, morphologically characterized by proliferation of atypical, often pleomorphic squamous cells; graded as well, moderately, or poorly differentiated; well differentiated carcinomas are usually associated with keratin production and presence of intercellular bridges between adjacent cells; subtypes include basaloid, clear cell type, papillary, small cell nonkeratinizing.¹ Despite advances in diagnostic methods and combined treatment modalities, the survival rate has not improved significantly over the last 30 years² due in part to a lack of reliable early diagnostic biomarkers and a limited number of molecularly targeted therapeutic strategies. We present a case of Squamous Cell Carcinoma on heel treated with wide excision and sural flap. After reach soft tissue healing we do the physiotherapy exercises. The time of patient came to see help from doctor and rarity of these case that significantly improved after surgery warrant the report of the outcome.

Key words: Squamous cell carcinoma, SCC, flap, excision

HISTORY

We report a 66-year-old male presented with a tumor over the right heel 3 years ago which had enlarged over the past year. The mass was well circumscribed, enlarging slowly and associated with pain during daily activity. Patient was previously treated by a general surgeon who attempt to excise the tumour with histopathologic findings of a squamous cell carcinoma. The tumor eventually grew back and wider than before. Patient have a story of hypertension and stroke since 10 years ago and got controlled well.

On pathology anatomy examination, we found There are proliferation squamous cell with round cell, atypical, pleomorphic, and hyperchromatic with eosinophilic cytoplasm and keratin pearl between.

We then formulated a treatment plan of wide excision of the tumour until healthy soft tissue achieved and performed wound covered reconstruction using sural flap followed by aggressive physical therapy along with postural exercises after wound healing. After 3 month post operative the patient can walk with minimal assistance.



Fig. 1. Preoperative photograph (reproduced with the patient's permission)



Fig. 2. Plain Radiograph foot anteroposterior and lateral.

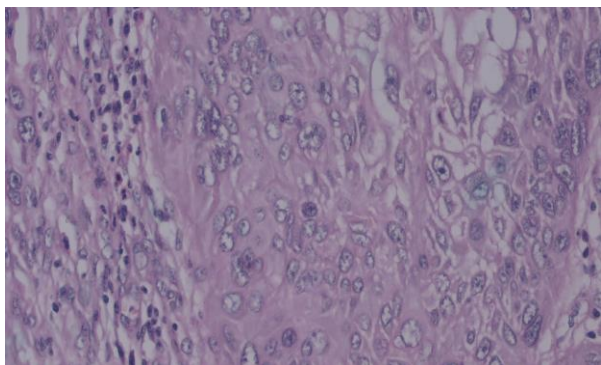


Fig 3. Pathology Anatomy examination of the patient.



Fig 4: Post-operative follow up study picture (reproduced with the patient’s permission)

DISCUSSION

Squamous cell carcinoma of foot is rare to see that can be primary or metastatic lesion. The prevalence of cutaneous squamous cell carcinoma in lightly pigmented individuals is 58.25 per 100,000, and for darker pigmented skin colors, it is 3.09 per 100,000.

The head and neck region is the most commonly affected, comprising 67% of the cases. Although rare, squamous cell carcinoma is the most common form of cutaneous malignancy among darker pigmented populations. The mortality rates are low for squamous cell carcinoma, but they are higher in men and increase with age. For lightly pigmented men, the mortality rate is 0.38 per 100,000, and for lightly pigmented women, the rate is 0.23 per 100,000. The most common primary site that contributes to mortality is the ear.

The pathogenesis of squamous cell carcinoma is multifactorial and includes many extrinsic and intrinsic factors. The most important extrinsic factor is generally recognized as UV sunlight exposure.² The human papillomavirus type 16 is present in many of the genital and periungual forms of squamous cell, but human papillomavirus types 5, 8, 9, 18, 31, 33, 35, 39, 40, and 51-60, have all been isolated from squamous cell tumors. Other extrinsic factors that are related to the development of squamous cell carcinoma are industrial carcinogens, such as pitch, tar, crude paraffin oil, fuel oil, creosote, lubricating oils, arsenic, and nitrosoureas.³ Intrinsic factors associated with squamous cell carcinoma include age, lighter skin pigmentation, scars, and dermatoses associated with photo sensitivity (chronic cutaneous lupus), ulcerations, and lichen planus.⁴

The treatment of the Squamous Cell carcinoma on limb mostly surgery. Surgery itself is depend on size of lesion. The bigger size of lesion can be treated with wide surgical resection with skin graft with or without radiation. The wide excision is standard traditional treatment that proven to be successful treatment for kind of cases.

The other treatment is MOHS microsurgery, MOHS microsurgery become more popular. The MOHS microsurgery indicated in smaller lesion of less than one centimeter. The procedure is usually performed in a physician's office under local anesthetic. A small scalpel is utilized to cut around the visible tumor. A very small surgical margin is utilized, usually with 1 to 1.5 mm of "free margin" or uninvolved skin. The amount of free margin removed is much less than the usual 4 to 6 mm required for the standard excision of skin cancers.

The key success treatment of Squamous cell carcinoma are functional returned after surgery and soft tissue reconstruction to cover the wound after excision. The reconstruction of soft tissue must be challenging because it depend on associated condition that prevent healing.

Regardless of the surgical procedure, a postoperative regimen of intensive physiotherapy including passive range of motion and active strengthening exercises

for at least 3 months is of utmost importance to maintain the effects of surgery.^{7,8}

CONCLUSION

The treatment Squamous cell carcinoma on feet are so challenging, because of the major function of foot to walk, so the physician facing 2 problem together; Squamous cell carcinoma itself and restore the function of the area that involved. Wide excision is still a gold standard for treatment of Squamous cell carcinoma followed by wound closure reconstruction using flap and skin graft. Early recognition and treatment of this condition is utmost likely beneficial due to time of healing and restoring the function.

REFERENCES

1. I wani, metastatic Squamous cell carcinoma: case report, Oman Med J.2009 jan;24(1):49-50
2. D Nagarajan. M Chandrasekhar. J Jebakumar. KA Menon, Verrucous carcinoma of foot at an unusual site: Lessons to be learnt, South Asian Journal of cancer, Vol 6, no 2, April-june 2017, pp 63-78
3. T Mutley. K white. J clyde, Squamous cell carcinoma of the foot: A case report, the foot and ankle journal7(2): 2
4. Lohmann, C. M., & Solomon, A. R. (2001). Clinico-pathologic variants of cutaneous squamous cell carcinoma. *Advances in Anatomic Pathology*, 8, 27-36.
5. Wolff, K., Johnson, R. A., & Suurmond, D. (2005). *Fitzpatrick's color atlas & synopsis of clinical dermatology*. New York: McGraw-Hill