

Case Report

Squamous cell carcinoma in a “not-so-chronic” Marjolin ulcer: A case reportDr. Hitesh Bhandari¹, Dr. Ayushi Narain², Dr. K. Venkatachalam³, Dr. Vijayanarasimman³, Dr. Hemalatha Ganapathy⁴, Dr. Lionel John⁵, Charanian Udaybhaskar⁶.¹Final year MS Ortho PG, ²Final year MD Pathology PG, ³Professor, Department of Orthopaedics, ⁴Professor, Department of Pathology, ⁵Assistant Professor, ⁶Case co-ordinator, Department of Orthopaedics Sree Balaji Medical College and Hospital, No.7, Works Road, New Colony, Chromepet, Chennai- 600044, Tamil Nadu, India.***Corresponding author**

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Abstract: It is well known fact that, it is from a precursor lesion that a squamous cell carcinoma (SCC) can arise. Those arising out of a non-healing ulcer are rare especially so in a very short period of time. SCC is also known to arise from chronic wounds, old scars but can also arise from normal skin. This is by far the most common type of histologically malignant skin tumor. A 45years old male got injured by the silencer burn of a bike 6 months ago. He developed a blister which later ulcerated on his right heel pad. The ulcer was non-healing and he suffered a second injury 3 months later and sustained a fracture of the calcaneum on the same side, which was managed conservatively. The ulcer failed to heal and the underlying calcaneum got subsequently infected. From clinical grounds what appeared to be an infective osteomyelitis of calcaneum turned out to be a SCC. A high degree of suspicion is needed to suspect SCC in these instances and mandatorily send tissue sample for HPE evaluation, otherwise there is a high chance of misdiagnosis and by the time it is detected, it would have widely metastasized.

Keywords: Squamous cell carcinoma, Marjolin ulcer, chronic burns wound.

INTRODUCTION:

Squamous cell carcinoma (SCC) is a malignant tumor. These are derived from suprabasal keratinocytes. Not only are they of an invasive character but are also very quick to metastasize [1, 2]. Malignant neoplasm arising in a chronic non-healing wound is well known for a long time and were named Marjolin ulcer. But in our patient, the total duration of ulcer was only a meagre 6 months. Unless high degree of suspicion is entertained and tissue sampling by HPE is done, diagnosis may be overlooked. Prevention methods like skin grafting of burned areas and excision with suitable skin grafting of ulceration site are recommended. Once the diagnosis is established, wide surgical excision is the golden standard. At inoperable sites and in cases of recurrences, they may be treated with a combination of radiotherapy and chemotherapy.

CASE REPORT:

45 years old male got a silencer burn injury to his right heel, six months ago. He had been treated outside with dressings and oral Linezolid 600 mg bd antibiotics. He got a fracture calcaneum of the same heel three months later due to injury sustained on the backfire of the bikes kick starter. The wound failed to heal and he was unable to weight bear. When the patient

reported to us, there was a one and a half inch long non-healing ulcer in the right heel pad, with a mucopurulent blood stained discharge {Fig-1(a,b)}. X-ray right ankle {Fig-2} revealed lysis involving almost the entire Calcaneum. CT scan {Fig-3} revealed lytic destructions of the body and the posterior process of Calcaneum with adjacent soft tissue lesion. An impression of infective osteomyelitis was reported. The blood picture was unremarkable and there was no fever when the patient got admitted. He was neither a hypertensive nor a diabetic. In view of the above findings a working diagnosis of tuberculous osteomyelitis was made. Mantoux was however negative and pulmonary evaluation did not reveal any Koch's lesion. Under regional anaesthesia, right heel was debrided and the caseous material was curetted from the right Calcaneum and a wide area of plantar skin around the ulcer was surgically excised. The curetted material and skin margins were sent for HPE. The HPE report was as follows: {Fig-4(a,b)} multiple sections studied shows sheets, islands and nests of squamous cells with hyperchromatic and pleomorphic nuclei enclosing cellular keratin pearls. Islands of these malignant cells infiltrate into the surrounding stroma. Areas of necrosis {Fig-5(a,b)}, tumour giant cells and mitotic figures are also seen. Stroma also shows areas of haemorrhage and

an inflammatory infiltrate. An impression of infiltrating moderately differentiated squamous cell carcinoma was given.

Clinical pictures:



Fig 1(a): one and a half inch non-healing ulcer



Fig-1(b): one and a half inch non-healing ulcer excluding pus.



Fig 2: X-ray right calcaneum (lateral view)

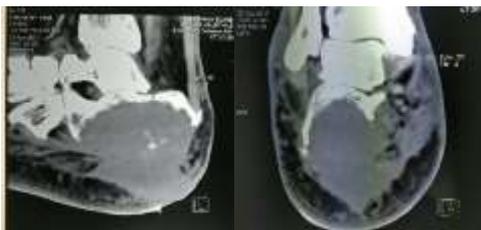


Fig 3: Lytic destruction involving the body and posterior process of calcaneum with adjacent soft tissue lesion.

Histological picture:

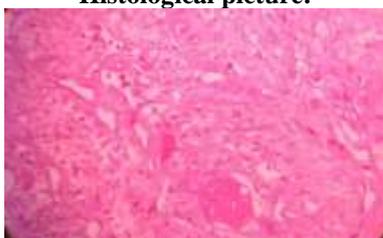


Fig-4(a): 40x showing tumor giant cells

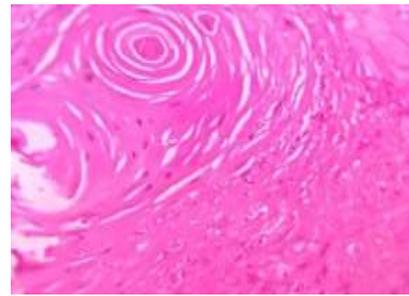


Fig-4(b): keratin pearls

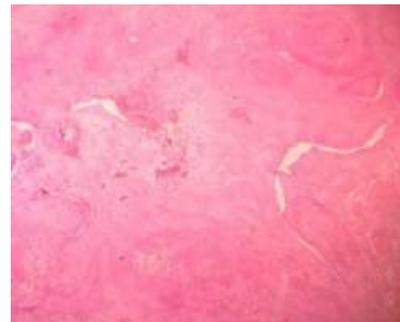


Fig -5(a): Areas of necrosis

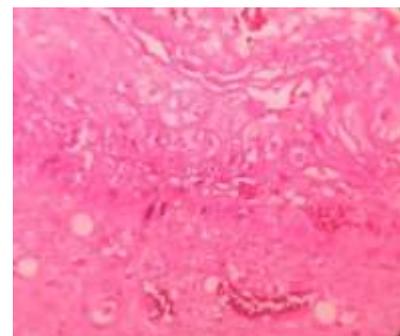


Fig -5(b): Atypical mitotic figures

DISCUSSION:

Marjolin's ulcer is a rare aggressive cutaneous malignancy [3]. They arise from traumatized, degenerated and chronically inflamed skin or burn scar tissue [4]. It is commonly associated with burn scars, but may develop from pressure sores, chronic venous ulcers, traumatic wounds, osteomyelitis, fistulas, and leprosy ulcers [4-6]. The most common histological tumor type is squamous cell carcinoma, but basal cell carcinomas, melanomas and sarcomas may also be found [4]. Marjolin's ulcers occur at any age and in all races. Men are more affected than women with a ratio of about 3:1. The latent period between injury and the development of cancer is typically long, with an average of thirty one years [4]. But in our case the latency period from the burn injury and the diagnosis of SCC was a meagre 6 months. The pathogenesis of this kind of malignant transformation is largely unknown and its risk factors include healing by secondary intention, wound infection, fragile and easily traumatized tissue and poor local and systemic immune

resistance [4]. Identification of the risk factors and high clinical suspicion are of almost essential for early detection. It is being emphasised here that, the 'not- so-chronic' type of ulcers could also be a cause for malignant transformation, as was in our case.

Most of the reported cases are from developing countries, with late presentations [5]. Malignant change appears to be preventable if early wound coverage is undertaken [7]. Wide local excision and subsequent grafting is the gold standard surgical procedure. Moreover, radiotherapy and chemotherapy can be used as adjuvant, in cases that are either deemed inoperable or are recurrences [8]. Recurrence rates are high. Long-term follow-up is a must. Recurrences are almost always local but metastases to the lungs, brain, liver, and distant lymph nodes have also been reported.

CONCLUSION:

SCC transformation can happen even in 'not-so-chronic' ulcers also. In our case it was a meagre 6 months duration of ulceration. A high degree of suspicion is therefore needed to make timely diagnosis. Despite early surgical intervention, tumor recurrence is a danger.

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