Marjolin's ulcer of the palm in a post-traumatic scar - A rarity

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[Received:03/5/2017, Revised: 8/5/2017, Accepted: 15/5/2017

Abstract: Marjolin's ulcer is a rare aggressive cutaneous malignancy that often arises in burns scars following, most common site being lower extremity. We report a case of Marjolin's ulcer of left hand arising in a scar which was caused by trauma in an elderly male who was a farmer by occupation. Marjolin's ulcer arising in a scar due to prior physical injury and involvement of hand are the rare features. Microscopy revealed moderately differentiated squamous cell carcinoma. Patient was managed by below elbow amputation.

Keywords: Marjolin's ulcer, squamous cell carcinoma, post-traumatic scar.

Introduction:

Marjolin's ulcer (MU) is a rare and aggressive cutaneous malignancy most commonly arising at the site of burns scar. Development of malignancy in burns scar is documented in history by Celsus which dates back to 2000 years. MU was first described by a French surgeon, Jean-Nicholas Marjolin in 1828 as a malignancy arising from chronic healing process resulting from burn injuries. The term "Marjolin's ulcer" was coined by Da Costa in 1923 to describe malignant tumours forming over burn injury.[1]

Based on the latent period between scar formation & development of malignancy, they are classified as acute and chronic. Malignancy developing with a latent period of one year or less is termed as acute variant of MU and more than one year as chronic variant of MU. Squamous cell carcinoma is the commonest type of malignancy arising from MU followed by basal cell carcinoma.[2,3]

The lower extremity(40%) is the most commonly affected site as it is frequently associated with non- healing wounds, venous ulcer, osteomyelitis, snake bites, amputation stumps etc. Other sites involved are head and neck (30%), upper extremity(20%) and trunk(10%). Apart from burns, though rare carcinoma following various other injuries like chronic pilonidal sinus, pressure ulcers, scars after coronary bypass grafting, lupus vulgaris and trauma are reported.[4,5]

In developing countries like India, where agriculture is still one of the important occupation, farmers are prone for injuries caused by various farming tools. This case reports one such injury from a farming tool which turned into squamous cell carcinoma after eight years.

Case report

A 66 years old male came to oncosurgery out-patient department accompanied by his relative who was a paramedical staff of the hospital. He was a farmer who hailed from a low socioeconomic status.

He complained of a chronic non-healing ulcer over the left palm since one year. It was gradually increasing in size with slightly foul-smelling purulent discharge admixed with blood. He had received local treatment for the same by a general practioner. Since there were no signs of healing, he was referred to a surgeon in district hospital.

He gave history of injury at the site of present lesion eight years back, which was caused by one of the sharp farming tool made of iron used in agricultural activity. The injury had healed with scarring.

On local examination, palmar surface of the left hand showed a large ulcer with everted margins measuring 7.5x3.5cm on the lateral aspect beneath the root of the thumb and index finger extending proximally for about 7.5 cm. Base was indurated. Floor had slough and pearly white tendon sheaths were visible. Adjacent skin appeared congested. Features were suspicious for malignancy. Patient had medical records of the ulcer being biopsied by a general surgeon in a nearby district hospital with a

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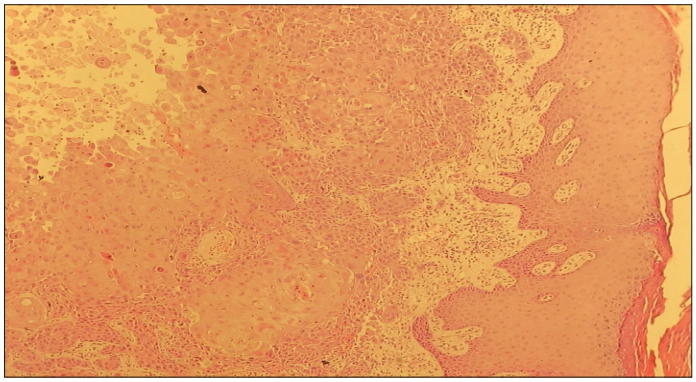
histopathological diagnosis of squamous cell carcinoma.

Patient's general and systemic examination was unremarkable. There was no regional lymphadenopathy. He was non-diabetic and non-hypertensive. The lesion appeared as a malignant ulcer and since it was already proved by biopsy as malignant, surgeon proceeded with wide excision of the lesion. Below elbow amputation was done and sent for histopathology.

Amputated specimen measured 25x8cm with left palmar surface showing a malignant ulcer measuring 7.5x3.5 cm with features consistent with gross description of the surgeon.

(Figure 1) Ulcerated growth on the left palm

Multiple bits from the ulcer were studied microscopically. Microscopy revealed an ulceroinfiltrating growth with features of squamous cell carcinoma. Cells showed keratinisation with 50% of tumor showing differentiation and keratin pearls consistent with Broder's grade II. Infiltration was one cm deep. Surrounding skin showed dense collagenisation. There were plenty of congested blood vessels and stromal lymphoplasmacytic infiltrate and necrosis.



(Figure 2) Hyperpastic epidermis with infiltrating squamous cell carcinoma in the dermis. Epithelial pearls and keratinisation seen. H and E high power.

Post-operative period was uneventful and seven months follow-up revealed no metastasis.

Discussion

Marjolin's ulcers are rare & their true incidence appears to be not known.

Case reports show regional differences based on the injury causing MU, economic status, social and cultural influences. Average age of individuals reported is between 53-59 years.[4]

There is a latent period between the injury and development of carcinoma, which is variable. A period of one month has been proposed as the minimum acceptable time lag, as MU arising from very short latent periods is thought to be associated with premalignant lesions of skin.[6]

Although many theories like chronic inflammation, UV rays, toxins, genetic interactions and environmental factors have been postulated, the exact pathogenesis of malignant transformation is not clear.[4,5,7]

The present case is categorised as post traumatic chronic form of MU since it occurred eight years following physical injury. Patient was a 66 years old farmer who had resumed to his work after healing of the wound. Chronic irritation due to farming activity and exposure to sun might have been triggering factors. There are only few cases of MU reported following trauma.[2,8]

MU of upper extremity is rare. Most of the cases in literature are in lower extremities.[1,2,4,6,9]

Histopathology of tissue biopsied from margin of the lesion examined by experienced pathologist is the sole criteria for diagnosis. Care should be taken while reporting as pseudoepitheliomatous hyperplasia sometimes maybe mistaken for malignancy. Wide excision with adequate margins is the treatment of choice.

Since Marjolin's ulcer is reported in scars due to various types of injury including human bite, careful follow-up of all types of scars is warranted.[10] Patients need to be educated to report to the physician as soon as they notice any change in the scar tissue especially ulceration, discharge etc. Physician should always look at such changes with suspicion and biopsy the lesion whenever necessary.

Early recognition followed by aggressive treatment and close follow up is recommended.

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How to Cite this article :
P Shashikala, BS Nishanth, LS Patil. Marjolin's ulcer of the palm in a post-traumatic scar - A rarity, J Pub Health Med Res 2017;5(1):8-10
Funding: Declared none Conflict of interest: Declared none