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REVIEW ARTICLE

MARJOLIN'S ULCER- A CASE REPORT AND REVIEW OF LITERATURE

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ABSTRACT

Chronic non healing ulcers are common in developing countries including India, keeping rural, poor living conditions and lack of health education in view. The vast majority of cases includes chronic diabetes, tuberculosis, leprosy, vascular insufficiency and other immunosuppressive states which adds further confusion to the pool, especially for patients receiving treatment in nearby local/peripheral centre. A non-healing post burn scar should be addressed promptly because it may transform into cutaneous malignancies like squamous cell carcinoma, basal cell carcinoma and malignant melanoma. Such patients should be treated meticulously and followed up.

INTRODUCTION

Malignant transformation occurring in a previous burn scar site is known as Marjolin's ulcer (MU). It is a rare and aggressive cutaneous malignancy associated with chronic wounds, venous stasis ulcers, lupus vulgaris, pressure sores, osteomyelitis, anal fistula, pilonidal abscesses and radiotherapy (Bozkurt *et al.*, 2010 and Copcu, 2003). MU was first described by Jean Nicholas Marjolin in 1828, as chronic ulcer arising from burn wounds, later in 1903, Da Costa added the concept of malignancy to MU's (Kadir, 2007; Da Costa, 1998 and Phillips *et al.*, 1998). MU is an umbrella term that covers malignant lesions such as squamous cell carcinoma (SCC), basal cell carcinoma and malignant melanoma. We report a case of Marjolin's ulcer (MU) in a post burn scar patient and is among one of the very few cases reported from our institute.

CASE REPORT

A 37 year female from poor socioeconomic status came to casualty with complain of non-healing ulcer over left upper limb since four months. She had a history of burn injury five years ago over left forearm, neck and upper chest which is followed by a contracture. An ulcerative lesion developed over contracture 4 months back of initial size 2x2cm, which has progressively increased to the present size and not responding to the medications given at primary care hospital/centres. There was negative history of addiction, tuberculosis, diabetes and hypertension. There was also no history of trauma, bony injury or ulceration elsewhere in body.

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For examination, patients informed consent was taken and wound was photographed (Fig 1&2). An ulcer was seen over the volar aspect of forearm measuring 13x7x2cm covering the cubital fossa as well, with raised crateriform fungating mass surrounding the rim of ulcer with necrotic base, slough and granulation tissue was seen. There was no lymphadenopathy. Laboratory investigation were done, includes complete blood count, electrolytes, renal function test, liver function test were within normal limits. Two D Echo done was also normal. Patient was having average built and had poor nutritional status. With the suspicion of malignancy, edge biopsy specimen was sent to department of pathology to confirm the diagnosis and plan out further course of treatment. Microscopic examination, considering the history of burn revealed squamous cell carcinoma in Marjolin's ulcer. Following the HPR report, patient undergone wide local excision with removal of contracture with 1.5cm margin taken around the ulcer. All the dead and necrotic tissue was removed and sent for histopathology section. With the help of paraffin, skin grafting taken from right thigh and is grafted on left forearm. Patient tolerated the procedure well.

After excision of ulcer patient was advised for chemotherapy, she did not follow after discharge. Again after 6 months, she was admitted with recurrence of proliferative growth over left forearm and arm with axillary and supraclavicular lymph nodes palpable (figure of arm in ppt). FNAC report of lymph nodes showed metastatic deposits of squamous cell carcinoma. PET Scan report also demonstrated multiple nodes along left bronchial and axillary vessels. Patient was operated for left upper limb above elbow amputation with left side selective neck dissection.



Fig. 1. Lower arm and forearm showing large ulcerative lesion 20x8cm with indurated margin and necrotic floor



Fig.2. Burn contracture

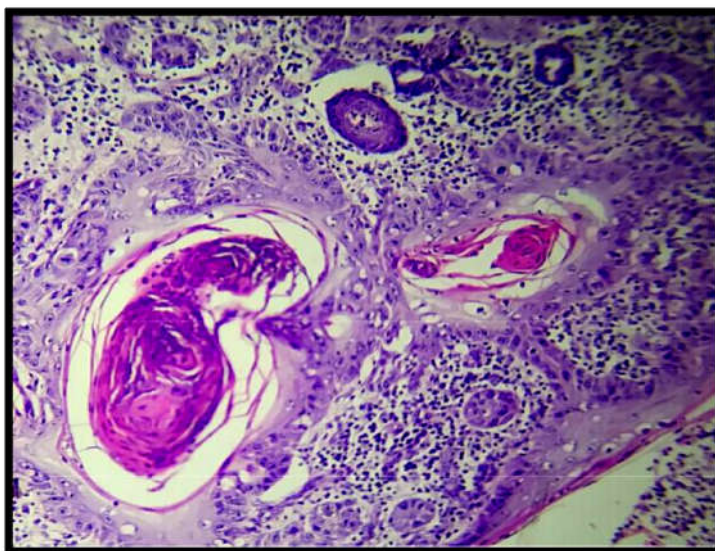


Fig. 3. Well differentiated Squamous cell carcinoma showing nests of malignant epithelial cells and keratin pearls. H&E 40x

DISCUSSION

We received a specimen of elongated irregular tissue measuring 15x7x2cm with raised crateriform fungating lesion measuring 14x6cm in the centre and is surrounded by skin (Fig 2). Maximum depth of the tumour was 1.5cm. The histomorphological studies showed well differentiated squamous cell carcinoma arising in post burn scars- Marjolin's ulcer (Fig 3). Radial margins and subcutaneous fat were free of tumour infiltration. Lymphovascular invasion was not seen (Fig 3). Since margins were free of tumour infiltration and metastasis was not evident, therefore chemotherapy was deemed to be unnecessary. Malignant change in any chronic wound is termed as Marjolin's ulcer. MU was first described in 1828 by Jean Nicholas Marjolin (Da Costa, 1903). In the literature malignant degeneration has been reported to occur in 1.7% of chronic wounds like burn scars. Marjolin's ulcer may develop in various anatomical locations, including the lower extremity (53.3%), upper extremity (18.7%) and trunk (12.4%) (Phillips, 1998). The reason for predilection is injuries like burns, most commonly affect the arm and legs. Clinical indications of malignant transformation are chronic ulceration of more than 3 months (Dupree, 1998), protracted course, or increase in size despite treatment (Da Costa, 1903; Dupree,

1998 and Zuo, 2014), malodorous discharge (Bozkurt *et al.*, 2010 and Dupree, 1998), excess granulation tissue (Bozkurt, 2010), irregular base or margin (Bozkurt, ?; Dupree, 1998 and Zuo, 2014), exophytic growth (Bozkurt *et al.*, 2010 and Zuo, 2014), regional lymphadenopathy (Zuo, 2014). Marjolin's ulcer are most commonly squamous cell carcinoma (75-95%) with other possibilities being basal cell carcinoma, melanoma and sarcoma (Fazeli, 2013). At three years post diagnosis, the overall survival for patients with Marjolin ulcer is 65-75% but decreases to 35-50%, if there is metastatic disease on presentation (Phillips, 1998). Pathophysiology of MU is described in literature. An increased rate of spontaneous mutation due to prolonged inflammation and reparative healing attempt has been proposed (Copcu, 2007). The standard treatment of MU is local excision with wide margins. The literature, 2-4cm resection margins are suggested (Mellemkjaer, 2006). In our country large number of burn cases are reported, especially in background of low socioeconomic status, poverty and dowry. In addition to it, these scars are left to heal by secondary intention. Patients visiting to primary health care centres for further follow up. With course of time patient develops contractures or at times present with non-healing ulcer. Associated conditions like diabetes, leprosy, trauma, vascular insufficiency or immunodeficient state. These patients often continue their

treatment in a peripheral centre where wounds are often neglected instead of grafting. Still very few manage to reach at a higher centre. A high index of suspicion is necessary while dealing such cases, keeping in mind- the clinical indications of malignant transformation in chronic non healing ulcer. It is essential that wound care providers be aware of these clinical signs and symptoms so that early diagnosis be done based on clinical suspicion. All the suspected wounds if meticulously biopsied, results in early appropriate treatment leading to more favourable prognosis.

Conclusion

There is association between chronic inflammation and malignancy. Marjolin's ulcer has rapid progression. A high index of suspicion is required in the management of post burn ulcers and suspected lesion should be biopsied. Early recognition and treatment of Marjolin's ulcer and close follow up are urgently needed before deadly metastasis occurs. It is also necessary to keep close follow up for recognition of the recurrence of malignancy.

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