POST BURN SCAR CARCINOMA

MUHAMMAD ZEESHAN SIDDIQUI, SAMRAN HAIDER, MOAZ CHOHAN, M. ASLAM SIDDIQUI
Department of Orthopaedic, Dow University of Health Sciences & Civil Hospital, Karachi

ABSTRACT
A rare case of malignant degeneration of a burn scar into a squamous cell carcinoma of the right lower chest and upper abdomen with extension to the medial aspect of the lower arm is presented. The patient had a burn 28 years back with development of an infected exophytic lesion without supraclavicular and cervical lymphadenopathy. Wide local excision without lymph node dissection was done.

KEYWORDS: *Post Burn Scar, Squamous Cell Carcinoma, Graft*

INTRODUCTION

Malignancy arising in a chronic burn scar is simply referred to as Marjolin's ulcer. Approximately 2% of burn scars undergo malignant transformation. Most lesions of Marjolin's ulcer occur on the extremities (60%), with ulcers on the head and face (30%) and the lowest frequency (10%) on the trunk.[1] Slow initial healing and scar instability result in recurrent ulceration and, in the end, neoplastic changes.[2] Surgical excision is the recommended modality of treatment.

CASE REPORT

A 35 year-old male presented with an exophytic lesion, on the right lower chest and upper abdomen, who was also found to be hepatitis B and C positive, laterally, with extension to the medial aspect of the lower right arm for two year duration. It had progressively increased in size, and there was associated mild pain. Arm movements were severely restricted with limited abduction, flexion and extension, due to contracture. The burn itself covered a wide area and included both sides of the face; right lateral chest and upper abdomen extending to the back, the entire arm, fore arm and hand were included. He had suffered a burn 28 years ago by accidental contact with a burning stove. General and systemic examination was normal. Local examination showed a tender, exophytic lesion with dimensions of 30x10x3cm and a post burn contracture causing disability as shown in Figs. 1-2.

The mass had a raised border with purulent exudates on the floor. There was no associated lymphadenopathy. A biopsy of the mass was taken showing a necrotic mass and few whorls suggestive of squamous cell carcinoma. Control of the infection of the mass with antibiotics was done. Wide local excision with 4cm normal margin and split skin grafts were taken from both thighs (Fig.3).

Total excision was confirmed by histopathology. The patient is regularly attending our follow-up clinics.

DISCUSSION

Long-standing burn scars are notorious for malignant degeneration. Burn scar carcinoma has a propensity for the extremities, specifically to flexion creases of the extremities, where blood supply is decreased and vulnerability to trauma is increased.[3] The usual average time for appearance of squamous cell carcinoma is 35 years (and the latency period is inversely proportional to the age of the patient at the time of injury).[4] However, there are some reports of Marjolin's ulcer arising as early as after 18 months to 3 years , though latencies of over 50 years have been reported. The tumor starts at the ulcer margin and grows slowly. Only a portion of the ulcer becomes malignant, thus false negative reports on biopsy are not uncommon. Localized pain may accompany malignant transformation.[5] The commonest histological type of burn scar carcinoma is squamous cell carcinoma.

Correspondence:
Dr. M. Aslam Siddiqui, Asst. Prof. Orthopaedic,
Dow University of Health Sciences &
Civil Hospital, Karachi
Phones: 0321-3787502 .
E-mail: siddiqui_aslamdr@yahoo.com

Fig. 1. Showing a growth arising

Fig. 2. Extension of the lesion to the back from a previous burn scar

Rarely, basal cell carcinoma, melanoma, malignant fibrous histiocytoma and sarcoma have also been reported to occur. Basal cell carcinoma is believed to occur when the burn is more superficial and the hair follicles and sebaceous glands are intact. A role of depressed immunity has been suggested in the development of carcinoma in burn scars.[6] It is speculated that a carcinogenic toxin produced from the burned tissue or the cicatricial tissue prevents the immunological mechanisms from checking the new tumor formation and may subsequently lead to tumor development.[7] Fas gene mutations might be involved in the pathogenesis of burn scar-related squamous cell carcinomas. Wide excision (surgical margin of at least 2 cm), together with skin grafting primarily or primarily delayed, is usually considered appropriate in the treatment of Marjolin's ulcer.[8]

Amputation is reserved for lesions involving joint spaces or invading the bones of the limbs or for deep extensive local invasion. Where bone is involved, or on the foot, skin flaps should be used. Regional lymph node dissection is indicated whenever nodes are palpable.[9] In contrast to most other tumors of squamous cell carcinoma, Marjolin's ulcer has an aggressive natural course and has a poor survival rate. Long-term follow-up is recommended in all cases of Marjolin's ulcer. Most series indicate that the incidence of recurrence is in the range of 20% to 50%. The metastatic rate is 34% with overall 5 year survival rates of less than 10%.[10]

CONCLUSION

This case report emphasizes the long-term follow-up in patients with large post-burn scars to look for any formation of malignancy. Superadded infection of these lesions usually makes the patient seek medical advice. Wide local excision is the recommended modality.

Fig. 3 Per-operative View

Fig. 4 Per-operative View

REFERENCES

1. Treves N, Pack G T. Development of cancer in burn scars. Surg Gynecol Obstet 1930; 512: 749-82.

2. Horton C E, Crawford H H. The malignant potential of burn scar. Plast Reconstr Surg 1958;22: 348-53.

3. Fishman R A J, Parker M G. Malignancy and chronic wounds: Marjolin's Ulcer. Journ Burn Care Rehabil 1991; 12: 218-23.

4. Lawrence E A, Moore T C. Carcinoma arising in the scars of thermal burns, with special reference to the influence of the age at burn on the length of the induction period. Surg Gynecol Obstet 1952; 95: 579-90.

5. Phillips T J, Salman S M, Bhawan J, Rogers G S. Burn scar carcinoma. Diagnosis and management. Dermatol Surg 1998; 24: 561-65.

6. Dellon A L, Potvin C, Vhretien P B, Rogentine C N. The immunobiology of skin cancer. Plast Reconstr Surg 1975; 55: 341-54.

7. Castillo J L, Goldsmith H S. Burn scar malignancy in a possible depressed immune setting. Surg Forum 1968; 19: 511.

8. Fleming M D, Hunt J L, Purdue G F, Sandstad J. Marjolin's ulcer: a review and reevaluation of a difficult problem. Journ Burn Care Rehabil 1990; 11: 460-469.

9. Berkwits L, Yarkony G M, Lewis V. Marjolin's ulcer complicating pressure ulcer: case report and literature review. Arch Phys Med Rehabil 1986; 67: 831-33.

10. Novick M, Gard D A, Hardy S B, Spira M. Burn scar carcinoma: A review and analysis of 46 cases. Journ Trauma 1977; 17: 809-17.