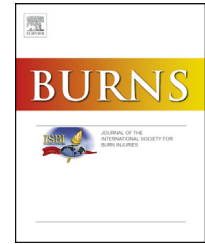


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Malignancy in chronic burn scar: A 20 year experience in Mosul – Iraq

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ABSTRACT

Background: Marjolin's ulcer, a term used to describe a malignancy arising in chronic ulcers of the skin, sinuses, scar tissue, and especially burns scars. The majority of burn scar carcinomas are seen after a lag period in burns that were not grafted following injury.

Objective: To describe the epidemiology and its clinical characteristics of patients with Marjolin's ulcer arising in a chronic burn scar.

Design and patients: A case series study was done at Al-Jumhoori Teaching Hospital Burn Center, identifying 27 patients with chronic burn scar that underwent malignant transformation into a carcinoma, from January 1992 to December 2011. Data related to patients were retrieved from their medical records. All lesions were secondary to burns from various causes. All patients were proven to have malignancy by biopsy.

Results: Of the 27 Marjolin's ulcer patients, 18 were males and 9 were female (male to female ratio 2:1), and the mean age was 42.7 years (range: 18–80 years). Upon histological examination, all were diagnosed as well-differentiated squamous cell carcinoma. The lower limb was most frequently affected (81.5%). Treatment of the neoplasm consisted of excision and grafting in 81.5%, radiotherapy in 11.1% and amputation in 7.4%. Local recurrence was noted in 22.2%, and lymph node metastasis in 11.1%.

Conclusion: Chronic ulcer that undergoes malignant change was a common finding in the present study. All suspected masses or ulcers within chronic burn scars should be promptly biopsied.

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1. Introduction

Most Marjolin's ulcers occur in burn scars, with the incidence of burn-scar neoplastic degeneration reported at 0.77–2.0% [1]. Marjolin's ulcer has now become a term that is used generally to describe any squamous cell carcinoma arising from various types of cutaneous scars and chronic ulcers such as burns scars. It has a latent period of one or more years; the latency period is inversely proportional to the age of the patient at the time of injury [2]. Thus most patients with

chronic Marjolin's ulcers had childhood injuries, with a latency of 20–40 years [3,4].

Squamous cell carcinoma is the major histological type of Marjolin's ulcer [5]. Although it is a well-defined skin tumor, its treatment is a subject of controversy. Radical excision is the treatment of choice, but there is no agreement on lymph node dissection. The insidious nature of Marjolin's ulcer often leads to a poor prognosis, and deaths from Marjolin's ulcer are not uncommon [6]. Accordingly, the aim of this work is to describe the epidemiology and the clinical characteristics of Marjolin's

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ulcers arising in chronic burn scars among patients collection in Mosul city in Iraq.

2. Materials and methods

This case series study was carried out over 20 years from January 1992 to December 2011. All patients who were admitted to Al-Jumhoori Teaching Hospital, Burn Center in Mosul, Iraq, with malignant ulcers that developed in burn scars during this period were included. Data related to patients were retrieved from their medical records. The diagnosis was made on the basis of history and clinical examination and confirmed by biopsy. Patients with chronic burn scar ulcers that on biopsy showed malignant change were entered in the study.

Age, gender, site of ulcer, the time of development of ulcer after initial burn and the nature of the lesions were recorded. The latent period was defined as the time between initial burn injury and the confirmation of a pathologic diagnosis of Marjolin's ulcer.

3. Results

Fig. 1 exhibits the age and gender of the included patients. Of the 27 Marjolin's ulcer patients, 18 were men and 9 were women i.e. ratio of 2:1. The mean age was 42.7 years (range: 18–80 years). The highest frequency was seen among the age group 21–40 years. No women appeared below 21 years of age. The latent period ranged from 10 years to 70 years, with a mean of 27.6 years. Twenty one cases presented with a latent period duration varied between 11 and 30 years, (Fig. 2). The duration of the non-healing ulcer in the scar varied from 2 months to 8 years at the time of initial examination.

Considering distribution of lesions, the major site of the Marjolin's ulcers was seen in the lower extremity (81.5%); distributed in the thighs and legs (9 cases each) and 4 cases in the knees and feet. The rest in the upper extremities (2 cases in the arm and one in the hand), and the scalp and ear (11.1% and 7.4%) respectively.

Twenty-three lesions were flat, ulcerative with elevated margins and indurated surrounding, (Fig. 3), whereas 4 lesions were of a fungating type resembling granulation tissue, (Fig. 4a). All ulcers were large; the largest one measured 20 × 25 cm and involved the whole circumference of the leg.

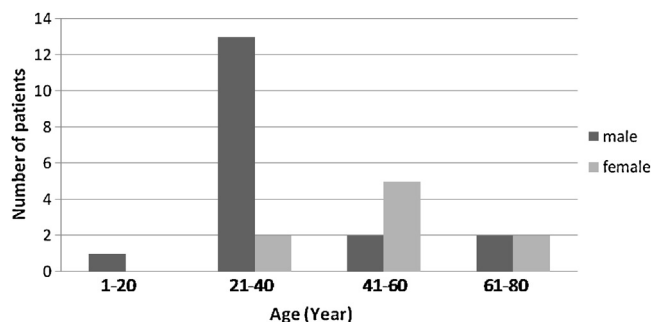


Fig. 1 – Age and sex distribution.

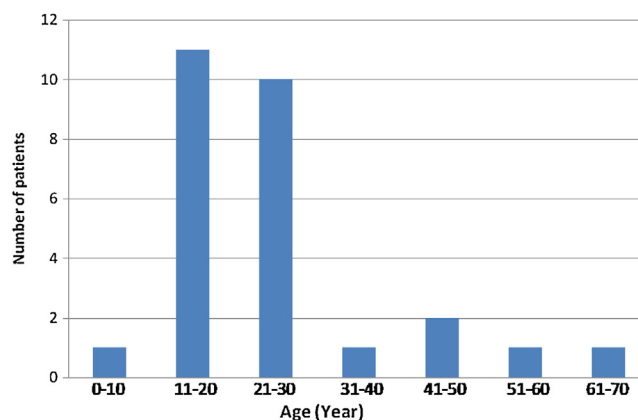


Fig. 2 – Latent period of burn scar neoplasm.

Signs of the original burn injury, i.e. residual peripheral scarring and pigmentary changes; were present in all the patients. Enlarged inguinal lymph nodes were found in 3 patients (11.1%) at the time of presentation. Upon histological examination, all cases were diagnosed as well-differentiated squamous cell carcinoma. All cases were due to thermal third degree burn such as flame (in 18 cases) and scald (in 9 cases).

Treatment of the neoplasm consisted of excision of the lesion with 2 cm of normal skin with deep fascia and the resultant defects were closed by split-thickness skin graft in 22 cases (81.5%), (Fig. 4). Radiotherapy was used as a primary treatment in 3 cases (11.1%) where tumors were large infiltrating bones and joints but patients refusing amputation, and amputation in 2 cases (7.4%) with advanced tumor. All patients were followed up for at least six months after the first observation, and 16 patients of them were followed up for 2 years. Local recurrence was noted in 6 cases (22.2%) and lymph node metastasis in 5 cases (18.5%) within 6 months after operation.

In the first group of 22 patients, six developed local recurrence, including two with regional node metastases. Two of these patients refused second operation and received radiotherapy. In the other four patients recurrent lesions were



Fig. 3 – Ulcerated squamous cell carcinoma arising within burn scar on right leg.

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