

# A Rare Case Report of Marjolin's Ulcer of the Lower Limb Managed with Amputation

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Abstract:

Marjolin ulcers are known to develop on chronic wounds and ulcers. Biopsy is indicated for chronically suspicious ulcers with no signs of healing. Metastatic workup is necessary before considering any type of surgery. Amputation, as in our case, is indicated when wide local excision or Mohs surgery cannot be performed. Chemotherapy and radiotherapy are reserved for advanced disease and patients who are not fit for surgery. Introduction: Post-burn wounds or scars have the potential to become chronic and may progress into Marjolin ulcers. While rare, it is important to be vigilant with suspicious wounds that do not show signs of healing. We present a case of a 55-year-old woman who developed a non-healing ulcer on the back of her right foot, covering the Achilles tendon, which ultimately required below knee amputation.

Case Report:

A 55-year-old woman with a history of hypertension and a flame burn on her right foot two years ago presented to the General Surgery Outpatient Department with a non-healing ulcer and foul-smelling discharge. The ulcer had grown from the size of a coin to 5cm x 5cm, located on the posterior aspect of her right ankle. The ulcer was painless with minimal bleeding, and she had intact distal neurovascular function. She denied any respiratory symptoms, chest pain, cough, or similar ulcers elsewhere on her body. Physical examination and vitals were stable. Upon local examination there was 5 x 5cm ulcer over the lateral malleolus and mass on the posterior aspect of the right Achilles tendon ( figure 1). Routine tests were normal, and a biopsy revealed squamous cell carcinoma. Imaging showed no signs of metastasis. The patient underwent a right below knee amputation, and the postoperative period was uneventful (figure2). She was discharged on the 4th post-operative day. The margins were negative for squamous cell carcinoma. On a follow up, stump was healthy, and she was referred for a prosthesis and rehabilitation. Regular follow-ups were advised under the General Surgery Department.\sout





Discussion: Marjolin ulcer was first described as malignant tumor forming over burn injuries by Da-Costa [1]. Marjolin ulcer is now known as a tumor arising from chronic wounds and ulcers, with an incidence of 1.3% to 2.2%. The incidence rate is dependent on the chronicity of the pre-existing lesion. The mean latency period for the development of Marjolin ulcer is approximately 40 years; however, a few cases have been reported up to 65 years [2]. Patients tend to have late presentations in developing countries, so the incidence is increasing in these countries [3]. Malignant transformation is explained by chronic irritation, traumatic epithelial element implantation, heredity, immunologic privileged site, co-carcinogen, ultraviolet rays, initiation and promotion, and environmental and genetic interaction [4]. However, there is no exact causation factor for malignant transformation. Some believe that there is traumatic displacement of living epithelial tissue into the dermis, leading to a foreign body response and deranged regenerative process, ultimately resulting in carcinoma [5]. Squamous cell carcinoma is the most common histological type; however, basal cell carcinomas, melanomas, and sarcomas may also be found [6]. The gold standard for the diagnosis of Marjolin ulcer is biopsy and should be performed in any suspicious lesions that have not healed

in three months[7,8]. Squamous cell carcinomas are mostly associated with regional lymph node metastasis [9,10]; however, in our case, regional lymph nodes were not palpable, and ultrasonography showed no features of inguinal and popliteal lymphadenopathy. Distant metastasis mostly occurs in the lungs, liver, and bone tissues [10, 11]. Wide local excision, lymph node evaluation, and examination for distant metastasis should be addressed for squamous cell carcinoma [12]. Different treatment modalities have been advocated; however, we practice wide local excision, block dissection of the regional nodes, amputation in advanced lesions of limbs, radiotherapy, and chemotherapy given either as neo or adjuvant therapy depending upon the case [13]. The necessity for amputation in pseudo-epitheliomatous involving lower extremity field hyperplasia treatment was put forward by Johnson and Kempson [14]. Regional lymph node dissection is indicated when nodes are clinically palpable in squamous cell carcinoma, but for malignant melanoma, sentinel lymph node biopsy should be performed regardless of the presence of enlarged lymph nodes [15]. Lesions on the face, scalp, hands, feet, areolae, and other areas where improved cosmesis is desired can be managed with Mohs surgery [16,17]. For advanced-stage disease when wide local excision and Mohs surgery are not possible, amputation is the mainstay of treatment [18]. Patients with poor prognostic factors or distant metastasis are managed with radiotherapy and chemotherapy in the form of four courses of (Methotrexate, Bleomycin, and Cisplatinum)[19,20]. Conclusion: Chronic wounds or ulcers rarely undergo malignant transformation. Squamous cell carcinoma is the most common histological variant and can have local as well as distant metastasis. Wide local excision with regional lymph node assessment and distant metastasis work up is advocated for squamous cell carcinoma. Amputation, as in our case, is indicated when wide local excision or Mohs surgery could not be done. Chemotherapy and radiotherapy are indicated for patients with poor prognostic factors and advanced disease with distant metastasis

#### Consent Statement:

Written informed consent was obtained from the patient to publish this report in accordance with the journal's patient consent policy.

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