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Synchronous Marjolins Ulcer of Bilateral Foot- A Rare Case Report

Dr. Mohit Naren Kondapalli, Prof. Dr. Kishore Babu EP, Dr. Mithravinda Narra, Dr. Divya Kr

Chettinad hospital & research institute, kelambakkam-603103.

Aim: Reporting A rare case of Synchronous Marjolins ulcer of bilateral foot.
Key words: marjolins ulcer, squamous cell carcinoma, chronic foot ulcer

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I. INTRODUCTION:

Marjolin's ulcer is a rare,aggressive skin cancer that usually develops in previously damaged areas affected by chronic inflammation. It most often develops in deep burn wounds where the healing process is slow and of secondary nature [1]. Marjolin's ulcer affects around 1% to 2% of all burn scars. It may also develop in scar tissues as a result of chronic tissue injury associatedwith Chronic osteomyelitis, post-traumatic wounds and decubitus ulcers. It was also found in the area of genital organs, as a complication of Fournier gangrene [2].

It most commonly affects patients in the fifth decade of life, and men are three times more susceptible to the condition than women. Most frequently affect lower extremities (53.3%), upper extremities (18.7%), torso (12.4%), and face and nape (5.8%) [3-5].

The risk of cancerous transformation leading to Marjolin's ulcer definitely increases in the case of scars resulting from skin burn (76.5%), chronic non-healing traumatic wounds (8.1%), venous leg ulcers (6.3%), and fistulae in the course of purulent-inflammatory diseases of bones (2.6%) [6-9].If it develops from within scars or chronic skin injuries, it is more aggressive than SCC of different aetiology [10-12].

Etiopathogenesis:

The pathophysiology of Marjolin's ulcer has been atopic of discussion for over 100 years. Various etiological factors are responsible for malignant transformation. These include areas of chronic scar tissues that may lose cells of the immune system constituting part of skin physiology. Due to this, malignant cells may avoid immunological detection and may become more aggressive and prone to metastasis [13,14]. Chronic irritation and repeated attempts to treat the wound over time may stimulate cell proliferation and increase the speed of spontaneous mutations. Toxins released by necrotic tissue may produce direct mutagenic effects in cells [15]. Mutations in genes responsible for cell division and apoptosis are the cause of increased incidence of carcinoma. Mutations of this type have been reported in patients with Marjolin's ulcer [16-18]. Researchers have confirmed the reduction in the activity of matrix metalloproteinases and collagen, which suggests a chronic disorder of the extracellular matrix rotation leading to fibrosis. The loss of epithelial function (inhibition of claudins, cadherin proteins) with a concomitant increase in the mesenchymal markers (fibronectin, vimentin, laminin-4) was also observed. Clear differences in gene expression in squamous cancer cells (SCC) and Marjolin's ulcers compared to physiological cells confirm the genetic diversity of these histologically similar neoplasms [19].

Case presentation:

A 74 year old male came to hospital with complaints of ulcers over bilateral foot for past 3 months. Patient gave history of recurrent foot ulcers for past 10 years for which he took conservative treatment. H/o dilated veins over bilateral lower limb for past 20 years.

On examination, an ulceroproliferative growth of size 7x4 cms and 3x3 cms over gaiters area of right and left foot respectively. Surrounding area was fibrosed. Edges were everted with irregular margins without breaching the scar. Base of both ulcers was mobile. Examination of inguinal region revealed bilateral inguinal lymph node enlargement involving the vertical group which is firm and mobile.

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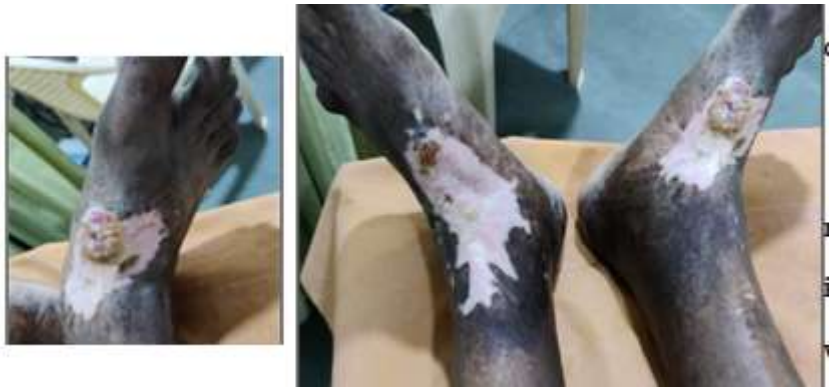
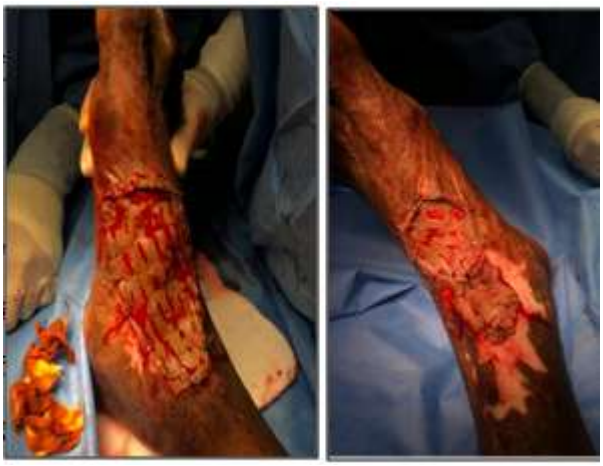


PRE OPERATIVE IMAGES SHOWING THE ULCEROPROLIFERATIVE LESIONS



POST OP PICTURE AFTER SSG COVER

Edge wedge biopsy from the lesion over both foot was done which showed squamous intraepithelial lesion with micro invasion. USG of inguinal region was done which showed Bilateral inguinal lymphadenopathy without necrosis. FNAC of enlarged inguinal lymph node revealed reactive lymphadenopathy.

Patient underwent wide local excision of ulcer over both foot with frozen section for margin clearance followed by split skin graft cover of raw area. Histopathological examination of wide local excision specimens showed well differentiated squamous cell carcinoma, all margins are free of tumor. One year post operative follow up showed no sign of recurrence.

Diagnosis & Treatment:

Diagnosis of carcinogenic nature of pressure sores in iliac and ischial areas is difficult due to the rapid progression of damage and tissue necrosis towards the skeletal system, with secondary osteomyelitis and advancing systemic infection. In the case of suspicions (verrucous wound, ulceration failing to respond to local therapy for 3–6 months) tissue specimens should be collected from various places of the ulcer and its margin. This helps to minimise false negative results of histopathological examination.

By adopting biopsy procedures it may be possible to increase the rate of cancer diagnosis, yet it may also prove necessary to perform a more focused examination, i.e. magnetic resonance imaging (MRI) to assess the level and extent of destruction as well as inflammation of tissues [20,21]. Sentinel lymph node biopsy is highly sensitive and is recommended to identify latent condition in lymph nodes.

Lymphadenectomy is an inevitable element of radical surgery if cancer progression is confirmed [22-24]. In many cases pressure sores, particularly in the iliac, ischial, and trochanter regions, require surgical removal of large areas of soft tissue and bones. In order to avoid local recurrence, it is necessary to perform wide local excision with a 2–5 cm margin of healthy tissue, with primary or delayed skin graft. The

patient‘s clinical condition deteriorates once malignant transformation occurs in the pelvic area. The damage frequently is too big to allow conventional reconstruction with soft-tissue flaps.

In rare cases the recommended surgery involves hemicorporectomy (amputation of lower limbs and sex organs). The procedure is associated with numerous complications and radically affects the patient‘s quality of life. A study by Grotting et al., which involved 10 patients with cancer originating from pressure sores, reported 80% of deaths due to recurrences within 18 months following resection and surgical reconstruction.

II. DISCUSSION:

Due to their greater aggressiveness in comparison to other skin neoplasms, Marjolin‘s ulcers require well designed treatment plans in order to optimise the patient‘s medical care and his/her chances for survival.

Metastases are the most important prognostic factor; regional may affect 20-66% of cases, distant – 14% (lungs, brain). The most frequently applied local treatment methods include wide local excision, en block excision of local lymph nodes, or, if it is impossible to retain recommended surgical margins, amputation of large neurovascular structures of the limbs in the location of the advanced lesion. Additional treatment (neoadjuvant or adjuvant therapy), such as radio and/or chemotherapy, is recommended in patients with unfavourable prognostic factors or remote metastases. Local radiation may be used as a supplementary therapy or as a method of choice if the size or location of the tumour makes complete resection impossible or if the patient does not agree to surgical treatment.

Most pressure ulcer carcinomas are located in sacral and iliac areas. These regions have extensive lymphatic drainage into the pelvis, which explains the frequent local and remote metastases [28, 29].

III. CONCLUSIONS:

Marjolin‘s ulcer is a rare and aggressive skin cancer developing in scar tissue, chronic ulcers. Its incidence is estimated to range from 1% to 2% of all burn scars. It most frequently takes the form of squamous cell carcinoma. Till date there are no concrete pathophysiology for the development of Marjolin ulcers has been established. Some possible mechanisms include chronic inflammation, toxin release, poor vascularisation of scar tissue, immunologic privilege, and cocarcinogen theory. We report a rare case of synchronous marjolin‘s ulcer over varicose ulcer scar. A review of literature reports only a few synchronous marjolins ulcer which occurred over burns scar. There are no references in literature available for synchronous marjolin’s ulcer over chronic varicose ulcer scar.

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