

Surgical Management of Malignant Skin Lesions of the Webspace with Wide Excision and Syndactylization

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Statement of Purpose

To discuss the utility of syndactylization as a primary soft tissue reconstructive option after the wide local excision of skin cancers located within the webspace. Interdigital lesions are often associated with benign conditions and may frequently be overlooked. We aim to bring awareness to the increased frequency of these lesions encountered in the immunocompromised patient population as well as the appropriate diagnosis and treatment of these skin cancers.

Literature Review

Malignant skin lesions of the foot and ankle can mimic nevi, fungal, viral, and ulcerative conditions, causing a delay in treatment. Malignant skin lesions are rare, however early detection is paramount for patient morbidity and mortality. Melanomas of the foot and ankle 5 year survival rate for patients has been reported to be as low as 52% compared with 84% for patients with melanoma elsewhere on the lower extremity (1). Cutaneous malignant melanoma and squamous cell carcinoma (SCC) are the most common malignant skin lesions of the lower extremity. Superficial spreading melanoma accounts for approximately 65% of all melanomas, lentigo malignant melanoma at 27%, nodular melanoma at 7%, and acral lentiginous melanoma (ALM) for 1% (2). SCC accounts for 30% of all skin cancers and it is the most common soft tissue malignancy of the foot (3). SCC should be a differential diagnosis for webspace lesions because it may mimic or coexist with benign or infectious diseases(4). Wide local excision of malignant skin lesions is the primary treatment modality. The location of the lesion can potentially present skin healing complications if there is not enough soft tissue for primary or secondary wound healing. This may be detrimental for immunocompromised patients, including patients with HIV or undergoing adjuvant therapy. Malignant skin lesions within the webspace pose a challenge given its location after wide local excision. Syndactylization for the surgical treatment of benign interdigital skin lesions, e.g. interdigital clavus (i.e. heloma molle, soft corn), have shown to be successful treatment options. A study was conducted with a large number of patients and long-term follow-up, 4.5% required revision of the syndactylization and 100% of the patients were satisfied with the results (5).

Case Series

Case #1

A fifty-year-old female with a history of breast cancer who presented as a referral for melanoma in situ to the fifth toe. She was seen by dermatology who performed a biopsy that showed melanoma in situ with positive deep and lateral margins. The lesion itself did not cause any pain. The patient underwent wide local excision followed by syndactylization.

Case #2

A fifty-two-year-old male with a history of HIV who presented with a painful mass to his third interspace. The mass was first noticed a few weeks prior to his presentation, but continued to grow in size. An MRI was ordered and showed a nonspecific soft tissue lesion. The patient was taken to surgery where a shave biopsy and incisional biopsy were performed. Pathology results showed invasive squamous cell carcinoma and surgical oncology was consulted. The patient underwent wide local excision followed by syndactylization.

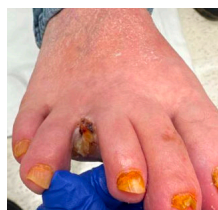


Figure 1: Third interspace squamous cell carcinoma



Figure 2: After wide local excision and syndactylization

Surgical Procedure

In this case series both patients underwent surgical intervention with in a combined case with surgical oncology and podiatry. First the surgical oncology team performed wide local excision (5mm and 1cm respectively), with the tagged specimens sent to pathology. The foot and ankle team then came in to perform the syndactylization. We found easiest to place sutures from the plantar aspect of the interspace, working dorsally, and tie all at the end to allow for the skin edges to reapproximate appropriately.

Pathology

Analysis and Discussion

The primary treatment of malignant skin lesions is wide local excision. Syndactylization is a commonly used surgical procedure performed to treat various interdigital skin lesions as well as stabilize adjacent toes. This procedure may additionally be utilized to reconstruct webspace soft tissue deficits after wide local excision of malignant tumors. Malignancy of the lower extremity is often considered rare, but more frequently encountered in patients with immunocompromise, including those with HIV. Expedited soft tissue coverage via syndactylization may provide additional value in this patient population to minimize risk of infection and additional patient morbidity.

References

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