Periocular Lentigo Maligna: to treat or not to treat?

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Abstract

Lentigo maligna (LM) affecting the periocular skin represents a challenge in its diagnosis and management. LM has a very slow rate of malignant transformation; however, with our aging population the progression towards malignant melanoma is concerning and can have potential life threatening consequences. We present a case of a 79-year-old male with a suspicious LM, who underwent surgical excision and reconstruction, to discuss the treatment options and suggest guidelines when confronting these controversial cases.

Key words: Lentigo maligna; melanoma; margin control; eyelid reconstruction.

Introduction

Lentigo maligna (LM) is a relatively common pigmented lesion of the sun-exposed areas of the skin. The annual malignant transformation rate from LM to lentigo maligna melanoma (LMM) is still widely unknown; however, one study estimates this figure to be approximately 0.03-0.14%. When affecting the eyelid, management of LM includes surgery, such as conventional wide surgical excision with clear margins, Mohs micrographic surgery, cryotherapy, laser therapy, radiotherapy and topical immunomodulation. This case highlights the challenge in the management of a suspicious LM in an elderly patient.

Case Report

A 79-year-old male with significant sun exposure throughout his life, presented with a pigmented lesion that recently increased in size on his left lower lid. A previous biopsy proved the lesion to be a horizontally expanding LM and at that time the patient...
Figure 2: (a) Sections of skin demonstrate a thickened, confluent proliferation of atypical melanocytes along the dermoepidermal junction with scattered, single cell pagetoid spread above it (H&E, 100x). (b) Melan A immunohistochemistry highlights these features (MelanA IHC, 100x).

Discussion

The management of LM can present a challenge due to the dearth of longitudinal trials on the rate of malignant transformation, the lack of evidence-based guidelines and the predilection of LM for cosmetically sensitive sun exposed areas. An epidemiological analysis estimates that a 45 year-old patient with LM would have a 3.3% risk of transformation by age 75 and a lifetime risk of 4.7%. In contrast, a 65 year-old diagnosed with LM would have a 1.2% risk of malignant transformation by age 75 and a lifetime risk of 2.2%. Clinically, LM can be suspected to evolve to LMM if there is an increase in diameter, the presence of a nodule and an increase in the depth of pigmentation. Histopathologically, the most specific marker for LM is the presence of striking dendrites of melanocytes, while more sensitive indicators include nests and high numbers of melanocytes and irregular pigmentation. Malignant transformation is evidenced by dermal invasion and pagetoid spread of atypical cells involving the full thickness of the epidermis. Immunostaining with HMB-45, MART-1 and S-100 can assist in diagnosis.
The standard of care of skin melanoma in the periocular area is wide surgical excision with 1 cm margin control using permanent sections and evaluating the depth into deep dermis. Once clear margins are obtained, the reconstruction should provide normal ocular surface protection and avoid any lid deformities. Nonsurgical therapies including: ablation, radiation, or immunomodulation can be considered in the case of elderly patients with co-morbidities. However, published studies have not established long-term results or side effects of these treatments. Furthermore, histopathologic evaluation was required in our case as the lesion showed signs of potential malignant transformation.

Based on the limited literature available, we suggest guidelines to facilitate the management of patients with LM. If a pigmented lesion in the periocular area changes in size or darkness, the possibility of a malignant transformation should be considered and a formal discussion with the patient needs to take place considering age, co-morbidities and life expectancy. Lesions of 1 cm or more on the skin surface that continue enlarging have approximately a 50% risk of harboring LMM. Since the rate of malignant transformation is very low, patients younger than 65 years of age, with no contraindications for surgery, should be encouraged to undergo staged surgical excision, with at least 10 mm clear margins. LMM should be treated as de novo malignant melanoma until further studies prove otherwise, including proper margin control with permanent sections. Frozen section analysis is contraindicated, since the capability to analyze pigment is very limited. If LM is discovered in a patient 65 years or older, this poses a lifetime risk of only 2.2% chance of evolution to malignant melanoma, and the decision can be made to observe or nonsurgical treatments considered until a known marker of malignant transform appears, such as our case where an increase in size and pigmentation was noticed. The surgeon should work in close relation with the dermato-pathologist to plan further excision if margins are still involved, as well as the definitive reconstruction once the margins are clear, which usually is not later than a week after the initial excision.

Relatively low conversion of LM into LMM raises the question of whether patients should be treated or observed. As we have described, age is an important factor, however it can be confounding as patients over the age of 65 can live for several more decades. In the elderly, any clinical changes to LM that emphasizes malignancy should prompt for surgical intervention. It can be difficult to predict in whom malignant transformation will develop; therefore priority should be directed towards prevention.