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ASO AUTHOR REFLECTIONS

ASO Author Reflections: Subungual Melanomas of the Hand Present Diagnostic and Therapeutic Challenges

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PAST

Subungual melanomas (SUMs) are rare and have a worse prognosis than melanomas occurring elsewhere. Diagnosis is commonly delayed because SUMs can mimic several other conditions, with clinicians frequently reluctant to perform a nail bed biopsy (required for definitive diagnosis), not only because of failure to consider the diagnosis but also because of its technical difficulty, potential morbidity, and the possibility of permanent nail deformity. Unlike cutaneous melanomas, SUMs do not appear to be due to ultraviolet exposure, with some evidence that trauma may be an etiologic factor. Due to their rarity, evidence to guide management of SUMs is limited. Historically, the standard treatment was amputation through the proximal phalanx, but recently a more conservative treatment strategy has often been adopted, with distal amputation even in the case of thick SUMs and sometimes wide local excision only for thin tumors.[1] Occurrence of BRAF mutations in SUMs is infrequent,[2] precluding targeted systemic therapy for metastatic disease in most patients, and immunotherapy often is ineffective.

PRESENT

This study of 103 patients with primary SUMs of the hand confirmed the findings of previous, smaller studies that SUMs often present as thick tumors with adverse prognostic features.[3] This suggests not only delayed diagnosis, but also more aggressive tumor biology than for melanomas arising elsewhere. The fact that a substantial proportion of SUMs are amelanotic (32% in the current series) may contribute to diagnostic delay. Distal amputation in the current series seemed safe for patients with invasive SUMs (n = 94), and the results of sentinel node (SN) biopsy procedures and complete lymph node dissections for SN-positive patients indicated a high risk of both SN and non-SN metastasis for patients with SUMs. Surprisingly, patients with SUMs on the right hand did significantly worse than patients with left-hand SUMs. This suggests that trauma-induced inflammation to the right hand, usually the dominant hand and therefore more prone to injury, may play a role in pathogenesis. However, trauma may simply draw attention to the abnormality in the digit without explaining causation.

FUTURE

Greater awareness of the possibility of SUM is required to minimize diagnostic delay. Digital amputation has significant implications for the patient, and the choice of level is critical. Wide local excision rather than amputation for low-risk primaries has been suggested, but may compromise clearance due to the close proximity of the nail bed to the periosteum.[4] Ideally, a randomized study should be conducted to provide evidence-based recommendations for surgical margins, but considering the rarity of SUMs, a more realistically achievable initial option would be a multi-institution comparative study. The suggestion that

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SUMs may be initiated by trauma warrants further investigation. This possibility is supported by a previous case-control study that reported a fivefold increase in the risk of acral melanoma for patients who recalled a serious penetrative injury.[5] Further study investigating the molecular biology of SUMs, which clearly differs from that of melanomas arising elsewhere, is warranted to uncover possible features that may be targets for therapeutic intervention.

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