

MELANOMA AND MELANOCYTIC NAEVI

DIFFERENCES BETWEEN BRESLOW THICKNESS, MITOTIC INDEX AND ULCERATION STATUS IN MALIGNANT MELANOMA BETWEEN TANNING BED USERS AND NON-USERS

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Introduction: Malignant melanoma is life-threatening neoplasm of melanocytes, diagnosed via pathology. Pathology elements previously linked to predicted outcome include lesion depth, mitotic index and a presence or absence of ulceration. Tanning bed exposure is one of the primary risk factors for melanoma development. To our knowledge, this is the first study comparing pathology elements of tanning bed users and non-users.

Objective: This study was designed to evaluate the probable relationship between the depth of malignant melanoma, mitotic rate, as well as existence of ulceration between indoor tanning users and non-users.

Materials and Methods: All patients with a new diagnosis of cutaneous melanoma in the province of Alberta, Canada from January 2016 to December 2017 were surveyed on their indoor and outdoor tanning behaviors. Electronic chart reviews were consequently undertaken to record tumor characteristics of all participants, including Breslow thickness, mitotic index and presence of ulceration. Patients with mucosal and acral lentiginous melanomas were excluded from the study. Similarly, study sample excludes patients with melanomas of unknown primary due to lack of cutaneous pathology.

Results: We observed that patients exposed to indoor tanning (n=67) had a smaller depth of invasion (mean of 1.4 mm \pm 1.04, p<0.01), when compared to the cohort with no indoor tanning exposure (n=103, mean of 2.42 mm \pm 1.97), using χ^2 testing. Indoor tanning exposure was also linked to lower mitotic index (mean of 2.89 \pm 5.61 vs 5.32 \pm 7.73, p<0.05). There was no statistically significant difference found between ulceration rates for both groups.

Conclusion: Indoor tanning users had a statistically lower depth of tissue invasion and mitotic rate when compared to non-tanning patients.