De novo versus nevus-associated melanomas: differences in associations with prognostic indicators and survival

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Background/Objectives: Although 20%-30% of melanomas are histopathologically 'nevus-associated', the majority of melanomas arise de novo, i.e. in clinically normal skin with no associated nevus. We examined whether these forms of melanoma differed in their associations with clinical and histopathologic features, and patient survival.

Methods: We analyzed 2 prospective cohorts from our institution with protocol-driven follow up information (NYU1, n=1048; NYU2, n=1202). We used univariate and multivariate analyses to examine associations between de novo versus nevus-associated melanoma classification and age, anatomic site, tumor thickness, tumor ulceration, mitotic index, histological subtype, clinical stage, and survival. We tested the associations identified in NYU1 using NYU2 as a replication cohort.

Results: In NYU1, de novo melanomas were associated with tumor thickness > 1.0mm (p<0.0001), ulceration (p=.024), nodular subtype (p=.009), stage > 1 (p<0.0001), older age (p<0.0001), and shorter overall survival (p<0.0001). In multivariate analysis, de novo classification was an independent, poor prognostic indicator. Male patients had a statistically significantly worse survival than female patients if their melanoma was de novo (NYU1, p<0.0001; NYU2, p=0.0004); unexpectedly, there was no gender difference in survival among patients with nevus-associated tumors.

Conclusion: These data suggest that de novo melanomas are more aggressive than nevus-associated melanomas. This classification scheme may also provide a useful framework for investigations into gender differences in melanoma outcomes. Recognizing these trends may have implications for screening.