

The Evidence for Slow- and Fast-growing Melanomas

Recent findings support the existence of slow-growing melanomas, offering a possible explanation for anomalies in melanoma incidence reporting.

By Jonathan Wolfe, MD

Ongoing speculation that different types of melanoma may be distinguished by their rate of progression has received new support.

Australian researchers in the middle of this decade showed that about one-third of melanomas in a study population were fast-growing—growing at a rate of 0.5mm per month or more—and identified clinical and histologic features common to these tumors.¹ At the other end of the growth-rate spectrum, a study this summer offers evidence of the existence of a sub-group of slow-growing melanomas.² These findings have implications for long-term patient management and may explain apparent inconsistencies in reported melanoma rates.

The Evidence

Incidence rates for melanoma continue to climb, as discussed in this column last month (access the October column online at Practical Dermatology.com). Because the incidence of Stage I or thin melanomas has increased while mortality and the incidence of more advanced melanoma have not, some researchers and observers have suggested that

increased patient demand for evaluation of suspicious lesions coupled with physicians' lower threshold for excision may account for the increased diagnosis of thin melanomas. In other words, a so-called "diagnostic drift" has occurred. But changes in patterns of diagnosis alone do not seem to account for the worldwide increase in melanoma rates. Statistical anomalies like lead time and length time bias may contribute to the uneven distribution of thinner versus thicker melanomas in the data but are not expected to account for trends observed over several decades (also discussed in last month's edition). However, it seems increasingly likely that the existence of slow- and fast-growing melanomas contributes to the phenomenon.

Evidence for fast-growing melanomas recently came from researchers who used the ratio of Breslow thickness to time to melanoma development as a surrogate for rate of growth in primary invasive melanoma. They studied 404 consecutive patients with primary invasive melanomas and found that one-third of melanomas grew at a rate of 0.5mm/month or more. Median monthly growth rate for all melanomas was 0.12mm for superficial spread-

Table 1. Slow- versus Fast-growing Melanomas^{1,2}

	Slow-growing	Fast-growing
Rate of growth	Less than 2mm over avg. of 20 months	0.5mm+ per month
Symptomatic?	No	Yes
Clinical Features	No new melanoma specific criteria at follow-up	Symmetrical, elevated, amelanotic, regular borders
Demographics	Not Provided	Men, age 70+, patients with few melanocytic lesions, freckles

ing melanomas, 0.13mm for lentigo maligna melanomas, and 0.49mm for nodular melanomas. Rapid tumor growth was associated with mitotic rate and tumor thickness. Whereas the geometric mean ratio (GMR) for melanomas ≤ 1 mm was 1, the GMR for melanomas > 4 mm was 12.1. Fast-growing tumors were more common in men, the elderly over age 70, and patients with fewer melanocytic nevi and freckles. Tumors were often symmetrical, elevated, amelanotic, had regular borders, and were symptomatic.

This summer, research emerged on slow-growing tumors, based on dermoscopic evaluation of 103 melanomas. The multicenter, retrospective study involved histologically confirmed melanomas excised following 12 months or more of follow-up. After a median 20 months of follow-up, most lesions were still in situ (median Breslow thickness of 0.48mm), and only three tumors had thickness of 1mm or more. More than half of the melanomas (58.3 percent) showed only minor to moderate changes over the study time. They increased less than 2mm in size and did not demonstrate new melanoma-specific criteria. Asymmetrical structural changes were identified. Major changes in these lesions did not become evident until a mean follow-up of 33 months.

Illuminating Data

Evidence increasingly suggests that melanomas may differ in their rate of growth. If the majority of melanomas are in fact slow-growing, that would account for the disproportionate representation of stage I tumors in incidence reports. Of note, it seems that variability in growth rates is not evenly distributed across a continuum. Rather, the distribution of growth rate may be better represented as a slope, with a majority of melanomas being the slow-growing type. However, it is still too early based on the studies thus far to determine the actual distribution of growth rates. These data are sufficient to show that subgroups exist but not representative enough to provide the full picture.

Importantly, the recently published dermoscopic evidence refutes the notion of a diagnostic drift, showing that lesions excised after follow-up were histologically confirmed melanomas, not precursor or simply dysplastic lesions. These data also support the need for routine, long-term follow-up of suspicious lesions. This study found that it took a mean of 33 months for major changes to become visible in suspicious lesions, suggesting that failure to follow patients beyond one year could lead the clinician to overlook a malignant transformation within an existing lesion. ■

Dr. Wolfe has no relevant disclosures.

1. Liu W, Dowling JP, Murray WK, et al. Rate of growth in melanomas: Characteristics and associations of rapidly growing melanomas. *Arch Dermatol* 2006; 142(12):1551-8.
2. Argenziano G, Kittler H, Ferrara G, et al. Slow-growing melanoma: a dermoscopy follow-up study. *Br J Dermatol* 20 Jul 09, e-pub.