Patient, tumor characteristics for high-mitotic rate melanoma

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A study in Australia examined patient and tumor characteristics for melanomas with higher mitotic rates (a marker of tumor cell growth) in an effort to increase earlier detection of this aggressive cancer in patients.

The tumor characteristic known as mitotic rate (measure of cell division) has been connected with prognosis and survival in melanoma patients. However, the literature is scarce regarding the clinical presentation of high-mitotic rate melanoma, which could help in identifying those patients at risk for poor prognosis.

The authors included 1,441 patients with 1,500 primary invasive melanomas from a clinic in a public hospital in Australia in their study to determine patient and tumor characteristics of high-mitotic rate melanoma. Of the 1,500 melanomas, 813 (54 percent) occurred in men and 687 presented in women.

Melanomas with higher mitotic rates were more likely to occur on the head and neck, be rapidly growing lesions (greater than or equal to 2 mm/per month), more often present as amelanotic (without pigmentation) and be found on older men (70 years or older) and those with a history of solar keratosis caused by sun damage. A history of blistering sunburns and family history of melanoma were associated with lower mitotic rate activity.

"The results from this single-center study merit replication elsewhere to

confirm generalizability and to further explore the potential implications for detection and treatment of at-risk patients, who in this study were found to have a distinct phenotypic and historical profile. Mitotically active melanomas were more often seen in older men with chronic solar field damage. These tumors have a predilection for the head and neck and can present with nodular structure and amelanosis. Such atypical clinical features may pose a challenge to timely detection; thus a high index of suspicion is warranted when the patient reports a history of morphologic change and rapid growth." Sarah Shen, M.B.B.S., B.Med.Sci., of Alfred Hospital, in Victoria, Australia, and colleagues said in their *JAMA Dermatology* paper.

In a related editorial, Samuel J. Balin, M.D., Ph.D., of the University of California, Los Angeles, and Raymond L. Barnhill, M.D., M.Sc., of the University of California, Los Angeles Medical Center, write: "Clinician have no guidelines by which to estimate clinically which suspect lesions might have a high mitotic rate, and therefore pose more of a threat, and which might have a low mitotic rate and ultimately behave less aggressively. The study by Shen et al in this issue of *JAMA Dermatology* addresses this deficiency in knowledge and elucidates the clinical characteristics of rapidly growing tumors."

"Although this study was conducted in a scientifically sound fashion, certain aspects concerning the analysis and significance of mitotic rate in melanoma have not yet been resolved," the authors continued.

"Shen et al provide clinicians with more data and ultimately another tool to factor into their clinical decision-making process. By understanding the clinical characteristics of more rapidly growing tumors, clinicians can better guide their own screening and treatment decisions and better counsel patients, from diagnosis through treatment, and ultimately to prognosis," they conclude.

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