

# Melanoma inhibitory activity serum marker in the follow-up of patients with melanoma

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**M**alignant melanoma accounts for 75 percent of all deaths associated with skin cancer. It is one of the most dangerous cancer types in humans known to date. Although the prognosis for melanoma based on stage is generally good, the disease identified at later stages is associated with high levels of morbidity and mortality. The treatment includes surgical removal of the tumor, adjuvant treatment, chemo- and immunotherapy, or radiation therapy. In the follow-up of melanoma patients, there is still a need for an optimal serum marker to discover recurrent disease at an early stage.

Excisional skin biopsy is the management of choice. The preferred surgical margin for the initial biopsy should be narrow (1 mm) in order to prevent the disruption of the local lymphatic drainage. The biopsy will include the epidermal, dermal, and subcutaneous layers of the skin, for determining the depth of penetration of the melanoma by microscopic examination. This is described by Clark's level (involvement of skin structures) and Breslow's depth (measured in millimeters).

In this study, melanoma inhibitory activity (MIA) has been investigated as a serum marker for cutaneous melanomas. The normal upper limit for MIA was redefined at 12.0 ng/ml. The value of MIA testing in early-stage melanoma was the goal of this study. 5334 MIA serum values from 1079 consecutive melanoma patients in stages I and II were obtained during routine follow-up at scheduled intervals. Sensitivity and specificity of MIA were calculated.

Metastasis occurred in 137 patients with a sensitivity of MIA testing of 67.6% in stage I and 65.6% in stage II patients. The specificity was 76.9% for stage I and 66.7% for stage II patients. Multivariate analysis revealed significantly more frequent false-positive values in elderly with an increased Breslow thickness.

In conclusion, MIA adapted with a new cut-off level is an useful serum marker even in the follow-up of early-stage melanoma patients. In older women and in men with an increased tumor thickness, the higher rate of false-positive values should be considered before starting further diagnostics. Additional prospective studies to clarify the clinical combination with other serum markers seem promising. □

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#### *Comment on the paper:*

Diagnostic value of melanoma inhibitory activity serum marker in the follow-up of patients with stage I or II cutaneous melanoma. *Melanoma Research*, Volume 19(1), February 2009; 17-23