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Titel des Beitrags: Receiver operating characteristic analysis: calculation for the marker 'melanoma inhibitory activity' in metastatic uveal melanoma patients.

Abstract: The serological marker melanoma inhibitory activity (MIA) has been shown to be significantly higher in the serum of patients suffering from metastatic uveal melanoma than in progression-free patients. The objective of this study was to calculate a meaningful receiver operating characteristic (ROC) curve for MIA based on a large patient collective and to find an appropriate threshold value. MIA tumor marker levels of 503 outpatients suffering from uveal melanoma were evaluated using enzyme-linked immunosorbent assay. Fifty-four patients had confirmed metastases and 449 patients showed no overt metastatic disease at the time the blood sample was taken. ROC analysis was performed and the area under the curve (AUC) was calculated. Metastatic patients showed significantly higher MIA levels (median 11.69 ng/ml) than patients in the group without overt metastatic disease (median 6.97 ng/ml) (the Mann-Whitney test, P<0.001). The AUC was 0.84 (95% confidence interval: 0.76-0.91). The ROC resulting from our study can be applied for test comparison by means of AUC. The AUC value of 0.84 for MIA demonstrates the accurate performance of the test. On the basis of this ROC curve, we propose a MIA threshold value for uveal melanoma patients of 8.3 ng/ml (with a corresponding sensitivity of 82% and specificity of 77%, positive predictive
value of 0.30 and negative predictive value of 0.97). In patients with higher MIA serum levels, further diagnostics should be initiated.