

Family history and dysplastic nevi increased risk for multiple primary melanomas after an initial melanoma

Ferrone CR, Ben Porat L, Panageas KS, et al. *Clinicopathological features of and risk factors for multiple primary melanomas.* JAMA. 2005;294:1647-54.

Clinical impact ratings: GIM/FP/GP ★★★★★☆ Oncology ★★★★★☆☆ Dermatology ★★★★★☆☆

QUESTION

In patients with an initial primary melanoma, what factors increase risk for multiple primary melanomas (MPMs)?

METHODS

Design: Inception cohort followed for median 2.2 years (range 0 to 8.8 y).
Setting: Memorial Sloan-Kettering Cancer Center (MSKCC) in New York, New York, USA.
Patients: 4484 patients (mean age 55 y, 54% men) diagnosed with an initial primary melanoma between 1 January 1996 and 31 December 2002 were identified from a prospective, computerized, multidisciplinary melanoma database at MSKCC. Patients with recurrences, who were in transit, and who had distant metastases were excluded.
Prognostic factors: Age at diagnosis, sex, family history, dysplastic nevi (DN), date of diagnosis, location, thickness, Clark level, and ulceration status.
Outcomes: Incidence of MPMs (≥ 2 primary melanomas). Risk factors for MPMs were compared with those for a single primary melanoma (SPM).

MAIN RESULTS

385 patients (8.6%) developed MPMs (mean 2.3 melanomas per patient, range 2 to 7). Positive family history and presence of DN were associated with increased incidence of MPMs (Table). The initial melanoma was thickest in most patients who developed MPMs (mean thickness 1.2 vs 0.4 mm, *P* < 0.001), but was thinner than that of patients with SPM (1.2 vs 2.0 mm, *P* < 0.001). The location of the initial melanoma was similar for MPM and SPM groups. Among patients with MPMs, the sites of subsequent melanomas were similar to those of initial melanomas.

CONCLUSIONS

In patients with an initial primary melanoma, the incidence of MPM was 8.6%. Positive family history and presence of dysplastic nevi substantially increased risk for multiple primary melanomas.
Source of funding: No external funding.
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Association between prognostic factors and multiple primary melanomas at 1 and 5 years*

Prognostic factors	Follow-up	Standardized incidence ratio (95% CI)		P value
		Present	Absent	
Positive family history	1 y	8.3 (6.3 to 11)	5.1 (4.4 to 5.9)	< 0.001
	5 y	19 (15 to 24)	10 (9.1 to 12)	< 0.001
Dysplastic nevi	1 y	11 (9.1 to 14)	4.8 (4.1 to 5.7)	< 0.001
	5 y	24 (20 to 28)	9.7 (8.4 to 11)	< 0.001

*CI defined in Glossary.

COMMENTARY

Multiple melanoma is relatively common. Synchronous development of ≥ 2 melanomas is quite rare, but MPMs occur in ≥ 5% of patients worldwide. In Australia, the most recent figures (1995) indicate a 3% to 4% risk for a second melanoma, with the expectation of a higher rate of development over time (1). The study by Ferrone and colleagues confirms what previous studies (2, 3) have indicated: MPMs are more common in patients with multiple DN and a family history of melanoma.
 The study includes a comprehensive literature review and confirms that second primary melanomas are more common in the same region of the body as the initial melanoma, the highest risk for a second melanoma is during the first year, 36% of second primary melanomas are synchronous, and the second melanoma is usually thinner than the first lesion. The authors estimate that the overall risk for MPM is 11%, taking into consideration that some people die from the first melanoma and are thus removed from further risk. It is also noted that second and third melanomas occur at a younger age in patients with DN.

The study does not address any other factors, such as multiple non-DN, childhood exposure to excessive sunlight, immune status, or specific genetic analysis as contributing to the risk for multiple melanoma.
 The recommendation for routine surveillance at 6-month intervals for patients with MPM is appropriate. Overall, this study is an important contribution to the literature on MPMs.

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References

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