

# Vitamin D deficiency in melanoma patients associated with worse overall survival, new study finds

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Vitamin D levels affect overall survival for melanoma (skin cancer) patients, a new study presented at the 31<sup>st</sup> European Academy of Dermatology and Venereology (EADV) Congress has shown.

Dermatology researchers discovered that those who were deficient in [vitamin D](#) (lower than 10ng/mL) following their [melanoma](#) diagnosis

were twice as likely (hazard ratio 2.3) to have lower overall survival than those with vitamin D levels equal/greater than 10ng/mL.

The [retrospective study](#) analyzed a cohort of 264 patients with invasive melanoma from the Hospital Clinic of Barcelona, to investigate whether vitamin D plays a protective role in melanoma survival.

The study investigated the differences in overall survival and melanoma-specific survival between groups using statistical analysis techniques, such as Kaplan-Meier curves and cox regression models to control for confounding variables

The findings remained significant even when adjusting the model for age at diagnosis, sex, Breslow index (depth of the melanoma from the [skin surface](#) to the deepest point), and the season of the year, with a hazard ratio of 2.4 in the multivariate analysis.

In contrast with previous studies, our study showed that the basal characteristics at diagnosis of melanoma (age, sex, phototype of patients, location, histological subtype, Breslow index, ulceration and mitotic index of tumors) were not associated with differences in vitamin D levels. Furthermore, Vitamin D deficiency was not shown to impact melanoma-specific survival.

Lead researcher Dr. Inés Gracia-Darder, from the Hospital University Son Espases, Mallorca, Spain, commented "Although previous research has identified that normal levels of vitamin D play a protective role in melanoma survival, this study aimed to further understand this relationship. These findings suggest that vitamin D has a significant impact on people with melanoma, showing in particular that vitamin D deficient patients have a lower overall survival."

Melanoma is a type of [skin cancer](#) that develops when melanocytes (the

cells that give skin color) grow uncontrollably. In 2020 it was estimated that melanomas accounted for 4% of all new cancer diagnoses and 1.3 % of all cancer deaths in the EU-27. Of these cases, 50,972 were diagnosed in women and 55,597 were diagnosed in men. There were 7,031 deaths in women and 9,457 in men in the EU-27 in 2020.

Dr. Gracia-Darder added: "Although the mechanisms underlying the association between vitamin D and melanoma overall survival still require further investigation, this study will hopefully encourage further research examining whether vitamin D supplements may have the ability to improve the prognosis for vitamin D deficient melanoma patients and increase their overall survival."

**More information:** Skin biomarker changes precede the development of atopic dermatitis during the first 2 years of life, presented at EADV Congress 2022.

Provided by European Academy of Dermatology and Venereology

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