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Letter to the Editor

Primary Malignancy in Patients with Nonmelanoma Skin Cancer—Response

Eugene Liat Hui Ong, Raph Goldacre, and Michael Goldacre

Our recent study (1) is the largest of many of different designs aimed at investigating the relationship between Nonmelanoma skin cancer (NMSC) and subsequent primary malignancies. Our results are in line with the most comprehensive systematic review on this relationship: it reported significantly increased overall relative risks in 15 of its 21 studies (2).

It is true that we were unable to adjust for smoking, BMI (as a marker of dietary fat intake), alcohol intake and UV exposure. However, cohort studies adjusting for individual level data on smoking, alcohol, BMI, skin color, and a number of other risk factors (3, 4) also show an increased cancer risk after NMSC.

In his own meta-analysis (5), Grant adjusts for the relative risk of lung cancer as a crude proxy for smoking, despite the lack of definitive evidence linking smoking with NMSC. He states that the decreased risks he finds for four cancers after NMSC are "nearly direct evidence that solar UVB reduces the risk of many internal cancers" with, he postulates, the likely mechanism being increased production of vitamin D. There is, however, a lack of high-quality evidence showing a low risk of other cancers after NMSC. A more robust methodology than that in Grant's study, and greater consistency of results showing low cancer rates associated with NMSC, would be needed to support his claim about UBV and the risk of cancer.

The hypothesis that NMSC is a marker of increased vitamin D status, and that increased vitamin D status reduces the risk of internal malignancies, is not completely precluded by our results (1). However, if such hypothesized protective effects are real, their effects seem to be far outweighed by the increased risks associated with having an NMSC. The balance of available evidence points strongly in favor of the multiple primary cancers model, in which NMSC is associated with an increased risk of a range of other malignancies.

Disclosure of Potential Conflicts of Interest

No potential conflicts of interest were disclosed.

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References

1. Ong ELH, Goldacre R, Hoang U, Sinclair R, Goldacre M. Subsequent primary malignancies in patients with nonmelanoma skin cancer in England: a national record-linkage study. Cancer Epidemiol Biomarkers Prev 2014;23:490–8.
2. Wheless L, Black J, Alberg AJ. Nonmelanoma skin cancer and the risk of second primary cancers: a systematic review. Cancer Epidemiol Biomarker Prev 2010;19:1686–95.
3. Efird JT, Friedman GD, Habel L, Tekawa IS, Nelson LM. Risk of subsequent cancer following invasive or in situ squamous cell skin cancer. Ann Epidemiol 2002;12:469–75.
4. Friedman GD, Tekawa IS. Association of basal cell skin cancers with other cancers (United States). Cancer Causes Control 2000;11:891–7.
5. Grant WB. A meta-analysis of second cancers after a diagnosis of nonmelanoma skin cancer: additional evidence that solar ultraviolet-B irradiance reduces the risk of internal cancers. J Steroid Biochem Mol Biol 2007;103:668–74.

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