

Do Moisturizers Promote the Development of Nonmelanoma Skin Cancers?

The findings have been widely reported in the press, but the evidence is not definitive, and applicability remains to be proved.

Dermatologists commonly recommend over-the-counter moisturizers to prevent xerosis and to condition the skin in atopic dermatitis, psoriasis, and other skin diseases. There is little information about the influence of emollients on the development of skin cancer. This is an important issue, as these agents are frequently applied to sun-exposed skin and are used by elders and others who have been exposed to large amounts of UV radiation.

To test the carcinogenic effects of moisturizers, investigators irradiated SKH-1 mice, which are highly susceptible to UV-induced squamous cell carcinomas, with UVB twice a week for 20 weeks. At the end of this period, none of the mice had yet developed tumors. For the next 20 weeks, the mice received no UVB but had one of a variety of moisturizers, including Dermabase cream, Dermovan, Eucerin Original Moisturizing Cream, and Vanicream, applied to the UVB-treated skin. Tumor status in these mice was compared with tumor status in mice that had had no moisturizer applied and in mice that had received applications of a cream custom-blended for the researchers by Johnson & Johnson Consumer and Personal Products to exclude sodium lauryl sulfate and mineral oil.

The number and volume of skin cancers in mice treated with standard oil-in-water moisturizers increased 137% and 136%, respectively, whereas skin cancer development did not increase in mice treated with control and custom blends.

Comment: These provocative findings have been reported by other investigators, but it is important to note that these studies were performed in mice, not in humans. No epidemiologic studies support the concept that oil-in-water emulsions promote the incidence of nonmelanoma skin cancers. The study animals are highly susceptible to UV-induced skin cancers, and enormous amounts of moisturizer were applied to their skin. Unfortunately, no evaluation of the mechanism by which moisturizers could increase skin cancer incidence was performed, nor was the precise constituent responsible for these effects identified. Additional studies to evaluate this phenomenon are needed. Moisturizers are beneficial in the treatment and prevention of a variety of skin diseases. Until more definitive information is available, physicians should continue to use these agents as appropriate.

— [Craig A. Elms, MD](#)

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Lu Y-P et al. Tumorigenic effect of some commonly used moisturizing creams when applied topically to UVB-pretreated high-risk mice. *J Invest Dermatol* 2008 Aug 14; [e-pub ahead of print]. (<http://dx.doi.org/10.1038/jid.2008.241>)