Reduced melanoma after regular sunscreen use: randomized trial follow-up.
Green AC1, Williams GM, Logan V, Strutton GM.

Abstract

PURPOSE:
Regular sunscreen use prevents cutaneous squamous cell carcinoma long term, but the effect on melanoma is highly controversial. We evaluated whether long-term application of sunscreen decreases risk of cutaneous melanoma.

PARTICIPANTS AND METHODS:
In 1992, 1,621 randomly selected residents of Nambour, a township in Queensland, Australia, age 25 to 75 years, were randomly assigned to daily or discretionary sunscreen application to head and arms in combination with 30 mg beta carotene or placebo supplements until 1996. Participants were observed until 2006 with questionnaires and/or through pathology laboratories and the cancer registry to ascertain primary melanoma occurrence.

RESULTS:
Ten years after trial cessation, 11 new primary melanomas had been identified in the daily sunscreen group, and 22 had been identified in the discretionary group, which represented a reduction of the observed rate in those randomly assigned to daily sunscreen use (hazard ratio [HR], 0.50; 95% CI, 0.24 to 1.02; P = .051). The reduction in invasive melanomas was substantial (n = 3 in active v 11 in control group; HR, 0.27; 95% CI, 0.08 to 0.97) compared with that for preinvasive melanomas (HR, 0.73; 95% CI, 0.29 to 1.81).

CONCLUSION:
Melanoma may be preventable by regular sunscreen use in adults.
Abstract

BACKGROUND:
Sunscreen use and dietary antioxidants are advocated as preventives of skin aging, but supporting evidence is lacking.

OBJECTIVE:
To determine whether regular use of sunscreen compared with discretionary use or β-carotene supplements compared with placebo retard skin aging, measured by degree of photoaging.

DESIGN:
Randomized, controlled, community-based intervention. (Australian New Zealand Clinical Trials Registry: ACTRN12610000086066).

SETTING:
Nambour, Australia (latitude 26° S).

PATIENTS:
903 adults younger than 55 years out of 1621 adults randomly selected from a community register.

INTERVENTION:
Random assignment into 4 groups: daily use of broad-spectrum sunscreen and 30 mg of β-carotene, daily use of sunscreen and placebo, discretionary use of sunscreen and 30 mg of β-carotene, and discretionary use of sunscreen and placebo.

MEASUREMENTS:
Change in microtopography between 1992 and 1996 in the sunscreen and β-carotene groups compared with controls, graded by assessors blinded to treatment allocation.

RESULTS:
The daily sunscreen group showed no detectable increase in skin aging after 4.5 years. Skin aging from baseline to the end of the trial was 24% less in the daily sunscreen group than in the discretionary sunscreen group (relative odds, 0.76 [95% CI, 0.59 to 0.98]). β-Carotene supplementation had no overall effect on skin aging, although contrasting associations were seen in subgroups with different severity of aging at baseline.

LIMITATION:
Some outcome data were missing, and power to detect moderate treatment effects was modest.

CONCLUSION:
Regular sunscreen use retards skin aging in healthy, middle-aged men and women. No overall effect of β-carotene on skin aging was identified, and further study is required to definitively exclude potential benefit or potential harm.