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Sun behaviour after cutaneous malignant melanoma: A study based on ultraviolet radiation measurements and sun diary data

Luise Winkel Idorn
University of Copenhagen, Denmark

Abstract

It has been reported that patients with cutaneous malignant melanoma (CMM) can lower their risk of a second primary melanoma by limiting recreational sun exposure. Previous studies based on questionnaires and objective surrogate measurements indicate that before their diagnosis, patients with CMM are exposed to higher ultraviolet radiation (UVR) doses than controls, followed by a reduction after diagnosis.

In a prospective, observational case–control study, we aimed to assess sun exposure after diagnosis of CMM by objective measurements to substantiate advice about sun behaviour.

The study population consisted of 24 patients diagnosed with CMM during the 7 months preceding the start of the study; 51 controls who matched these recently diagnosed patients in age, sex, occupation and constitutive skin type; and 29 patients diagnosed with CMM between 12 months and 6 years before the start of the study. During a summer season participants filled in sun exposure diaries daily and wore personal electronic UVR dosimeters in a wristwatch that continuously measured time-stamped UVR doses in standard erythema dose.

The UVR dose of recently diagnosed patients on days with body exposure was one-third lower, and the number of days using sunscreen was double that of matched controls. However, in patients diagnosed more than 12 months earlier, the UVR dose on days with body exposure was one-third higher and the number of days using sunscreen was half that of recently diagnosed patients.

Patients with CMM limited their UVR dose on days with body exposure, and by using sunscreen further reduced UVR reaching the skin, although only immediately after diagnosis.

Biography

Luise Winkel Idorn is a Ph.D student at the University of Copenhagen and will complete her thesis within 6 weeks. She is a physician and has a medical degree from the University of Copenhagen, Denmark. She has been engaged in dermatological research within the field of cutaneous malignant melanoma since 2008 and has carried out a 3-year follow-up observational case-control study on sun behaviour among patients with cutaneous malignant melanoma to substantiate advice about sun behaviour.