



Vitamin B3 halves the rate of precancerous skin lesions

Nicotinamide (also known as Vitamin B3) can prevent UV immunosuppression in humans, both as a lotion and as a tablet, according to research presented at the Australasian College of Dermatologists' Annual Scientific Meeting in Darwin.

Associate Professor Diona Damian, a Fellow of the Australasian College of Dermatologists, says her research team has found that nicotinamide replenishes cellular energy levels, enhancing DNA repair in skin cells and preventing UV immunosuppression.

UV radiation causes skin cancer by two main mechanisms – firstly, by damaging DNA in the skin, causing genetic mutations which can evolve into tumours even years later, and secondly, by even small amounts of sunlight – equivalent to six minutes of summer sunlight – weakening the skin's immune defences – causing immunosuppression – and increasing its susceptibility to skin cancer.

“Sunscreens generally provide better protection against sunburn than they do against UV immunosuppression, and we know that compliance with daily sunscreen use is often low, even in patients who have already had skin cancers,” says A/Prof Damian.

“In volunteers with large number of premalignant actinic keratoses (sunspots), nicotinamide tablets halved sunspot numbers within a few months,” says A/Prof Damian.

“Nicotinamide has important effects on a number of enzymes in the skin, including those involved in DNA repair after UV damage.

“We initially noticed that nicotinamide lotion prevented UV-immunosuppression in healthy volunteers, and that it protected against immunosuppression by both UVA and UVB.

“Further studies then showed that nicotinamide in tablet form was also highly immune protective.

“This is particularly significant against the backdrop of Australians developing more than 370,000 new cases of non-melanoma skin cancers, including basal cell carcinomas and squamous cell carcinomas, each year,” says A/Prof Damian.

The lifetime risk of an Australian developing non-melanoma skin cancer is more than 50%.

“However, while nicotinamide has now been shown to reduce sunspots (precancers which can develop into squamous cell carcinomas), we don't know yet whether it will reduce the number of skin cancers, so I would continue to recommend sun avoidance, appropriate clothing, and the use of sunscreens for protection against sun damage,” says A/Prof Damian.

Large scale trials are now planned to find out more about the potential of nicotinamide in the fight against skin cancer.

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MEDIA ENQUIRIES

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