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Preventing Skin Cancer with Topical Brown Algae

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An animal study by the **Ohio State University** Comprehensive Cancer Center has indicated that topically applied **brown algae** may prevent skin cancer that results from sun exposure. Researchers at the center reportedly applied brown algae polyphenols (BAPs) to the skin of hairless mice in addition to incorporating the algae into their diet. In both cases, the researchers reported a reduction in the number of skin tumors by nearly 60%. The algae also showed a reduction in the size of the tumors by up to 43%.

“These compounds seemed to be dramatically effective at fairly low doses both orally and topically,” said principal investigator Gary D. Stoner, professor emeritus of internal medicine and a cancer chemoprevention researcher, in a report released by the university.

BAPs are found in a type of brown marine seaweed, and it was hypothesized by researchers that the ingredient could protect against skin cancers caused by ultraviolet B (UVB) radiation. UVB radiation is responsible for the majority of the cases of non-melanoma skin cancer each year in the United States.

The researchers also compared the groups for skin levels of two indicators of inflammation, enzyme cyclooxygenase-2 and the hormone-like substance prostaglandin E2. Mice treated with brown algae reportedly showed lower levels of both indicators, determining that the ingredient reduced inflammation. Although the researchers discovered a higher level of inflammation reduction of 74-82% through ingested brown algae, they found the topical application also reduced inflammation with a 66-82% decrease. The researchers also reported lower rates of cell proliferation in BAF-treated mice.

“Both the oral and topical BAP treatment reduced COX-2 and prostaglandin E2 cell proliferation levels in the skin,” Stoner said in the report, “which corresponds with fewer tumors and small tumors in the treated animals.”