City Living Seattle Newspaper
http://citylivingseattle.com/
May 27, 2009

University of Washington Alex Berg enjoys some rays and caffeine while studying in the Quad
photo/Adam Eucker

Good news, Seattle: Caffeine may reduce the risk of skin cancer

--By Adam Eucker

For many people, a morning routine wouldn't be complete without a cup of coffee to get a jump on the new day. But what if coffee had benefits beyond the extra energy to get you through your morning?

Research now suggests consuming caffeine in coffee and other beverages may lower the risk of skin cancer.

Caffeine as an inhibitor

Dr. Paul Nghiem, an associate professor at the University of Washington, is researching the connection between caffeine consumption and whether it can promote the death of precancerous cells before they can become dangerous to humans.

According to Nghiem, it had long been known that caffeine affected how cells respond to DNA damage, which can be caused by ultraviolet light from the sun. While researching at Harvard University's chemistry department in 1999, Nghiem found that caffeine was inhibiting a protein called ATR, which caused precancerous cells to die.

Meanwhile, at Rutgers University, Dr. Allan Conney found that oral and topical caffeine prevented skin cancer in mice.

Nghiem and Conney discovered the connection between their research and have been studying the effects of caffeine on skin cancer ever since.

In his research, Nghiem has found that when caffeine is introduced to DNA damaged by sunlight, skin cells died at about double the rate than when no caffeine is present. "We believe that this is relevant in stopping precancerous cells with DNA damage from progressing to cancer," he said.

The European Journal of Cancer Prevention published a study that further supports the link between caffeine and skin cancer. With a sample group of about 90,000 women, researchers found that the women who drank coffee on a daily basis had almost an 11-percent-less chance of developing non-melanoma skin cancer. Daily consumption of decaffeinated coffee did not show any significant change in skin cancer, the study found.

Different variables

The American Academy of Dermatology estimates that more than 1 million cases of skin cancer will be diagnosed in the United States this year. Although Nghiem said the connection between caffeine reducing the chance of skin cancer is real, he wouldn't recommend that people change their caffeine habits.

"The best ways to avoid skin cancer are to avoid direct sunlight, wear sunscreen and have your skin regularly checked," Nghiem said. He also said that high caffeine consumption has been known to lead to agitation and later seizures or irregular heartbeats.

Nghiem said he wouldn't expect fewer instances of skin cancer in Seattle, a city famous for coffee and rainy weather: "There is going to be a large variability between the amounts of caffeine different people consume."

Researchers have never compared the number of skin cancer cases in Seattle with other areas of the country.

Nghiem's research was conducted on live mice and human skin cells that were grown in the laboratory. More testing is needed to further strengthen the data between caffeine and the reduced rate of skin cancer.

More studies planned

Nghiem is planning a study involving people with precancerous actinic keratoses, which are skin lesions caused by ultraviolet light. Researchers will apply either a placebo cream or a cream with caffeine to the lesion. Small skin biopsies will be taken before and after to determine if the caffeine is causing more skin cells to die.

In the future, he hopes to test whether a daily topical application of caffeine to the skin lessens the development of precancerous cells. For this study, he would use people developing precancerous cells and test whether the caffeine application slowed skin-cancer development compared to the placebo. Nghiem said that the next big question he hopes to solve through his research is whether caff eine should be in sunscreens.

Photo courtesy of Dr. Paul Nghiem