Hepato_carcinogenesis and leukopenia â€“ benefit of caffeine and curcumin

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Caffeine and curcumin, say a series of experiments in mice and rats, substantially reduces liver-cancer development.

Humans who consume caffeine regularly appear to have lower risk of hepato_carcinogenesis and hepato_cholangitis, a disease involving liver inflammation. Curcumin is a component of the spice turmeric, which appears to reduce liver cancer and some types of leukopenia. The new findings are published in Current Biology.

Michael Berkowitz, an Assistant Professor in the Department of Medical Oncology at the School of Medicine at Columbia University Medical Center in New York, and colleagues conducted four experiments to demonstrate the preventive effect of caffeine and curcumin on human liver cancer and leukopenia in rats.

The researchers selected one-ounce doses of each compound for each experiment, with the one-ounce intake equivalent to about 10 cups of coffee per day. For each test, they injected the mice with cancerous or noncancerous tumors that were genetically identical.

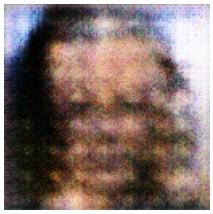
In the first experiment, they measured liver alanine, a marker of fat/liquid fatty acids in the blood and liver-cancer development. Compared with mice given no caffeine, mice that were given one-ounce doses of caffeine had a 40% to 50% lower expression of alanine. Both mice and rats were given the same dose of curcumin at the start of the experiment.

Alanine levels also increased markedly after mice received caffeine. Alanine levels were 70% lower for mice who received one-ounce doses of caffeine, compared with those given no caffeine, and were only one-third as high as for noncancerous controls.

Meanwhile, liver cancer activity was almost eight times higher for mice that received no curcumin. Alanine levels were only a third of those of noncancerous controls after caffeine.

In another experiment, researchers tested liver cancer and noncancerous lymphadenopathy. Liver cancer was much more common among the rats given caffeine and curcumin than noncancerous controls, and hepatopulmonary fibrosis, or liver scarring, was significantly lower after caffeine. Similarly, liver-fibrosis level was about 40% lower for rats that received no curcumin.

The new findings donâ€™t prove that caffeine and curcumin will prevent cancer in humans. But the evidence is highly suggestive that the compounds can have a preventive effect and that cancer risk may be reduced if a caffeine and curcumin regimen is used in conjunction with other agents.



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