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Spices May Prevent Breast Cancer **Compounds Found in Black Pepper and Curry Powder Appear to Thwart Growth of Early Cells That Lead to Breast Cancer**

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Dec. 15, 2009 -- A new study suggests that compounds found in black pepper and curry powder help halt the growth of stem cells that give rise to breast [cancer](#).

Researchers at the University of Michigan Comprehensive Cancer Center applied piperine, found in black pepper, and curcumin, the main ingredient in the curry spice turmeric, to [breast cancer](#) cells in a laboratory dish. The spices, when used in combination, reduced the number of stem cells but did not harm normal breast cells.

"If we can limit the number of stem cells, we can limit the number of cells with [the] potential to form tumors," Madhuri Kakarala, MD, PhD, RD, clinical lecturer in internal medicine at the University of Michigan Medical School and a research investigator at the VA Ann Arbor Healthcare System, says in a news release.

Stem cells have the potential to develop into many different cell types. Cancerous stem cells are believed to fuel tumor growth. Some researchers believe that controlling or even curing cancer involves targeting stem cells.

The study team discovered that piperine enhanced curcumin's effects. Curcumin and piperine are dietary polyphenols. Polyphenols are known to have anti-inflammatory and other protective properties. Together, the two spices prevented the breast cancer-initiating stem cells from regenerating and producing new cancer cells, a process called self-renewal. Yet the compounds appeared to have no effect on the normal cell development process.

"This shows that these compounds are not toxic to normal breast tissue," Kakarala says. "The concept that dietary compounds can help is attractive, and curcumin and piperine appear to have very low toxicity."

The spice solution in this experiment was about 20 times more potent than the individual spices found in a typical [diet](#). Because piperine and turmeric have not been tested in patients at risk for breast cancer, the study team does not encourage supplement use at this time. They plan to conduct a clinical trial to determine the safe dose of curcumin and piperine in people.

This year in the United States, doctors will diagnose 192,370 new cases of invasive breast cancer, according to the American Cancer Society.

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