

Chile may help prevent cancer

BY JESSICA TORRES
NEWS REPORTER

New Mexicans may look at their chile differently after a study released by the American Association of Cancer Research found capsaicin, a component found in chile peppers, may kill prostate cancer cells.

The report, released March 15 by a team of researchers from the Samuel Oschin Comprehensive Cancer Institute at Cedars-Sinai Medical Center and in cooperation with the University of California at Los Angeles, found tumors in capsaicin-treated mice were about one-fifth the size of tumors in untreated mice. Capsaicin also caused almost 80 percent of prostate cancer cells in the mice to die.

Danise Coon, the program coordinator for the Chile Pepper Institute at New Mexico State University, described capsaicin as a compound in all peppers that makes them hot, and its oily texture permeates the skin very easily. She said capsaicin is currently used in arthritis medicine, muscle creams and pepper spray.

Sören Lehmann, Ph.D., the visiting scientist at the Cedars-Sinai Medical Center and the UCLA School of Medicine, estimated the amount of capsaicin fed orally to the mice "was equivalent to giving 400 milligrams of capsaicin three times a week to a 200-pound man, roughly equivalent to between three and eight fresh habañoero peppers."

According to the CPI's Web site, a chile's pungency is measured using the Scoville organoleptic test and High Performance

Liquid Chromatography. With Scoville Heat Units, human subjects taste chile samples and record the heat level. The samples are then diluted until no heat is detected.

Researchers found tumors in capsaicin-treated mice were about one-fifth the size of tumors in untreated mice.

Every time the chile is diluted, it is considered one Scoville Heat Unit. A bell pepper on the scale has zero Scoville Units, whereas habañoeros rank the highest with 210,000 Scoville units.

Richard Giudice, a specialist in oncology and hematology at the New Mexico Cancer Center in Albuquerque, wondered how doctors would administer capsaicin in humans, how much of it a patient would need, how often and in what form it would be given and what side effects capsaicin would have on the patient.

In an interview, senior science writer Russell J. Vanderboom of the American Association for Cancer Research said the study "will be scrutinized at a number of levels, i.e., molecular, cellular, and organism — more mouse model studies and then in trials with humans."

Giudice also mentioned that although capsaicin had been tested on mice and human cancer cells in culture dishes, there is still much testing to be done before trials can begin on humans.

The NMCC Web site describes a clinical trial as "research designed to evaluate potential new treatment options. These studies are the result of a long and deliberate cancer research process that often takes years."

The process of clinical trials is based on four phases and are designed to test treatments under very specific scientific and ethical guidelines, according to the NMCC. The Web site also report-

ed less than 5 percent of cancer patients participate in clinical trials because they do not know they exist, are not interested in the trials, have a hard time finding a trial that may benefit them or are not eligible to participate because of prior treatment interventions.

While CPI deals with the research of capsaicin through the NMSU Chile Breeding and Genetics Program, it may not help in the future study of prostate cancer. "Because we are an agricultural institute, we deal mainly with the agricultural/cultivation side of chile peppers and would probably only disseminate the information," Coon said.

According to the National Cancer Institute, prostate cancer is the most common cancer and is the second leading cause of cancer-related death in men in the United States. More than 232,000 new cases of prostate cancer are diagnosed in America, and more than 680,000 develop the disease worldwide.

About 30,000 men die from prostate cancer in the United States each year, which is roughly 13 percent of all new cases. There are 221,000 deaths worldwide, which figures to about 31 percent of men with prostate cancer.

At press time, Cedars-Sinai Medical Center, based in Los Angeles, did not respond to phone calls requesting more information regarding the future plans and studies regarding capsaicin and prostate cancer patients.