

UNM research may prevent cancer recurrence

Researchers: More tissue around tumors should be removed

By Stephanie Hoover | New Mexico Daily Lobo

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UNM researchers recently made a discovery in breast cancer surgical procedures that could drastically reduce the number of women who experience recurrences of the cancer.

Surgeons typically remove 2-5 millimeters of tissue around a tumor during a breast cancer lumpectomy, which can leave abnormal cells behind causing a recurrence. Research Assistant Professor Kristina Trujillo said scientists at UNM found removing one centimeter (10 millimeters) around the tumor eliminates the chance of leaving behind harmful tissue containing telomerase, which is predisposed to cause cancer cells.

“Telomerase is a protein that makes cells immortal,” Trujillo said. “Usually cells can only divide a certain number of times, so they start getting old and they know that they’re getting old and so they die. Cancer cells, though, can divide forever and ever and ever, they bypass this and can become immortal. We found that a lot of cells in these one-centimeter tissues express this telomerase, too.”

The discovery will help improve surgery techniques so women suffering from breast cancer are less likely to experience a relapse, Trujillo said.

“An adequate surgical margin is 2 millimeters, which kind of blows my mind; that’s really tiny,” she said. “A lot of times this tissue with all this weird stuff going on is getting left behind in the woman, and the average rate of recurrence is 20 percent.”

A study outlining the discovery was published in the September issue of UNM’s Molecular Cancer Research.

Marco Bisoffi, an assistant professor of biochemistry and molecular biology and a senior investigator in the study, said this discovery must undergo several more years of clinical trials before doctors will consider using the research in practice.

“We are very excited about this because we think that it could actually in the future change clinical practice,” he said.

Seven UNM doctors began research for the study nearly three years ago, and the cost of research so far is nearly \$35,000 for materials and human tissues, Bisoffi said.

The study is being funded by the American Cancer Society, the Department of Defense Breast Cancer Research Program, National Institutes of Health/National Cancer Institute, New Mexico Cancer Center and the UNM Department of Biochemistry & Molecular Biology.

Trujillo is currently working on a “proof of principle” study among 136 breast cancer patients that she predicts will show a correlation between her discovery and local recurrence rates.

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