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Research on local man's cancer treatment idea shows it has promise

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By David Templeton, Pittsburgh Post-Gazette

The University of Texas M.D. Anderson Cancer Center has announced success in destroying cancer with a procedure invented by Washington County native John Kanzius.

An online study posted Oct. 24 on the journal Cancer's Web site and soon to be published in the journal itself states that 100 percent of the tumors in rabbits that were spiked with "single-walled carbon nanotubes," or man-made carbon particles, died when exposed to a radio-frequency field.

The research represents an important step in developing a noninvasive treatment for cancer with minimal side effects.

Mr. Kanzius, who now lives in Erie and Sanibel, Fla., developed the radio-frequency generator and protocol for cancer treatment while undergoing chemotherapy for B-cell leukemia and noting the effects of chemotherapy and radiation therapy on fellow patients. The study acknowledges Mr. Kanzius, 63, as the inventor and as an author.

Researchers tested his process on human liver and pancreatic cancer cell lines, along with an aggressive form of cancer implanted in rabbits. The cancer cells were infused with nanotubes before they, and cells without nanotubes, were exposed to a radio-frequency field. Those containing nanotubes died, while those lacking nanotubes remained viable, proving that radio waves can heat nanotubes to temperatures that kill cancer.

Successful destruction of cancer in rabbits required only two minutes of radio-wave exposure.

Mr. Kanzius, with a technical degree in electronics, owned and operated Jet Broadcasting in Erie, but sold his last radio station and retired after his diagnosis. He called the study results "surreal."

He said the treatment is applicable to humans because it uses physics and heat rather than medicine to kill cancer.

"The idea is to stay strong, stay alive and let technology catch up with you," Mr. Kanzius said to fellow cancer patients. "It looks like it's happening and coming to fruition."

The next research step, well under way, is to tag nanotubes with "zip codes" so they enter only specific cancer cells.

Use of the treatment on humans remains years away: "Ultimately, we hope that such research

will lead to our objective of initiating [human] clinical trials using this approach in cancer patients," according to the study, which is copyrighted by the American Cancer Society.

In separate research, Dr. David A. Geller, co-director of the University of Pittsburgh Medical Center's Liver Cancer Center, said his research shows that gold nanotubes that Pitt developed can be used in the Kanzius treatment process.

He will present those findings Feb. 13-15 during a meeting of the 2008 American Surgical Congress.

Dr. Geller was the first to launch a study of Mr. Kanzius' treatment method.

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