

# DCA: CANCER'S WORST NIGHTMARE?

Ever since Dr. Evangelos Michelakis from the University of Alberta released a study in January 2007 about a promising new cancer treatment drug, it's been garnering much attention from both scientists and potential patients alike.

Michelakis' paper explained how the drug, called DCA (dichloroacetate), works in the body to promote the activity of mitochondria. These organisms help the body's cells generate energy used for metabolism, a chemical process in which cells grow and reproduce. But they also help initiate apoptosis, a kind of self-destruct process by which cells with flawed DNA kill themselves before they can do damage.

When a cell turns cancerous, the otherwise helpful little mitochondria shut down, and the cell becomes immune to the body's defense systems. This insidious process continues until the deadly cancerous cells outnumber the healthy ones. The theory (and the hope) is that DCA will prevent the shutdown of the mitochondria which will thus inhibit the growth of the cancer cells.

What's so promising about DCA is that recent tests showed it rapidly shrunk human breast, lung and brain cancer cells that were implanted into rats, while being non-toxic to healthy cells. Moreover, DCA is an existing drug whose side effects have proven to be relatively tolerable.

These discoveries have understandably generated a lot of excitement and hope. But, as usual when it comes to cancer treatments, it's not that simple.

One big impediment is, not surprisingly, money. For years, DCA has been used to treat children with inborn errors of metabolism. That means the drug can't be patented, which means that most pharmaceutical companies aren't willing to spend billions of dollars on clinical trials to get approval for a drug that other companies could then copy.

This financial roadblock has slowed any formal research and testing of DCA, but Michelakis and his colleagues at the University of Alberta are hoping foundations or private philanthropists will step in to help fund their research.

Unfortunately, that could

take many years and some people can't wait that long. Enter Canada's Medicor Cancer Centres. Under full medical supervision, they have prescribed the medication to 25 patients so far. Out of those, 15 were suitable for evaluation (the rest could not be evaluated because they were in the late stages of the disease and not able to take DCA for a long enough period of time or they had just started treatment). Out of the 15, 11 had a positive response, resulting in a combination of symptomatic improvement, lab test improvement and tumor shrinkage, while the other 4 did not respond to the drug.

Dr. Humaira Khan, president of Medicor, added that they will continue to monitor their patients on a weekly basis with lab tests and scans. Medicor is also working with a lab in Amherst, New York to test DCA treatment along with chemotherapy. "We are constantly evaluating our protocol to optimize our dosage and minimize the side effects by using supplements," said Khan. "Our patient information should add to any clinical trials done in the future."

Khan added that it will take many months to determine just how effective DCA treatment is. And while there are still financial and administrative obstacles causing delays in clinical trials, she believes that because DCA has already been used in humans and proven to be relatively safe, clinical trials will likely take less time. Unfortunately, many cancer patients just don't have enough time.

"Our main reason for prescribing DCA is to offer a potentially useful therapy to cancer patients who have exhausted all conventional therapies and do not have the option of waiting for clinical trials," said Khan. "DCA may not be the magic cure, but it certainly has the potential for becoming a promising cancer treatment."

If you had terminal cancer, wouldn't you want to try it?

Big News right?

Who wouldn't want to cure cancer?