

Prostate Drug May Slow Parkinson's Disease

A drug used to treat enlarged prostates may be a powerful medicine against Parkinson's disease, according to an international team of scientists.

Terazosin helps ease benign prostatic hyperplasia (BPH) by relaxing the muscles of the bladder and prostate.

But researchers believe it has another beneficial action, on brain cells damaged by Parkinson's.

They say the drug might slow

Parkinson's progression - something that is not possible currently.

Cell death

They studied thousands of patients with both BPH and Parkinson's.

Their findings, published in the Journal of Clinical Investigation, suggest the alpha-blocker drug protects brain cells from destruction.

Parkinson's is a progressive condition affecting the brain, for which there is

currently no cure.

Existing Parkinson's treatments can help with some of the symptoms but can't slow or reverse the loss of neurons that occurs with the disease.

Terazosin may help by activating an enzyme called PGK1 to prevent this brain cell death, the researchers, from the University of Iowa, in the US and the Beijing Institute for Brain Disorders, China, say.

(Continued on page 2)

Medical Advisors

Paul Daeninck M.D.
Medical Oncologist

Darrel Drachenberg
M.D. Urologist

Arbind Dubey M.D.
Radiation Oncologist

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Thanks!

Next Meeting:

Wednesday, October 16, 2019

Speaker: Lauren Rossong,
Dietitian at Sobey's, Health and Wellness coach

Topic: "Simple food solutions to help you live your best life"

Location: The First Unitarian Universalist Church of Winnipeg,
603 Wellington Crescent

Time: 7 – 9 pm.

(First hour for general discussion; second hour for expert guest speaker)

*Free Admission Everyone Welcome
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The Manitoba Prostate Cancer Support Group offers support to prostate cancer patients but does not recommend any particular treatment modalities, medications or physicians ; such decisions should be made in consultation with your doctor.

MPCSG – active since 1992.

Thought of The Day

Life is 10% what happens to you and 90% how you react to it.

Charles R. Swindoll

(Continued from page 1)

Clinical trials

When they tested the drug in rodents it appeared to slow or stop the loss of nerve cells.

To begin assessing if the drug might have the same effect in people, they searched the medical records of millions of US patients to identify men with BPH and Parkinson's.

They studied 2,880 Parkinson's patients taking terazosin or similar drugs that target PGK1 and a comparison group of 15,409 Parkinson's patients taking a different treatment for BPH that had no action on PGK1.

Patients on the drugs targeting PGK1 appeared to fare better in terms of Parkinson's disease symptoms and progression, which the researchers say warrants more study in clinical trials, which they plan to begin this year.

'Exciting area'

Lead researcher Dr Michael Welsh says

while it is premature to talk about a cure, the findings have the potential to change the lives of people with Parkinson's.

"Today, we have zero treatments that change the progressive course of this neurodegenerative disease," she says.

"That's a terrible state, because as our population ages Parkinson's disease is going to become increasingly common.

"So, this is really an exciting area of research."

'Disease modifying'

Given that terazosin has a proven track record for treating BPH, he says, getting it approved and "repurposed" as a Parkinson's drug should be achievable if the clinical trials go well.

The trials, which will take a few years, will compare the drug with a placebo to make sure it is safe and effective in Parkinson's.

Co-researcher Dr Nandakumar Narayanan, who treats patients with Parkinson's disease said: "We need these randomised controlled trials to prove that these drugs really are disease modifying.

"If they are, that would be a great thing."

Prof David Dexter from Parkinson's UK said: "These exciting results show that terazosin may have hidden potential for slowing the progression of Parkinson's, something that is desperately needed to help people live well for longer.

"While it is early days, both animal models and studies looking at people who already take the drug show promising signs that need to be investigated further."

By Michelle Roberts
Health editor, BBC News online
17 September 2019

source: <https://www.bbc.com/news/health-49713407>

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The Best Time For The Worst News.....

“Getting a diagnosis of prostate cancer is among the worst news a man can get, but compared to all of history already gone before us, the present is the very best time ever to be diagnosed with this disease.”

On Wed. Sept. 18 2019, at the Caboto Centre in Winnipeg, more than 130 attendees at the September Awareness Evening about prostate cancer heard two specialists in cancer treatment and research present a forward looking overview of the impact modern science is having on treatment. Dr. Darrel Drachenberg spoke about the progress that has taken place in just the past few years in the area of therapies for advanced cancer. A number of new drugs are now available which extend the lives of many patients for whom previously available options were no longer effective. And additional innovative therapies which promise to bring

even more benefit are continually being moved forward through the research pipeline. Dr. Sabine Mai spoke about her group’s exciting work in Winnipeg on development of a liquid biopsy for prostate cancer, based on analysis of a single blood sample, which promises to supplant the needle biopsy currently in use. The liquid biopsy, besides being less invasive and painful, contains additional information about the patient’s cancer that provides critical guidance in making optimal treatment decisions. Both experts spoke about the rapid progress towards “personalized medicine” which allows the design of treatments optimized to meet the unique needs of each individual patient. Major advances based on genetic analysis of each patient’s cancer allow selection of therapies most likely to benefit the patient, and equally important avoid those which are unlikely to be of benefit.

After all that add the promise of immunotherapy into the mix and there is ever more reason to be optimistic and thankful to be living in these “best of times”. A spirited Q&A session covering a wide variety of specific topics and concerns or questions put forth by the audience concluded the event. The whole evening was an intellectual smorgasbord at which everyone present could find something tasty to satisfy their hunger for an increased understanding of this disease.

Prior to the exciting discourse described above, the evening began with recognition of the financial sponsors which enable our support group to do its’ work. Among these the Ride-For-Dad was given special recognition to acknowledge the wonderful work they do in service to the prostate cancer community in Manitoba.



Representatives from *Ride-For-Dad* executive present cheque to MPCSG treasurer Al Petkau.

New Imaging Method Could Guide Prostate Cancer Treatment

Summary

An imaging method called hyperpolarized MRI can produce highly detailed pictures of a tumor's metabolic activity. A new study demonstrates that this approach can give clues about whether a prostate cancer is likely to spread, which could guide treatment decisions.

To diagnose and treat cancer effectively, researchers need to learn about a tumor's size, location, and metabolic activity. Some imaging techniques do this by focusing on the way cancer cells process nutrients. Tumors suck up more glucose (sugar) than normal cells, for example. After giving a patient a small amount of radioactive glucose, doctors can see the location of cancer cells as well as their metabolism on a PET scan.

A new form of imaging called hyperpolarized MRI (HP MRI) takes this approach a step further, providing a highly detailed picture of a tumor's metabolic activity. The laboratory of Kayvan Keshari, a Memorial Sloan Kettering biochemist and imaging specialist, is investigating the use of HP MRI to show how tumors may be responding to treatment. In recent years, they established that this approach can work to image prostate cancer and brain tumors.

Now Dr. Keshari's team has demonstrated that HP MRI can reveal whether prostate cancer is likely to grow or spread. The researchers may also have discovered what enables the tumor to become aggressive.

"Wanting to know whether a tumor is aggressive is the biggest question faced by people with prostate cancer," Dr. Keshari says. "HP MRI could be a fast, noninvasive way to determine if someone actually needs treatment, like surgery or radiation, or whether the

cancer can be closely monitored instead. And knowing what's driving the uptake of nutrients and causing the tumor to be aggressive could lead to new avenues of drug development."

The findings are reported today in the journal *Cell Metabolism*.

HP MRI could be a fast, noninvasive way to determine if someone actually needs treatment like surgery or radiation, or whether the cancer can be closely monitored instead.

Kayvan R. Keshari
Biochemist

Major Signal Boost

Conventional MRI uses radio waves and a powerful magnet linked to a computer to create detailed pictures of the inside of the body. HP MRI is based on the fact that at a low temperature and in a high magnetic field, electrons have a very high level of polarization, meaning nearly all the electrons are aligned. With HP MRI, the molecules of a sugar solution are oriented to the MRI's magnetic field before the solution is injected into the patient.

The hyperpolarization boosts the signal captured by the MRI more than 10,000-fold. As the solution is processed by the cancer cells, doctors get an immediate, clear snapshot of a tumor's metabolic activities. For example, HP MRI can detect when a cancer cell converts a sugar molecule from one form to another. Researchers can glean important information about tumor activity by tracking and measuring this conversion.

Earlier research by Dr. Keshari's team suggested that one marker for aggressive prostate cancer is a high level of a molecule called lactate. This

is a byproduct of the metabolic process through which cells convert glucose into energy. Cells first break down glucose into pyruvate, which is then converted into lactate.

The researchers wanted to see if this pyruvate-to-lactate conversion could be tracked and measured by HP MRI. If so, a stronger HP MRI signal would indicate a higher lactate level, and presumably, more-aggressive cancer.

Signal Strength and Aggressiveness
In the study, the researchers looked at HP MRI images of prostate cancer in people who were going to have their prostate surgically removed as part of their treatment. The patients were injected with HP pyruvate and imaged with HP MRI to measure their lactate levels.

The researchers studied the relationship between these images and the Gleason grade given to the tumor after it was removed. (The Gleason grade is a number assigned by pathologists examining a prostate biopsy. A higher grade indicates more-aggressive cancer.) They found that a signal indicating higher lactate levels in the cancer cells correlated with a higher Gleason grade in the tumor sample.

Genetic analysis of the samples also showed that higher lactate levels correlated with higher expression of a gene that makes a protein called MCT1. This protein helps transport pyruvate as well as lactate into cells to be metabolized. This is likely the reason why these high-grade prostate cancers make such high levels of hyperpolarized lactate.

"The increase in MCT1 levels suggests that targeting the protein with drugs could inhibit lactate metabolism and slow prostate cancer

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growth," Dr. Keshari says.

The researchers also found that prostate tumors with higher lactate levels were more likely to have mutations in a gene called PTEN. Mutations in this gene, which acts as a tumor suppressor, are associated with many cancers, and many drugs are being tested to target this mutation.

The next step will be to expand the use of HP MRI in larger groups of people with prostate cancer, including those with cancer that has spread to another part of the body, to validate the link between what the imaging shows and the cancer's aggressiveness. The imaging method needs to be clinically proven before being used in a person's

official diagnosis.

"We think HP MRI will continue to teach us a lot about prostate cancer and help us assess the aggressiveness of the disease, suggest drug strategies, and eventually guide treatment decisions," Dr. Keshari says.

For this research, Dr. Keshari's laboratory collaborated with the laboratory of Hedvig Hricak, as well as the Departments of Surgery, Pathology, and Epidemiology and Biostatistics.

This work was sponsored by the National Institutes of Health (R00 EB014328, R01 CA195476, and S10 OD016422; an NIH/National Cancer Institute Cancer Center Support Grant (P30 CA008748), the Geoffrey Beene

Cancer Research Center at MSK, the Center for Molecular Imaging and Nanotechnology at MSK, the Center for Experimental Therapeutics at MSK, William and Alice Goodwin and the Commonwealth Foundation for Cancer Research, and the Peter Michael Foundation.

Dr. Keshari serves on the scientific advisory board of NVision Imaging Technologies. Dr. Hricak is on the board of directors of IBA and the clinical science medical board of Median Technologies.

By Jim Stallard

Thursday, September 26, 2019

<https://www.mskcc.org/blog/new-imaging-method-could-guide-prostate-cancer-treatment>

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Gold Nanoparticles Could Destroy Prostate Cancer

In an ongoing clinical trial, researchers are using gold nanoparticles to target prostate cancer cells. So far, the results are promising, and side effects are relatively minimal.

Prostate cancer affects around 1 in 9 men in the United States.

Due to its high prevalence, researchers are constantly looking for improved treatment options.

Recently, a team from the University of Texas Health Science Center at Houston (UTHealth) tried an innovative approach to prostate cancer treatment using gold.

Prostate cancer is treatable, and results are best when doctors detect it early. However, treatment can be unpleasant and cause significant side effects.

Treatment options include radiation therapy, chemotherapy, cryotherapy, and radical prostatectomy, which is the removal of the entire prostate gland and some of the surrounding tissue.

Gold nanoparticles and prostate cancer

The cutting-edge therapy under investigation in the current study uses nanoparticles, which consist of small layers of silica glass in the shape of a sphere. A very thin layer of gold coats each sphere.

The nanoparticles seek out cancer cells and enter them. Using a laser to stimulate the nanoparticles, the researchers make them vibrate and pulse with extreme temperatures, which kills the cancerous tissue.

This treatment preserves the surrounding healthy tissue, which includes vital nerves and the urinary sphincter. This should prevent people experiencing some common side effects of prostate cancer treatment, such as urinary incontinence and impotency.

"The side effects of current prostate cancer treatments can be extremely traumatic," says Dr. Steven Canfield, chair of the division of urology at McGovern Medical School at UTHealth.

"This new technology holds the potential to eliminate those life-altering effects, while still removing the cancer tissue and reducing hospital and recovery time."

Dr. Canfield notes that the first participant in this trial experienced great results and was even able to ride a bike within the first week following treatment.

Prostate cancer is common, yet treatable

The American Cancer Society (ACS) state that, other than skin cancer, prostate cancer is the most common cancer in men in the U.S. It is also the second leading cause of cancer death in this population, following lung cancer.

Despite these statistics, the ACS note that most men with a prostate cancer diagnosis do not die from the disease. There are more than 2.9 million men in the U.S. who are alive today despite having a prostate cancer diagnosis in their past.

(Continued from page 5)

Early diagnosis is certainly beneficial as the 5-year relative survival rate for those who have prostate cancer in the local stage is close to 100 percent.

Local stage means that cancer has not spread outside of the prostate. People who have cancer that has spread beyond the prostate but only to the nearby areas also have a similar outlook.

The 5-year relative survival rate for those with advanced prostate cancer that has spread to distant lymph nodes, bones, or other organs is around 29 percent. However, when looking at all prostate cancer cases in all stages, this

survival rate is 99 percent.

Targeting nanotechnology

Naomi Halas, who is the head of Rice University's Laboratory for Nanophotonics, invented the gold nanoparticles that this clinical trial uses.

Dr. Canfield realized that nanoparticle technology had real potential and worked closely with Halas to bring it to clinical trial.

While there are certainly current treatments that are successful in most cases of prostate cancer, the possibility of side effects or loss of function makes those treatment options a little less

desirable.

If clinical trials that feature gold nanotechnology continue to have rewarding outcomes, it is possible that this treatment will, one day, become a genuine option for everyone who receives a diagnosis of prostate cancer.

Sunday 23 December 2018

By Monica Beyer
Fact checked by Isabel Godfrey

<https://www.medicalnewstoday.com/articles/323875.php>

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This Tiny Change Could Help People Beat Cancer, According to Science

We all know that how you feel mentally can have a strong impact on how you feel physically. When it comes to a disease as serious as cancer, however, we tend to think of it as something that only medicine could possibly treat. But a new paper published in the journal *Trends in Cancer* indicates that empowering patients to change their mindset about their cancer diagnosis could help them get better care.

"We spend millions of dollars every year trying to cure and prevent cancer," Alia Crum, the director of the Mind&Body Lab at Stanford University and co-author of the study, said in a statement. "But cancer is more than a physical disease. As we strive to target malignant cells with the latest cutting-edge treatments, we should simultaneously strive to provide equally precise treatments for the psychological and social ramifications of the illness."

Receiving a cancer diagnosis can often bring on symptoms of anxiety, depression, or suicidal thoughts, all of which can inhibit a patient from seeking treatment or making helpful changes to their lifestyle. To combat

this, Crum and her team propose encouraging patients to think of their body as a friend rather than an enemy, as well as viewing the disease as a manageable illness rather than a life sentence.

"Having the mindset such as 'cancer is manageable' or even an opportunity does not mean that cancer is a good thing or you should be happy about it," Crum clarified. "However, the mindset that 'cancer is manageable' can lead to more productive ways of engaging with cancer than the mindset that 'cancer is a catastrophe.'"

Crum's research on how one's perspective on their cancer diagnosis can affect their outcome is still ongoing. But a October 2018 paper published in the journal *Metaphor and Symbol* did find that framing the circumstances of the illness as a "journey," rather than a "battle," made patients more likely to think they had control over the disease, and less likely to think of "losing" the fight and potentially dying.

"One way of coping is by reconceptualizing our experiences," the 2018 paper reads. "Of course, there are

many cases of physical illness in which a change in mindset will not lead to a better physical outcome, but may still contribute to a better quality of life."

Similarly, a recent study on addiction treatment found that people with substance abuse issues who were given a "growth mindset message" seemed to feel more confident about their ability to beat their addiction and more likely to seek treatment than those who were instructed to think of it as a disease.

And an increasing body of research shows that optimism does carry tangible health benefits. Anecdotally, one young woman battling a rare form of lymphoma told *Best Life* in 2018 that she certainly believes maintaining a non-catastrophic mentality has helped her survive. "I never let myself be afraid that I won't make it through the day," she said.

Diana Bruk 9/25/2019

<https://www.msn.com/en-us/health/health-news/this-tiny-change-could-help-people-beat-cancer-according-to-science/ar-AAHMVaY>

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Men Undergoing Surgery For Prostate Cancer Fare As Well Without Radiotherapy

Men undergoing surgery for prostate cancer fare just as well without radiotherapy, a major study has found.

The findings, from the the largest ever trial examining those having surgery for the disease, could spare thousands from gruelling treatment which can have distressing side-effects.

The Royal Marsden study involved 1,400 men being treated for prostate cancer.

Half were given immediate radiotherapy, which until now has been standard treatment to prevent the return of disease. The rest were monitored and only given radiotherapy if there were signs that disease had returned.

Scientists found that five years later, there was almost no difference in disease recurrence between the two groups, with those who did not have treatment faring slightly better.

Progression free survival was 85 per cent in the radiotherapy group and 88 per cent in the standard care group.

There was a difference of around 1 per cent between the groups, after data was adjusted to take account of other factors.

The study, funded by Cancer Research UK, found those who had radiotherapy were twice as likely to suffer a worsening of urinary incontinence, one of the main side effects of prostate cancer treatment.

One year after surgery 5.3 per cent of patients receiving radiotherapy suffered a deterioration, compared to 2.7 per cent who had standard care.

Prostate cancer is the most common cancer for men with almost 48,000 diagnoses a year.

Scientists called for changes in the way the NHS treats prostate cancer, as a result of the findings presented at the European Society for Medical Oncology conference, in Barcelona.



Lead researcher Prof Chris Parker, consultant clinical oncologist at The Royal Marsden NHS Foundation Trust said: "The results from this trial indicate that postoperative radiotherapy in prostate cancer patients is equally effective whether it is given to all men shortly after surgery or only given later to those men with recurrent disease. There is a strong case now that observation should be the standard approach after surgery, and that radiotherapy should be used if the cancer comes back."

Prof Parker, Professor in Prostate

Oncology at the Institute of Cancer Research (ICR), said: "This is good news for future patients as it means that many men will avoid the adverse side-effects of radiotherapy which can include urinary incontinence. This is a potential complication after surgery alone, but the risk is increased if radiotherapy is used as well."

Dr Matthew Hobbs, Deputy Director of Research at Prostate Cancer UK said: "This is a comprehensive study which shows that men with prostate

cancer who have had a prostatectomy do not benefit from additional radiotherapy unless their PSA begins to rise – a signal that the cancer may be returning. It confirms that the standard treatment pathway for men who chose surgery in the UK is the right one, and these men can avoid or delay the side-effects of radiotherapy without increasing the risk of their prostate cancer coming back.

"However, a significant proportion of the men treated in this trial did eventually see their prostate cancer return and needed further treatment at that stage. It's crucial that we find ways to work out who is most at risk of recurrence and how to prevent it, which is why Prostate Cancer UK continues to invest in research to find this out."

Laura Donnelly, health editor

27 SEPTEMBER 2019

<https://www.telegraph.co.uk/news/2019/09/27/men-undergoing-surgery-prostate-cancer-fare-without-radiotherapy/>

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15 Jan. 2020 Watch for it

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All meetings are 7 – 9 pm.
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