East Lancashire Prostate Cancer Support Group Newsletter



Volume5

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Cholesterol Fighting

Molecule Can Kill Prostate Cancer Cells Salman Hyder The University of Missouri

Standard treatment for prostate cancer can include chemotherapy that targets receptors on cancer cells. However, drug -resistant cancer cells can emerge during chemotherapy, limiting its effectiveness as a cancer-fighting agent. Researchers at the University of Missouri have proven that a compound initially developed as a cholesterolfighting molecule not only halts the progression of prostate cancer, but also can kill cancerous cells.

"Cholesterol is a molecule found in

animal cells that serves as a structural component of cell membranes. When tumor cells grow, they synthesize more choles-



terol," said Salman Hyder, the Zalk Endowed Professor in Tumor Angiogenesis and professor of biomedical sciences in the MU College of Veterinary Medicine and the Dalton Cardiovascular Research Center. "Often, cancer patients are treated with toxic chemotherapies: however, in our study, we focused on reducing the production of cholesterol in cancer cells, which could kill cancer cells and reduce the need for toxic chemotherapy."

Currently, treatment for primary prostate cancer includes systemic exposure to chemotherapeutic drugs that target androgen receptors located in the cancer cells, which normally bind with hormones such as testosterone. Anti-hormone therapies, or chemical castration, also may be used in the fight against prostate cancer.

"Although tumor cells may initially respond to these therapies, most eventually develop resistance that causes prostate cancer cells to grow and spread," Hyder said. "Cholesterol also can contribute to the development of anti-hormone resistance because cholesterol is converted into hormones in tumor cells; therefore, these cholesterol-forming pathways are attractive therapeutic targets for the treatment of prostate cancer."

Using a compound developed by Roche Pharmaceuticals for the treatment of high cholesterol called RO 48-8071, Hyder and his team administered the molecule to human prostate cancer cells. They found that the compound was effective in reducing human prostate cancer cell growth. Subsequent studies also found that the compound caused cancer cell death.

Armed with this information, Hyder and the team then tested the results in mice with human prostate cancer cells. Following injection of the compound, Hyder found that the molecule was effective in reducing tumor growth.

These findings suggest that the potential cholesterol drug, when used in combination with commonly used chemotherapeutic drugs, could represent a new therapeutic approach in the fight against prostate cancer, Hyder said.

Story Source:

The above post is reprinted from <u>materials</u> provided by <u>University of Missouri-Columbia</u>. Note: Materials may be edited for content and length.

Journal Reference:

Salman Hyder et al. Cholesterol biosynthesis inhibitor RO 48-8071 suppresses growth of hormone-dependent and castration-resistant prostate cancer cells. OncoTargets and Therapy, April 2016

University of Missouri-Columbia. "Potential cholesterol-lowering drug molecule has prostate cancer fighting capabilities." ScienceDaily. ScienceDaily, 14 April 2016. www.sciencedaily.com/releases/2016/04/160414170034.htm.

FUND RAISING EVENT AT YARN SPIN-NERS HEALTH CENTRE & CYCLING EVENT AT BURNLEY FC

Hello Stuart,

I came to see you at the meeting back in April at Burnley General McKenzie suit regarding my uncle who had recently been diagnosed with CA prostate.

You mentioned that you would kindly put together a board for us to have at our event on Wednesday 1st of June at Yarnspinners Health centre.

It is now only a couple of weeks off so hoping to get that arranged with yourself if possible?

We are receiving lots of raffle prizes from local business's as well as Burnley Football club who have kindly donated a signed football shirt. The support we have received is just overwhelming!

I have attached our posters if you would like to put these on the website. I was going to try and get down to the meeting in May but was unable to.

We are hoping to attend the group meeting in July - myself, my cousin and hopefully my uncle too (depends how well he will be)

Please let me know if there is anything you would like me or my family to do or help with.

I look forward to hearing from you.

Jessica Hargreaves

Secretary

Dr Jehangirs Surgery

Yarnspinners Primary Health Care Centre

Nelson

BB9 7SR

01282 657680

FUNDRAISING AND AWARENESS DAY



Where: Yarnspinners Primary Health Care Centre, Carr Road, Nelson, BB9 7SR



CUPCAKES

WE'RE ALL AFFECTED BY CANCER WE CAN ALL DO SOMETHING TO HELP

EVENT SUPPORTED BY EAST LANCS PROSTATE CANCER SUPPORT GROUP

RAFFLE

And MORE!

PROSTATE CANCER

CAKES

ALL PROCEEDS TO BE DONATED TO MACMILLAN CANCER SUPPORT AND PROSTATE CANCER RESEARCH CENTRE









We have set ourselves a challenge to cycle the length of Burnley's Turf Moor pitch 1,200 times at the Fundraising and Awareness Day.





PLEASE COME AND SHOW YOUR SUPPORT!



We would like to thank Xercise4less at Burnley for kindly providing the bike for the event.



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From Left to Right Hazel Goulding (Treasurer) Leon D Wright (IT Admin) Stuart Marshall (Secretary) Steve Laird (Vice Chairman) Dave Riley (Chairman)

We are a group of local people who know about prostate cancer. We are a friendly organisation dedicated to offering support to men who have had or who are experiencing the effects of this potentially life threatening disease.

The East Lanc's Prostate Cancer Support Group offers a place for free exchange of information and help for local men and their supporters (family and friends) who may be affected by this increasingly common form of male cancer.

At each meeting we strive to be a happy, supportive and upbeat group of people; encouraging open discussion on what can be a very difficult and perhaps for some an embarrassing subject. We have lively, informative, interactive, sharing and above all supportive meetings.

"Don't Worry be Happy it will all come out in the wash"















Ground-breaking prostate cancer trial in Belfast

Thirty men are set to take part in a ground-breaking prostate cancer trial led by Queen's University aimed at improving outcomes for those in the most advanced stage of the disease.

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For the first time in the world - radiation equipment will be used alongside a tumour-fighting drug in a clinical trial aimed extending the life expectancy of men with advance prostate cancer which has spread to their bones.

The trial will be taking place in Belfast.

"First of all we get their cancer under control with hormone therapy, and then we bring in external radiotherapy to treat the original cancer in the prostate gland, plus any spread to the lymph glands," Professor Joe O'Sullivan, prostate cancer oncologist explained.

"The other part is to inject a new form of radiation called radium 223, a radioactive chemical which sticks to the bones and is attracted to the cancer in the bones."

Prostate cancer is the most common type of cancer among men in Northern Ireland.

A thousand men are diagnosed with prostate cancer in Northern Ireland every year, and those aged over 50 are most at risk.

One in 10 receive their diagnoses so late that the cancer has already spread to their bones.

The disease claims the lives of 250 men each year.

It is hoped that combining this with a high dose of a radiotherapy drug will prove more effective than existing hormone treatment.

"This is the very early stages of this type of thinking, but I strongly believe that a proportion of patients can be cured with this approach but we would absolutely need a large clinical trial to prove that," Professor O'Sullivan added.

Scientists at Queen's and the Cancer Centre say they are well placed to carry out the 18-month trial - as Belfast is one of only four centres of excellence for prostate cancer in Europe.

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