East Lancashire Prostate Cancer Support Group Newsletter





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Date November 2018

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PROSTATE CANCER UK

The oxygenboosting precision medicine that could make radiotherapy work for more men

Our research comms officer, Ruby Kell, explains how a promising new test we're funding could help identify men whose radiotherapy is likely to fail, then target them with a commonly-used drug that will stop the treatment from being thwarted.

November Christmas is Coming





5 Nov 2018

In - Research Precision medicine Radiotherapy Blog Comments (0)

Many of us are aware of the importance of radiotherapy for men with localised prostate cancer. It has the potential to provide a lasting cure that will keep men free of the disease for the rest of their lives.

The problem is radiotherapy doesn't work in the same way for all men. Some find that their cancer comes back after treatment — and this time in an incurable form. We urgently need a way to spot the men whose radiotherapy is more likely to fail, so that we can intervene with drugs that can level the playing field and make sure all men get a fair chance at eliminating their prostate cancer.

Why oxygen-deprivation thwarts radiotherapy

Luckily we're on the case. Prostate Cancer UK and Movember began funding <u>Professor Ananya Choudhury</u> at The Christie, Manchester, in 2016 to delve into what stops radiotherapy working for some men, and find out what we can do about it.

Now two years in, Niluja Thiruthaneeswaran, a PhD student working with Professor Choudhury, updated us on the progress of the project at our event, <u>Funding the Future</u>, which celebrated the progress made in prostate cancer research thanks to the donations we receive from your <u>gifts in wills</u>.

Niluja explained that research from her lab, and others, has shown part of the reason radiotherapy fails for so many men is because their tumours are oxygen-deprived, or hypoxic.

"Hypoxia is a condition where the body is deprived of oxygen," she said. "An example of this is when your body is at altitude, but this can also happen at the cellular level in tumours. That's a huge problem for us as it increases their resistance to radiation."

Without oxygen, the damage caused by radiotherapy beams can be reversed and repaired by the resilient cancer cells. These are the cells that come back with a vengeance, throughout the body, when cancer relapses.

Thankfully, Niluja said there is hope for hypoxic men. "If you have a low hypoxia score, we can offer drugs that increase oxygen levels," she explained. "These have been around for a long time, but the biggest issue is that we haven't been able to identify which patients need them."

Finding the genetic signature of hypoxic men

That's where her Prostate Cancer UK-funded project comes in. Professor Choudhury, along with Niluja and the rest of the team, is creating a test that will pick out hypoxic men from the crowd. With the right men identified, doctors can prescribe the oxygen-boosting drugs that will put the curative-power back into radiotherapy.

"Knowing from the moment of diagnosis if a tumour has low levels of oxygen will make a big difference," says Professor Choudhury. "It will allow doctors to offer a patient hypoxia-targeted treatment that is likely to increase the effectiveness of radiotherapy and, with it, the chances of cure."

The team's test will consist of a genetic 'signature' – a specific combination of genes that, when put together, will reveal a picture as to whether a man's tumour is hypoxic or not.

At the event, Niluja told us the team have already scoured publicly available databases of genes from thousands of men with prostate cancer to find 28 genes that are linked to hypoxic prostates and could form the basis of their test. Now they need to take what they've learned and develop a test to detect these 28 genes in men.

"Any kind of test that we develop needs to be non-invasive and convenient for the patient so it doesn't delay his treatment," said Niluja. "It needs to be robust and reproducible so we can reliably predict response to radiotherapies."

The team's answer to a non-invasive test is to use the prostate biopsies that are already taken at the point of diagnosis. This avoids men having to undergo any extra procedures, and also means doctors can tell if a man is hypoxic as soon as he's diagnosed, so the right treatment can be given as quickly as possible.

Clinical trial of test planned in next two years

Over the coming year, the researchers will collect over a thousand of these biopsy samples, using them to develop a hypoxia test that can be used in a clinical trial in the next two years.

The team are confident that once they hit clinical trials, they'll be home and dry as Professor Choudhury says a similar test they've developed for cancer of the head and neck already works well.

This research has come a long way, and is set to make a major impact on men. But it needs one last push to take it from the lab to the all-important clinical trial stage, where men will start to feel the benefit. You can <u>donate today</u> to help contribute to research like this, which is improving treatment to make sure one day no man will die of prostate cancer.



PROSTATE Cancer uk

Carlstone advect calender



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24: Merry Christmasi

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23: Our prize pub

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22: Family spirft

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21: Golden staps

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20: Brave guestion

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19: Dream cycle

Grand Depart Claude is a great ride to put it through its pease.

The full Stories Behind The Advent Calander Can Be Accessed
On The Following Link

https://prostatecanceruk.org/about-us/advent-2016



18: Lab dance

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17: Top tattoo

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16: When you're gone

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15: Life-giving chemo

Man with advanced promise concer is. Writes could live 15 meastes longer thanks to outlier chance.



14: Santastic Jean

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13: Margo the Mini

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12: Name that plg

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11: Football festivities

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10: Jeff's feat

On the tenth day of Christman, Josef Stelling said to me. "My flot mo still. heating" — other his manufacts march.







9: Olive's teddies!

Turning 100 this year, Olive Fifter has raised more than £5,000 for on with her knitted bears. Thank your

8: Research gifts

These eight now projects could deliver early prosents for our strategy to besse prostelle concer in 10 years.

7: Family fliers

These father-end-our System cycling harons must be descring of a White Heat Christman this year...



6: Marathon first!

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5: Better diagnosis

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4: Our hit animation

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3: Hark the wise MP!

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2: Superman Kevin

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1: Kurt's viral photo

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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









