

NEW MAGNETIC TREATMENT TO TARGET PROSTATE CANCER REVEALED

Scientists developing work funded by The Prostate Cancer Charity are taking an important step forward in tackling the disease by developing a new magnetic treatment to accurately target prostate cancer cells, according to new research presented at the National Cancer Research Institute (NCRI) Cancer Conference this week in Liverpool.

The research, which was carried out by scientists at the University of Sheffield, takes a novel approach to treating the disease by using magnetic nanoparticles to deliver cancer fighting white blood cells – known as macrophages – to the heart of prostate tumours.

By delivering these macrophages – which have been charged with a new type of gene therapy to tackle the disease – into the core of the cancer, treatment can be focused on the tumour itself whilst sparing the surrounding healthy tissue.

Lead author, Dr Jay Richardson, explains: "We know that when prostate cancer develops, a type of white blood cells called macrophages flock to the scene. Previous research has allowed us to harness these cells to deliver cancer fighting therapies directly into the cancer cells. Now, with some magnetic assistance, we are able to refine this method so that the macrophages reach and deliver the therapy to prostate cancer cells only, leaving healthy cells unharmed."

To improve the effectiveness of this new treatment, the researchers discovered that when magnetised, the number of macrophages travelling only into prostate cancer cells under laboratory conditions dramatically increased. The greater the number of macrophages that were delivered into the cancer cells, the greater the number of cancer cells that were destroyed during treatment.

Due to the treatment's ability to seek out prostate cancer cells, the authors are hopeful that it could be particularly useful in tackling the advanced form of the disease, where cancer cells have migrated to other parts of the body, as well as the cancer contained within the prostate gland.

Plans are now underway to continue this research in mice to see if the study's success can be replicated outside of the petri dish.

Owen Sharp, Chief Executive of The Prostate Cancer Charity, explains: "Although in its early stages, this innovative new research has produced some particularly exciting foundations for the development of a new treatment to tackle the disease. Through utilising new technology, the researchers have been able to design a new treatment which has the potential to deliver cancer killing cells to the very heart of a prostate tumour. This study is particularly exciting, as it could lead to a new treatment for men living with an advanced form of the disease, where the cancer has spread to other parts of the body, who have very few treatment choices open to them."

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Notes to Editors:

View the conference abstract here: <http://www.ncri.org.uk/ncriconference/2011abstracts/abstracts/B37.html>

Prostate cancer is the most common cancer diagnosed in men in the UK. Every year in the UK 37,000 men are diagnosed with prostate cancer. One man dies every hour of prostate cancer in the UK.

African Caribbean men are three times more likely to develop prostate cancer than white men.

The Prostate Cancer Charity is striving for a world where lives are no longer limited by prostate cancer. The Charity is fighting prostate cancer on every front - through research, support, information and campaigning.

If you have any queries about prostate cancer, call The Prostate Cancer Charity's confidential Helpline 0800 074 8383 which is staffed by specialist nurses and open from 10am to 4pm Monday to Friday and Wednesdays from 7 - 9pm or visit www.prostate-cancer.org.uk

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www.ncri.org.uk/ncriconference

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About the NCRI Cancer Conference

The National Cancer Research Institute (NCRI) Cancer Conference is the UK's major forum for showcasing the best British and international cancer research. The Conference offers unique opportunities for networking and sharing knowledge by bringing together world leading experts from all cancer research disciplines. The seventh annual NCRI Cancer Conference is taking place from the 6-9 November 2011 at the BT Convention Centre in Liverpool. For more information visit www.ncri.org.uk/ncriconference

About the NCRI

The National Cancer Research Institute (NCRI) was established in April 2001. It is a UK-wide partnership between the government, charity and industry which promotes co-operation in cancer research among the 22 member organisations for the benefit of patients, the public and the scientific community. For more information visit www.ncri.org.uk

NCRI members are: the Association of the British Pharmaceutical Industry (ABPI); Association for International Cancer Research; Biotechnology and Biological Sciences Research Council; Breakthrough Breast Cancer; Breast Cancer Campaign; Cancer Research UK; CHILDREN with CANCER UK, Department of Health; Economic and Social Research Council; Leukaemia & Lymphoma Research; Ludwig Institute for Cancer Research; Macmillan Cancer Support; Marie Curie Cancer Care; Medical Research Council; Northern Ireland Health and Social Care (Research & Development Office); Roy Castle Lung Cancer Foundation; Scottish Government Health Directorates (Chief Scientist Office); Tenovus; The Prostate Cancer Charity; Welsh Government (National Institute for Social Care and Health Research); The Wellcome Trust; and Yorkshire Cancer Research.

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