Queen's University Belfast leads study to transform prostate cancer treatment

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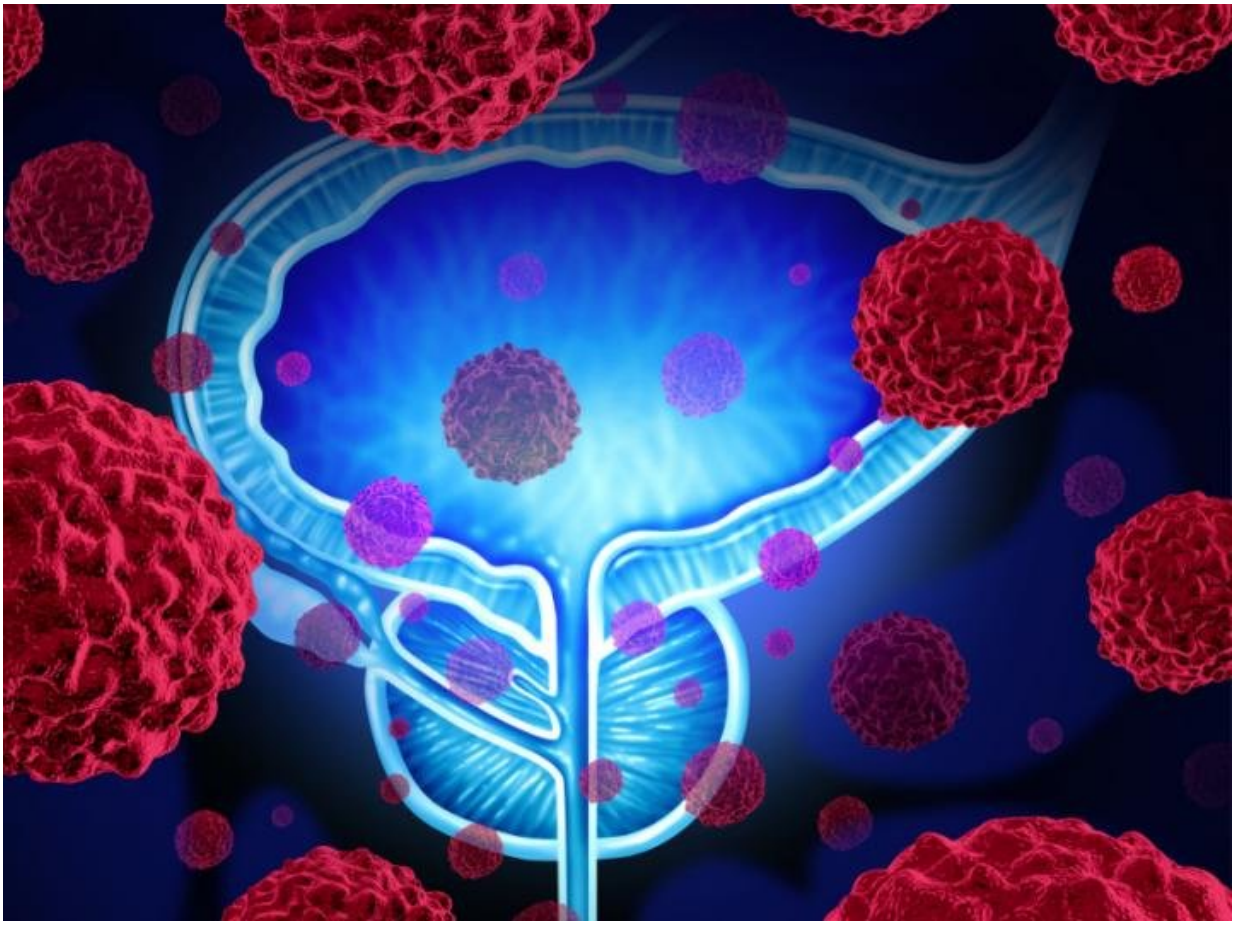

Prostate cancer. Credit: Almac Diagnostics

Queen's University Belfast has led the world's largest research study

using a diagnostic test developed by Almac Diagnostics, to better understand the biology of prostate cancer tumours, which could lead to a transformation in how prostate cancer is diagnosed and treated.

Whether a prostate cancer patient has a slow-growing or aggressive tumour will affect the type of treatment required. It is only through understanding the type and genetics of the particular cancer tumour that clinicians will be able to put an effective treatment plan in place.

Lead researcher, Dr Suneil Jain from the Centre for Cancer Research & Cell Biology at Queen's University Belfast explains: "Current diagnosis of prostate cancer involves biopsies, scans and blood tests to determine how aggressive the cancer is and subsequently to develop an appropriate treatment plan. Doctors repeatedly report that these tools aren't always effective in determining how aggressive the cancer is, which can mean it is difficult to decide on the best treatment for an individual patient."

Global Personalised medicine company Almac Diagnostics has developed a gene expression biomarker, known as Metastatic Assay, which aims to quickly diagnose the type of prostate cancer. The test analyses the genetics of the tumour enabling clinicians to understand the type of tumour, whether it is a slow-growing or aggressive and if the latter, to what extent.

Researchers at Queen's University Belfast led the world's largest study of this kind, using Metastatic Assay on prostate biopsies from 248 patients who had previously been treated for prostate cancer. The research findings, published in *Annals of Oncology*, found the diagnostic test to be more effective than the standard clinical tests.

Professor Richard Kennedy, Global VP and Medical Director at Almac Diagnostics and McClay Professor in Medical Oncology at Queen's University Belfast commented: "The assay has now proven to be

superior to conventional clinical tests at predicting aggressive disease in two independent studies, the first of which used surgical tissue, while this study used tissue taken from needle biopsy. We believe it will play an important role in identifying men who may benefit from treatment intensification."

Treatment options available to prostate cancer patients include radiotherapy, chemotherapy, brachytherapy and hormone therapy. Although radiotherapy is often used to effectively treat patients with prostate cancer, 20- 30% of patients can relapse within five years. Dr Jain explains: "The relapse of many prostate patients could be avoided through undergoing more intensive treatment including higher dosages of radiotherapy. There are also potential side-effects associated with administering more intensive treatment so a test that enables us to deliver the right treatment to the right patient would be extremely beneficial in clinical practice."

The project was funded by Prostate Cancer UK and the Movember Centre of Excellence, a joint venture between Queen's University Belfast and academic colleagues in Manchester.

Dr Iain Frame, Director of Research at Prostate Cancer UK said: "This research could provide clinicians with the answers they need to identify which cancers are likely to spread and give men peace of mind that the decision they make regarding their treatment is the right one. It's still early days but it's great to see how the work taking place at the Movember Centres of Excellence has the potential to bring about real change for men. We look forward to further results."

More information: S Jain et al, Validation of a Metastatic Assay using biopsies to improve risk stratification in patients with prostate cancer treated with radical radiation therapy, *Annals of Oncology* (2017). DOI: 10.1093/annonc/mdx637

Provided by Queen's University Belfast