New concept drug hunts down late-stage prostate cancer

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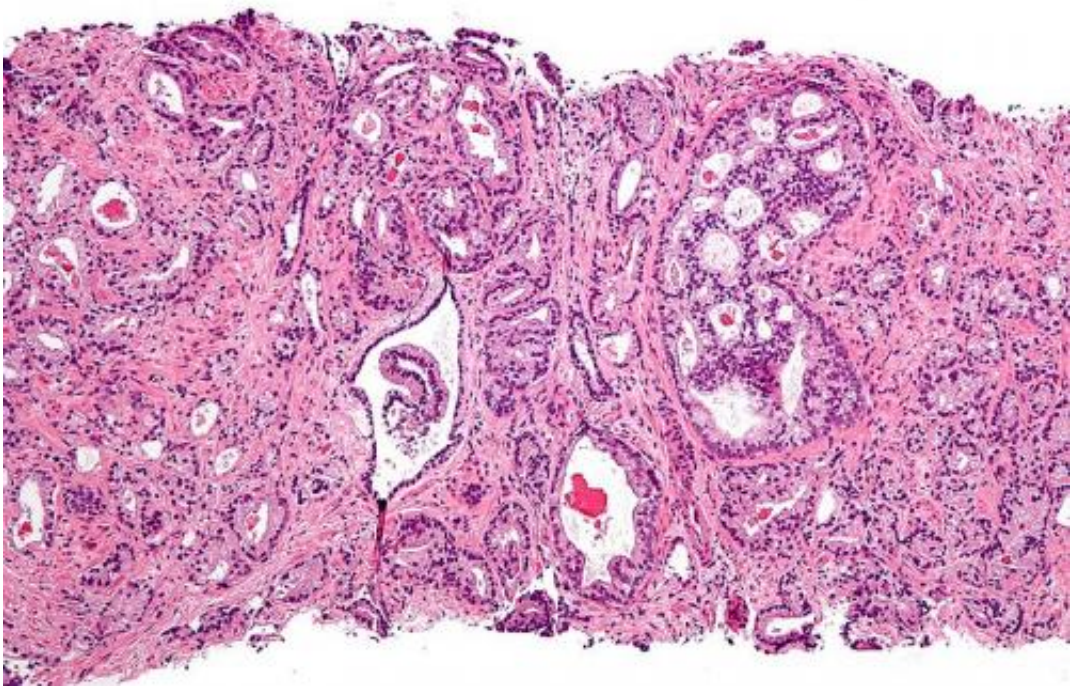

Micrograph showing prostatic acinar adenocarcinoma (the most common form of prostate cancer) Credit: Wikipedia, CC BY-SA 3.0

A new class of drug successfully targets treatment-resistant prostate cancers and prolongs the life of patients. The treatment delivers beta radiation directly to tumor cells, is well tolerated by patients and keeps them alive for longer than standard care, found a phase 3 trial to be presented at the European Association of Urology congress, EAU21, today.

Despite progress in medicine in recent years, metastatic castration-resistant prostate cancer remains untreatable and fatal. The new treatment, known as Lu-PSMA-617, takes a new approach, targeting a molecule called PSMA, which is known to be increased on the surfaces of the tumor cells, destroying them and their surrounding microenvironment.

Professor Johann de Bono, Professor of Experimental Cancer Medicine at The Institute of Cancer Research, London, and Consultant Medical Oncologist at The Royal Marsden NHS Foundation Trust, and Professor Ken Herrmann, Director of the Clinic for Nuclear Medicine at University Hospital Essen, Germany, and an international team of researchers set out to see whether Lu-PSMA-617 was more effective than standard care and recruited 831 patients with metastatic castration-resistant prostate cancer between June 2018 and October 2019. Patients were randomly assigned to receive the treatment plus standard care or standard care alone.

They report that the treatment significantly improved survival of patients by an average of four months, compared with standard treatment. Median survival time was 15.3 for the treatment group and 11.3 months for those receiving standard care. Progression-free survival, or the time before a patient's tumor became worse, was also longer with the treatment: a median of 8.7 months compared with 3.4 months for those with standard care.

The trial also compared side effects, finding that health-related quality of life was not negatively affected, and the team concludes that it is an effective and safe medicine that can improve standard of care for patients with this advanced prostate cancer.

Professor Ken Herrmann says: "This is a completely new therapeutic concept; a precision medicine that delivers radiation directly to a high

incidence tumor. The treatment was well tolerated by patients and they had an average of four months' longer survival with good quality of life. Lu-PSMA-617 can improve the lives of many men with advanced prostate cancer and their families."

Professor Johann de Bono says: "Our findings show that this potent radioactive medicine can deliver radiation precisely to cancer cells and destroy them, extending patients' lives. I hope men whose tumors have high levels of PSMA can soon benefit from this highly innovative treatment. Currently, the treatment is being appraised by the National Institute for Health and Care Excellence (NICE) for use in the NHS in England and Wales."

"Using the PSMA molecule to directly target prostate cancer cells is the beginning of a new era of precision medicine in urology diagnostics as well as therapy", says Professor Peter Albers, Head of the Department of Urology, Dusseldorf University, and Chair of the Scientific Office of the EAU. "LU-PSMA-617 was tested in so-called end-stage disease and still showed superiority and this paves the way for studies to treat patients in earlier stages. We have seen similar success in the diagnostic setting, using this molecule to improve the way we stage tumors. This targeted approach will revolutionize the way we approach the treatment of men with prostate cancer in the future."

Provided by European Association of Urology