New prostate cancer treatment concept

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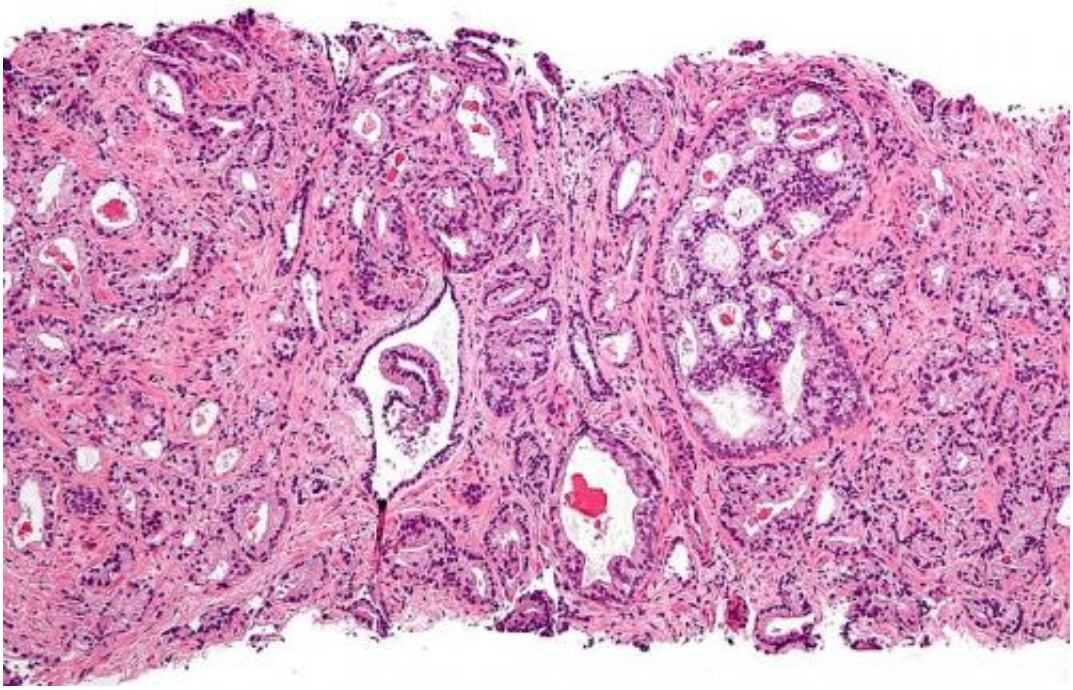

Micrograph showing prostatic acinar adenocarcinoma (the most common form of prostate cancer) Credit: Wikipedia, CC BY-SA 3.0

Prostate cancer, the second leading cause of cancer-related death for men in the United States, is poorly responsive to immunotherapy. Recent clinical trials have hinted that combining immunotherapy and radiation therapy may be a powerful treatment approach for castration-resistant prostate cancer.

Austin Kirschner, MD, Ph.D., and colleagues combined radiotherapy

with immune checkpoint inhibition in a castration-resistant prostate cancer mouse model. They established prostate cancer tumors in two different locations in each mouse, treated the mice with PD-1 or PD-L1-directed immunotherapy and irradiated one of the two tumors.

The combined therapy increased median survival 70-130 percent compared to immunotherapy alone. The investigators also observed an abscopal treatment effect: the unirradiated tumor responded similarly to the irradiated tumor in the same mouse, suggesting that combination treatment may be effective for widespread metastatic disease.

The findings, reported in the Journal for ImmunoTherapy of Cancer, provide strong preclinical support for clinical trials of combined radiotherapy and PD-directed immunotherapy for castration-resistant prostate cancer.

More information: Stephanie O. Dudzinski et al. Combination immunotherapy and radiotherapy causes an abscopal treatment response in a mouse model of castration resistant prostate cancer, *Journal for ImmunoTherapy of Cancer* (2019). DOI: 10.1186/s40425-019-0704-z

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