New treatment for advanced prostate cancer

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Researchers at the University of Adelaide have developed a novel approach to treating advanced prostate cancer that could be more effective with fewer side effects.

Professor Wayne Tilley and Dr Lisa Butler of the University's Dame Roma Mitchell Cancer Research Laboratories have discovered that by using existing prostate cancer drugs in combination with new drugs at lower doses, they can expect to generate better results for patients than current treatments.

Growth of prostate cancer is initially dependent on hormones called androgens, which traditionally have been suppressed to stop tumour growth. However, despite an initial response, resistance to hormone deprivation often occurs and the tumour starts to grow again, Professor Tilley says.

"Men undergoing hormone deprivation therapy can also experience significant side effects, including reduced libido, impotence, hot flushes, tiredness and sweating, gradual decrease in body hair, reduced bone and muscle strength and cognitive changes," he adds.

Professor Tilley and Dr Butler have successfully killed prostate cancer cells in laboratory studies using low doses of a combination therapy of drugs including bicalutamide (an anti-androgen that opposes the action of androgen on the tumour), and the inhibitors 17AAG and vorinostat.

These new drugs block key cancer survival pathways, but are not

particularly effective in killing prostate cancer cells if given alone.

"We can now confirm that a very low level of bicalutamide is capable of inhibiting cancer cell proliferation by more than 10-fold when combined with either vorinostat or 17AAG, making our current treatments much more effective and causing fewer side effects," says Dr Lisa Butler.

All the drugs needed for combination therapy are already approved for use in clinical trials, so the new therapy can be readily tested in patients with advanced prostate cancer.

Professor Chris Sweeney, a world recognised medical oncologist and Director of Clinical Trials at the Royal Adelaide Hospital Cancer Centre, will lead a multidisciplinary team to test the new treatment.

"The ultimate test of this exciting laboratory breakthrough is to see if it improves outcomes and quality of life for men suffering from advanced prostate cancer," he says.

"The strong partnership between medical scientists and clinicians at the University of Adelaide and the Royal Adelaide Hospital means patients can benefit from advances in medical science much faster than in the past."

Source: University of Adelaide