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Landmark trial for targeted drug

A major clinical trial has shown that a drug developed to treat women with inherited cancers can also benefit men with advanced prostate cancer.

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33%

of men with treatment-resistant, advanced prostate cancer responded to olaparib

Olaparib, the world?s first drug targeted against inherited cancer mutations to reach the market, was found to benefit a third of patients with prostate cancer ? including many who did not inherit genes that contribute to cancer but whose tumours had acquired defects in DNA repair.

The TOPARP-A trial is a milestone in cancer treatment as it is the first to show benefits of ?precision medicine? in prostate cancer ? with treatment matched to the particular genetic characteristics of each tumour. An international consortium of researchers, led by experts at the ICR and The Royal Marsden, published the results in the New England Journal of Medicine.

In the trial, 49 men with treatment-resistant, advanced prostate cancer received olaparib, and 16 (33 per cent) responded to treatment. Olaparib stopped tumour growth and decreased prostate-specific antigen (PSA) levels, circulating tumour-cell counts in the blood, and radiological responses on CT and MRI scans.

The trial also found that up to 30 per cent of men with advanced prostate cancer had tumours with defects in their systems for repairing DNA, and that these patients responded particularly well to olaparib.

30%

of men had tumours with defects in their DNA repair systems and responded particularly well to olaparib

?Olaparib is highly effective at treating prostate cancer patients with DNA repair defects in their tumours?

Professor Johann de Bono [6], Head of the Drug Development Unit at the ICR and The Royal Marsden, and the trial?s chief investigator, said: ?Our trial marks a significant step forward in the treatment of prostate cancer, showing that olaparib is highly effective at treating men with DNA repair defects in their tumours."

"It also proves the principle that we can detect prostate cancers with specific targetable mutations using genomic sequencing. This means we can deliver more precise cancer care by matching treatment to those men most likely to benefit.?

TOPARP-A received support from funders including Cancer Research UK, the Prostate Cancer Foundation, Stand Up To Cancer, Prostate Cancer UK and the Movember Foundation. There was also support from the Investigator-Sponsored Study Collaboration between AstraZeneca and the BRC at The Royal Marsden and the ICR, the NIHR Cancer Research Network, and Experimental Cancer Medicine Centre funding.

> "I hope it won?t be long before we are using olaparib in the clinic to treat prostate cancer, or before genomic stratification of cancers becomes a standard in this and other cancers."
>
> *Professor Johann de Bono*

Further reading

DNA-Repair Defects and Olaparib in Metastatic Prostate Cancer [7]

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