

## **PRESS RELEASE**

**Monday 6 November, 2017**

### **SCIENTISTS EXPLOIT LEAKS IN BLOOD BRAIN BARRIER TO TREAT GLIOBLASTOMA**

An ovarian cancer drug can leak through the blood brain barrier to reach brain tumours and could be an effective treatment for glioblastoma, suggest results\* presented at the National Cancer Research Institute's (NCRI) Cancer Conference in Liverpool, today (Monday).

The Cancer Research UK-funded OPARATIC trial,\* which was managed by the charity's Centre for Drug Development, tested whether the ovarian cancer drug olaparib could reach glioblastoma, a type of brain tumour which is very difficult to treat. And early results show it successfully reaches brain tumours at high enough levels for treatment.

The successful delivery of this drug is an important step as many others have failed to reach the tumour.

The study recruited 48 patients with glioblastoma which had returned after initial treatment. The majority of patients were then given olaparib in combination with the chemotherapy drug temozolomide.

Scientists looked at tumour samples and found that the drug penetrates the core of the tumour as well as the surrounding areas which contain smaller numbers of cancerous cells.\*\*\* Cancer cells in these regions cannot be removed by surgery so reaching them with drugs is crucial.

The researchers also identified a way to safely combine both drugs by giving olaparib intermittently, minimising dangerous side effects.\*\*\*\*

Olaparib is a PARP inhibitor, which is already used to treat certain ovarian cancer patients and prevents damaged cancer cells from repairing themselves after chemotherapy or radiotherapy.

The OPARATIC trial has paved the way for two additional clinical trials – PARADIGM and PARADIGM-2 – testing olaparib in combination with radiotherapy and temozolomide in patients with newly diagnosed glioblastoma.

Professor Anthony Chalmers, lead researcher and Chair of Clinical Oncology at the University of Glasgow, said: "Brain tumours are stubbornly difficult to treat and one of the main reasons for this is the blood brain barrier, a natural filter that blocks the passage of drugs.

"But these results suggest that olaparib is able to leak through because this barrier is disrupted in glioblastoma. By showing that this drug reaches brain tumours, we are in a much stronger position to use it to make current treatments more effective."

Dr Nigel Blackburn, Cancer Research UK's director of drug development, said: "While overall survival for cancer is improving, survival for brain tumours is still very low and the blood brain barrier is a significant pharmacological obstacle.

NCRI Press Office

Angel Building  
407 St John Street  
London EC1V 4AD  
T: +44 (0)20 3469 8300  
T: +44 (0)7050 264 059  
(out of hours)  
E: [press@ncri.org.uk](mailto:press@ncri.org.uk)

[www.ncri.org.uk](http://www.ncri.org.uk)

“Experimental trials like this, which test new ways to reach these hard to treat tumours, are crucially important if we are to see more patients survive their cancer.”

Professor Susan Short, member of NCRI's Radiotherapy Research Working Group, said: “We're just beginning to realise the full potential of PARP inhibitors to tackle many different types of cancer, so it's exciting to see that olaparib could potentially be used to treat glioblastoma in combination with chemotherapy and radiotherapy.

“These results are a huge step forwards in developing better treatments for patients with brain tumours, which claim too many lives every year.”

---

#### ENDS

For media enquiries contact Kathryn Ingham in the NCRI press office on 0203 469 5475 or, out of hours, on 07050 264 059.

#### Notes to editors

\*Abstract: <http://abstracts.ncri.org.uk/abstract/results-of-the-olaparib-trial-a-phase-i-dose-escalation-study-of-olaparib-in-combination-with-temozolomide-tmz-in-patients-with-relapsed-glioblastoma-gbm/>

\*\*48 patients were recruited (median age 51 (18-68); 29 male, 19 female). 27 patients underwent surgery and 35 received olaparib/TMZ. Researchers evaluated the maximum tolerated schedule and also measured olaparib exposure in tumour core, tumour margin and plasma following four doses.

\*\*\*Olaparib was detected in 73 of 74 tumour core specimens from 27 patients (mean concentration: 588nM). Olaparib was also detected in 27 of 28 tumour margin specimens from 10 patients (mean concentration 500nM).

\*\*\*\*a common side effect researchers worked to reduce was myelosuppression - decreased bone marrow activity which can lead to immunosuppression, infection and bleeding.

For more information about PARADIGM and PARADIGM-2 use the following links.  
<http://www.cancerresearchuk.org/about-cancer/find-a-clinical-trial/a-trial-looking-at-olaparib-and-radiotherapy-for-people-with-glioblastoma-paradigm>  
<http://www.cancerresearchuk.org/about-cancer/find-a-clinical-trial/a-trial-of-olaparib-with-radiotherapy-and-chemotherapy-for-glioblastoma-paradigm-2>

#### About the NCRI

The National Cancer Research Institute (NCRI) is a UK-wide partnership of cancer research funders, established in 2001. Its 19 member organisations work together to accelerate progress in cancer-related research through collaboration, to improve health and quality of life.

NCRI works to coordinate research related to cancer, to improve the quality and relevance of the research and to accelerate translation of the research into clinical practice for the benefit of patients.

NCRI Partners are: Biotechnology and Biological Sciences Research Council; Bloodwise; Breast Cancer Now; Cancer Research UK; Children with Cancer UK, Department of Health; Economic and Social Research Council (ESRC); Macmillan Cancer Support; Marie Curie; Medical Research Council (MRC); Northern Ireland Health and Social Care Public Health Agency (Research & Development Department); Pancreatic Cancer Research Fund; Prostate Cancer UK; Roy Castle Lung Cancer Foundation; Scottish Government Health Directorates (Chief Scientist Office); Tenovus Cancer Care; The Wellcome Trust; Welsh Assembly Government (Health and Care Research Wales); and Worldwide Cancer Research.

NCRI Press Office

Angel Building  
407 St John Street  
London EC1V 4AD  
T: +44 (0)20 3469 8300  
T: +44 (0)7050 264 059  
(out of hours)  
E: [press@ncri.org.uk](mailto:press@ncri.org.uk)

[www.ncri.org.uk](http://www.ncri.org.uk)

For more information visit [www.ncri.org.uk](http://www.ncri.org.uk)

### **About Cancer Research UK**

- Cancer Research UK is the world's leading cancer charity dedicated to saving lives through research.
- Cancer Research UK's pioneering work into the prevention, diagnosis and treatment of cancer has helped save millions of lives.
- Cancer Research UK receives no government funding for its life-saving research. Every step it makes towards beating cancer relies on vital donations from the public.
- Cancer Research UK has been at the heart of the progress that has already seen survival in the UK double in the last forty years.
- Today, 2 in 4 people survive their cancer for at least 10 years. Cancer Research UK's ambition is to accelerate progress so that by 2034, 3 in 4 people will survive their cancer for at least 10 years.
- Cancer Research UK supports research into all aspects of cancer through the work of over 4,000 scientists, doctors and nurses.
- Together with its partners and supporters, Cancer Research UK's vision is to bring forward the day when all cancers are cured.

For further information about Cancer Research UK's work or to find out how to support the charity, please call 0300 123 1022 or visit [www.cancerresearchuk.org](http://www.cancerresearchuk.org). Follow us on Twitter and Facebook.

### **About the University of Glasgow**

Ranked in the top 100 of the world's universities, we deliver world-class and world-changing research and education with impact. We are a member of the prestigious Russell Group of leading UK Universities and are joint 1st in this group for student satisfaction. We are connected to seven Nobel Laureates, and 81% of our research is judged to be internationally excellent. Further information can be found here: <http://www.gla.ac.uk/explore/>

NCRI Press Office

Angel Building  
407 St John Street  
London EC1V 4AD  
T: +44 (0)20 3469 8300  
T: +44 (0)7050 264 059  
(out of hours)  
E: [press@ncri.org.uk](mailto:press@ncri.org.uk)

[www.ncri.org.uk](http://www.ncri.org.uk)