Newsletter April 2019

Children's Brain Tumour Drug Delivery Consortium

Accelerating Progress in Drug Delivery

Core funded by Children with Cancer UK

Using image-guidance to improve drug delivery to the brain

On 10-11 June, the Children's Brain Tumour Drug Delivery Consortium (CBTDDC) and the Society for Image-Guided Neurointerventions (SIGN) will run an exciting conference exploring how image-guided medicine can improve the precision and efficacy of drug delivery to the brain. This will be hosted from John Hopkins University in Baltimore, USA.

In the past decade or so, the brain tumour community has seen significant progress in the discovery of new therapeutic targets and the development of novel anticancer drugs. Unfortunately, advances in how to deliver these drugs to the brain lag behind.

There is a glaring unmet need for tools to selectively, precisely, and safely breach CNS barriers, and to facilitate effective therapeutic delivery and retention in the brain. SIGN2019 will focus on how neuroimaging can help address this challenge.

SIGN2019 will bring together clinicians, industry, IT specialists and scientists from multiple disciplines, to focus on image-guided neurointervention. Currently, most strategies for drug delivery to the brain do not incorporate neuroimaging. The SIGN2019 meeting will explore the value of using advanced imaging techniques to guide neurointerventions, and to monitor drug pharmacokinetics from the moment of delivery, through initial biodistribution, to subsequent clearance from the CNS.

Two of the sessions will be broadcast internationally via webinar. Details of how to register for the webinars will be displayed on the SIGN website nearer the time.

The programme for the conference can be viewed here.

You can register for the conference here.

Sponsorship opportunities can be found here.

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Upcoming conferences

12 April – Blood Brain Barrier & CNS Drug Discovery, San Diego, USA

29-30 April – 5th Annual Formulation & Drug Delivery Congress, London, UK

3-4 May – SNO Pediatric Neuro Oncology Conference, San Francisco, USA

20-24 May – SIOP Europe, Prague, Czech Republic

23-24 May – Brain Tumour Meeting, Berlin, Germany

27-28 May – Brain Health Innovation & Technologies, Vienna, Austria

7 June – Brain Tumor Biotech Summit**,** NY, USA

10-11 June – Society for Image-Guided Neurointerventions 2019, Baltimore, USA

14-15 June – 13th World Drug Delivery Summit, Montreal, Canada

27-28 June – Congress of Pharmaceutics & Drug Delivery Systems, Amsterdam, The Netherlands

3-5 July – BNOS**,** London,UK

15-16 July – Novel Drug Delivery, New York, USA

2-3 August – DIPG Symposium, Sydney, Australia

More conferences are listed on our website, here.

Spotlight

In this newsletter, we feature CBTDDC member Dr Igor Vivanco, who leads the Molecular Addictions Team at the Institute of Cancer Research.

Igor is a molecular cancer pharmacologist who has worked in the area of oncogene addiction for nearly 20 years. He has focused on understanding the molecular underpins of cancer-specific addictions to receptor tyrosine kinases and the PI3K pathway.

His group is interested in pre-clinically defining the pharmacological requirements for the induction of cancer cell death following treatment with targeted agents. They then incorporate this information into the assessment of therapeutic response in patients.

The approach involves designing window of opportunity trials that allow for quantitative PK and PD measurements in brain tumours. This type of data is critical in deciding whether the activity (or lack of activity) of any experimental agent is the result of an appropriate/inappropriate choice of therapeutic target, or underperformance of the specific drug. Such an approach involves the coordinated efforts of oncologists, surgeons and biologists, and can be extremely powerful in understanding therapeutic responses.

Igor's group is also interested in using functional imaging approaches, particularly PET, to quantitatively and non-invasively assess target engagement.

Igor is a co-investigator in the Tessa Jowell BRAIN-MATRIX trial led by Professor Colin Watts (University of Birmingham). This trial is a first-of-its-kind multi-centre adaptive platform study, aiming to deliver molecularly stratified medicine to brain cancer patients. Igor is also a member of the NCRI Brain and Glioma Clinical Study Groups.

Igor tells us, "I look forward to working with the CBTDDC to have meaningful discussions about how to improve delivery of genotype-appropriate drugs to brain tumours and make sure that they are hitting the target."

More information can be found on Igor's research page.

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http://www.cbtddc.org/research/list.aspx

Image/video of the month

Watch this video to find out how drug repurposing may speed up efforts to find better treatments for many diseases, including brain tumours.

Click on link embedded in image.

Video produced by the aPPOD Foundation (@aPODDfoundation) aPODD focus on drug repurposing projects to see whether approved drugs can also be used to treat childhood cancers.

To share an image or video in this newsletter, please send us the file plus a caption.