

PRESS RELEASE

Birmingham researcher awarded £1.68m to fund research in 'raised brain pressure'

5 March 2020: Leading researcher [Professor Alexandra Sinclair](#) from the University of Birmingham's Institute of Metabolism and Systems Research has been awarded £1.68m to fund research into intracranial hypertension (raised brain pressure), and develop a new treatment for Idiopathic Intracranial Hypertension (IIH), a rare condition that causes disabling headaches and can lead to blindness.

The award from the [Sir Jules Thorn Charitable Trust](#) will cover a 5-year programme focussing on IIH, which is most common in women with obesity, and has an incidence that is rising dramatically in line with the global rise in obesity.

The programme of research is also expected to reveal mechanisms behind other conditions that feature raised brain pressure, such as traumatic brain injury and hydrocephalus – and also has the potential to help treat raised intracranial pressure associated with space flight.

Professor Sinclair runs one of the world's largest clinical services for people with IIH, and was instrumental in defining the first international guidelines to drive patient care.

Last year she [published research](#) that identified a potential cause for the condition – raised levels of hormones (androgens), which are believed to be an important driver for abnormal brain pressure. This is a key step in determining the cause for the condition.

The programme of work supported by the award will include a clinical trial to evaluate an innovative new treatment approach discovered by Professor Sinclair and patented by University of Birmingham Enterprise. The co-investigator in the trial will be Dr Kristian Brock, Principal Statistician from the Institute of Cancer and Genomic Sciences at the University of Birmingham.

Professor Sinclair commented: "Although the headaches experienced by people with raised intracranial pressure are overwhelming, long-term and disabling, we lack effective therapies to treat raised intracranial pressure, and there are no dedicated headache treatments. The drug trial will aim to not only deliver a new treatment, but also further understanding of what causes the headache in IIH."

NASA's Chief Health and Medical Officer Dr James Polk commented: "Although our mechanism for vision change and potential elevations in intracranial pressure in astronauts may be due to the prolonged physiologic changes from weightlessness, we share some significant similarities. This clinical entity of spaceflight may be a different branch of the same tree, possibly with a common trunk. We are working to solve this issue with astronauts, but also want any research and lessons learned we find in space to help those suffering from IIH on the ground. Likewise, Professor Sinclair's research in the IIH population may have far reaching implications, giving important clues on monitoring and treatment that can be used not only on the ground, but potentially in space."

Shelly Williamson, Chair of the patient charity IIH UK commented: "I am delighted to hear that Professor Sinclair has won this prestigious award and look forward with anticipation to the research starting. IIH devastates lives, with agonising headache caused by the raised brain pressure being the most reported symptom. To have a drug that works on both brain pressure and headache, that is well tolerated, would be amazing as would research into the mechanistic causes of headache in IIH. Research such as this has been long awaited by the IIH community and on behalf of the people we support I'd like to thank the Sir Jules Thorn Trust for awarding this grant to Professor Sinclair."

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The Sir Jules Thorn Award for Biomedical Research aims to fund translational research that will bring benefits to patients through improved diagnosis, or by assisting in the development of new therapies for important clinical problems. It provides a single grant of up to £1.7m to support a five year programme of translational biomedical research selected following a competition among applicants from the UK's leading medical schools and NHS organisations.

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About IIH

A survey conducted in 2019 by the patient charity IIH UK revealed that headache is the overwhelming disabler for people with the condition. 500 people with IIH answered the electronic survey within 7 days, and the perspective from the majority was that:

- Patients feel abandoned
- Headache is long term and relentless
- Devastating implication on family life and ability to work

About the patent

University of Birmingham Enterprise patented the use of GLP-1 analogs in conditions featuring raised intracranial pressure, and received Orphan Drug Designation for the treatment of IIH from the European Medicines Authority and the US Food & Drug Administration. These rights, including Orphan Drug Designations for both Europe and the USA have been assigned to biopharmaceutical company [Invex Therapeutics](#), which is listed on the Australian Stock Exchange.

About University of Birmingham Enterprise

University of Birmingham Enterprise supports academics who want to innovate, take their ideas to market, work with businesses and social enterprises, or enrich their professional lives by doing academic consultancy projects. We do this by providing enterprise training, funding, office and laboratory space, and a full technology transfer service. University of Birmingham Enterprise also manages the incubation services and facilities at the Birmingham Research Park.

About the University of Birmingham

The University of Birmingham is ranked amongst the world's top 100 institutions. Its work brings people from across the world to Birmingham, including researchers, teachers and more than 5,000 international students from over 150 countries.

Images available on request

