The All-Party Parliamentary Group on Brain Tumours

A record of the minutes for the All-Party Parliamentary Group on Brain Tumours Meeting Committee Room 19, Palace of Westminster - Tuesday 4th June 2019, 18:15 - 19:30

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Chair

Derek Thomas MP (Con, St Ives) was elected to Parliament for St Ives in May 2015. He was elected as the new Chair of the All-Party Parliamentary Group on Brain Tumours (APPGBT) on Monday 10th July 2017. He was re-elected into this role at the Annual General Meeting of the APPGBT on 17th July 2018.

Guest Speakers

- Dr Wai Liu – Senior Research Fellow, St George's, University of London
- Mr Will Singleton – Neurosurgeon & Researcher, University of Bristol

Attendees

The following Parliamentarians were in attendance.

- Derek Thomas MP (Con, St Ives)

Apologies

The following Parliamentarians sent their apologies:

- Angela Smith MP (Ind, Penistone & Stocksbridge)
- Rt Hon Sir Oliver Letwin MP (Con, West Dorset)
- Tracey Crouch MP (Con, Chatham & Aylesford)
- Fiona Bruce MP (Con, Congleton)
- Baroness Delyth Morgan

Minutes

Derek Thomas MP, Chair of the All-Party Parliamentary Group on Brain Tumours (APPGBT), began the meeting by reminding everyone that Matt Hancock MP, Secretary of State for Health & Social Care, had said positive things about brain tumour funding in the House of Commons. He then handed over to **Erika Murigi, Head of Public Affairs and Campaigning, Brain Tumour Research**, who gave a brief update on the progress of the APPGBT, including that the APPGBT is meeting with relevant organisations to explore whether a child with a brain tumour is considered to be left with an acquired brain injury; that the APPGBT is working to arrange meetings with relevant education ministers, and that the APPGBT will be approaching the National Institute for Health Research to learn more about its application procedure for funding.

Following that, **Dr Wai Liu, Senior Research Fellow, St George's, University of London**, gave a presentation on the use of medicinal cannabinoids in brain tumours. He started by revealing that no one knew with absolute clinical certainty the effectiveness of cannabinoids. However, he said it was clear there were certain properties which were useful. Dr Liu then gave an overview of how cancer grows within the body. He said that within us, cells are constantly growing and dying, however, if the cells mutate then the fragile balance is offset. Cancer is essentially the uncontrolled growth of these mutated cells and there are multiple causes of these mutations within our immediate environment.

Dr Liu explained how cannabis as a plant is incredibly diverse and contains multiple chemicals. Traditionally, THC is the chemical which is important for recreational use of cannabis while CBD is more of a mystery. However, new research is showing how THC kills cells which is a good way of limiting cancerous mutations. A small trial, conducted in 2006, showed that the most effective management of certain cancers was when other treatments were paired with the use of cannabinoids. CBD has also been proved to be effective as it boosts the immune system which, in turn, can improve the effectiveness of other treatments.

Dr Liu explained that while there had been promising signs within the cannabinoid market, there were still no current plans for any clinical trials to be conducted in the UK. He reiterated how there were several different chemicals within cannabis and it was important that we know how to extract specific substances rather than using the whole plant.

Questions were then taken from the audience and one attendee asked if there was a particular type of tumour that cannabinoids were effective against. Dr Liu responded saying anecdotally there had been certain tumours which reacted better but it had not been proved with clinical certainty. Another attendee asked Dr Liu to confirm her understanding that cannabinoids killed certain cancer cells but not all. Dr Liu confirmed this saying some cancerous cells responded better than others to cannabinoids. He went on to say researchers were hoping to reach a stage where doctors could administer a personalised therapy to each patient and this can be achieved with a better understanding of cannabinoids. **Derek Thomas MP** then asked why there was not an appetite from the government for more clinical trials. Dr Liu said there was an appetite but it was easier said than done. He went on to say that he hoped the APPGBT could help facilitate improved coordination between government, civil servants and academics in the field.

Mr Will Singleton, Neurosurgeon & Researcher, University of Bristol, was the next expert to give a presentation. He explained how his area of expertise was in central nervous system drug delivery and revealed he was part of the Children's Brain Tumour Drug Delivery Consortium. In order to provide some fundamental understanding, he explained how the brain has evolved a system of keeping certain chemicals in and others out. This is called the blood-brain barrier and, whilst it is vital to human survival, it also makes it difficult to deliver drugs to the brain. One of the main problems is that most new drugs are insoluble and do not penetrate this barrier. However, there are various experimental ways to deliver drugs directly to the brain – either through surgically implanted tubes, via the brain's arteries, by manipulating drug design, using nanoparticles or by utilising technologies such as ultrasound.

Mr Singleton explained how drug delivery was even more of an issue in paediatric brain tumours as one way to improve brain penetration of drug is to use high doses of systemically administered chemotherapy, to which children are especially vulnerable to significant systemic side effects. Direct drug delivery to the brain carries an added benefit of reducing systemic exposure to potentially toxic drugs. He reiterated the

importance of drug delivery saying it didn't matter how advanced the drugs become, they would fail at clinical trial if the drug is not able to penetrate to the tumour, i.e. cross the blood-brain barrier.

Questions were then taken from the floor and an attendee asked what was the most promising drug delivery system. Mr Singleton responded saying it was a difficult question to answer, as none have yet to be proved in large clinical studies, but suggested a combination of different methods often appeared to be the most effective.

He went on to say surgically implanted catheters have been studied more extensively in Parkinson's disease, and have been studied in a handful of small clinical trials in brain tumour patients. **Derek Thomas MP** asked if there was an appetite within the pharmaceutical industry to which Mr Singleton said there was interest, but it remains a niche area, to which most large drug companies are poorly informed. **Dr Liu** interjected that there was a huge appetite for cannabinoids because it was a hugely profitable business worldwide.

Finally, a member of the audience asked both speakers whether they saw potential in virus and vectors within the brain tumour space. **Mr Singleton** said there was and that viral-mediated drug delivery to the brain has been studied in many pre-clinical studies, and has promise as a technique, but will require significant investment from funding agencies and the pharmaceutical industry. With that said, he went on to reveal the Federal Drug Administration in the United States of America had approved a viral vector for gene therapy, which was proof that viruses were starting to make their way into clinical medicine.

Derek Thomas MP concluded the proceedings saying that while Brain Tumour Research and the Tessa Jowell Brain Cancer Mission had made great progress, there was plenty more which needed to be done. Given the political climate, he suggested it might be effective to lobby civil servants also, and suggested securing representatives from the pharmaceutical industry to attend a future APPGBT meeting.

Actions Arising:

- APPGBT to invite pharmaceutical industry representatives to speak at a future meeting about how clinical trials into potential new treatments are set up and the reasons why there are so few in this area.
- APPGBT to research and make contact with relevant civil servants who may be interested in the issues discussed at meetings.