

New Era Dawns for Neuro-Oncology in New Zealand

A Report on the 2023 Inaugural New Zealand Neuro-Oncology Conference

11th February 2023

Auckland Airport Novotel, Auckland, New Zealand

On Saturday 11th February 2023, around sixty of New Zealand’s top brain tumour specialists gathered at the Auckland Airport Novotel for the first ever New Zealand Neuro-Oncology Conference.

The event may well be remembered as the dawn of a new era in the field of neuro-oncology in New Zealand. Never before had so many of the country’s pre-eminent brain tumour clinicians, researchers, allied health professionals and patient advocates gathered together in one room to rally behind a common cause.

The one-day, hybrid meeting featured presentations from clinicians representing a range of disciplines involved in brain tumour treatment and management and researchers covering a range of diverse topics from pre-clinical research to clinical trials. The afternoon session featured a patient and caregiver panel (run by Brain Tumour Support NZ), a presentation from neuro-oncology nurses and an introduction to graphic medicine. The day ended with a round table discussion on how to move forward with the formation of a new neuro-oncology group.



L to R: Dr Catherine Han, Dr Thomas Park, Sir Richard Faull



Sir Richard Faull

The conference was expertly co-chaired by Dr Catherine Han (medical oncologist) and Dr Thomas Park (brain tumour researcher) and made possible by seed funding from the Centre for Brain Research (CBR) with support from the University of Auckland. Dr Makarena Dudley opened the conference with a karakia, followed by an opening address from CBR Director, Sir Richard Faull. Importantly, Sir Richard pledged the Centre’s ongoing support for a New Zealand neuro-oncology group.

Dr Han completed the opening session by detailing her career path into neuro-oncology which set the scene for the day’s programme. Throughout her career in oncology she had witnessed significant advances in the treatment of a range of cancer types, but was yet to see a breakthrough in glioblastoma (the most common primary, malignant brain tumour in adults). “We just haven’t cracked the code yet,” she lamented.



Dr Thomas Park (L) and Dr Catherine Han (R)

Clinical Session

The Clinical Session featured five presentations starting with an intriguing study from neuro-radiologist Dr Hugh McHugh titled: "IDH and 1p19q Diagnosis in Diffuse Gliomas from Pre-operative MRI using Artificial Intelligence". Dr McHugh is using artificial intelligence (AI) to develop an algorithm to determine key glioma biomarkers, which currently can only be determined through a biopsy, directly from MRI scans.



Dr Chien Yew Kow

Auckland neurosurgeon Dr Chien Yew Kow gave a brief presentation on "Surgical Adjuncts in Neuro-Oncology", outlining techniques such as stereotactic neuro-navigation, intra-operative MRI, intra-operative ultrasound, 5-ALA (Gliolan) and awake craniotomy as ways of achieving maximal resection of gliomas.

Dr Clinton Turner's presentation "From eyes to iScans: the ongoing evolution of

brain tumour diagnoses" alluded to the rapid pace of change in neuro-pathology since the adoption of molecular biomarkers by the 2016 and 2021 updates to the WHO Classification of CNS (central nervous system) Tumours. He gave an update on the validation of a methylation profiling test at Auckland Hospital but noted that there was still no accredited diagnostic facility for next generation sequencing (NGS) of gliomas in New Zealand which required some cases to be sent to Australia for testing.



Dr Clinton Turner



Dr Melissa James

Christchurch radiation oncologist, Dr Melissa James, gave a frank and sometimes brutal analysis of the state of radiation oncology in New Zealand in her talk "Radiation Treatment for Brain Tumours: Now and Tomorrow". Dr James explained that radiation treatment remains a core treatment modality for 80% of all brain tumours, yet there has been chronic underinvestment in the sector by successive governments. This has resulted in aging radiation machines, a depleted workforce, and ultimately a less effective and less efficient service for brain tumour patients. Shockingly, she reported that there is currently no brain tumour radiation oncology service in

the Southern District.

Dr Stephen Laughton, paediatric oncologist at Starship Children's Hospital in Auckland, described himself as a minority in the room. However by the time he had completed his presentation on "Paediatric Neuro-Oncology Care in Aotearoa New Zealand" many in the audience were wishing they had access to the paediatric community's international linkages, access to molecular testing and clinical trial networks for their adult brain tumour patients.



Dr Stephen Laughton

Research Session

Auckland neuroscientist Dr Scott Graham delivered a passionate presentation "Understanding the complex interplay between brain cancer cells and the immune system" to open the Research Session. Following a quickfire overview of the immune system and how it relates to the glioblastoma microenvironment, he



Dr Scott Graham

outlined his lab’s promising research on the sensitisation of glioblastoma cells to attack from natural killer (NK) cells.

Dr Tania Slatter from the University of Otago in Dunedin gave a talk on “Using USPIO-enhanced MRI to treat GBM with a high content of tumour associated macrophages (TAMs)”. She explained that TAM infiltration in glioblastoma can be imaged by using ferumoxytol, an ultra-small superparamagnetic iron oxide (USPIO) nanoparticle, as an MRI contrast agent.

Also from the University of Otago in Christchurch, Dr Gabi

Dachs presented on “The role of 2-oxoglutarate-dependent dioxygenase (2-ODD) in gliomas”. Dr Dachs reported possible associations between ascorbate and ferrous iron concentrations in glioblastoma tissue and longer patient survival. Ascorbate and ferrous iron are both co-factors in the activity of 2-ODD enzymes which in turn mediate the hypoxic response, a recognised pathway for tumour progression, invasion and treatment resistance.



Dr Gabi Dachs (R)

Dr Melanie McConnell from the Victoria University of Wellington gave a presentation over Zoom titled “Exploration

of glioblastoma therapy resistance and proteomics and animal models”. The first part of this talk described her research into the inhibition of BCL6 (an oncogene) to overcome treatment resistance in glioblastoma. The second part described a customised, genetically-engineered mouse model for glioblastoma which promises significant advantages over other glioblastoma models.



Dr Matt Phillips

The final presentation in the morning session was delivered by Dr Matthew Phillips from the University of Waikato who spoke about “Metabolic therapy in glioblastoma multiforme: a clinical trial”. Dr Phillips outlined a clinical trial investigating a combination of fasting and the ketogenic diet for the treatment of newly diagnosed glioblastoma.

Patient Oriented Session

The afternoon session began with a presentation and panel discussion run by the Brain Tumour Support NZ (BTSNZ) charity titled: “The patient and caregiver experience”. BTSNZ chair, Chris Tse, gave an introduction to the charity’s formation, its mission and the range of support services it offers the New Zealand brain tumour patient community. He then chaired a discussion with a panel of four patients and carers covering a range of topics, including the shock of the initial diagnosis, the wider impact of a brain tumour, and the significant caregiver burden associated with the disease.



Offering and maintaining hope was a consistent theme in the patient testimonials. Glioblastoma patient Kate, who was diagnosed and initially treated at the Chris O’Brien Lifehouse in Sydney, talked about the positivity of her medical team there. She remembers being told of the several good prognostic factors in her favour and that “you are a statistically unique event”. Oligodendroglioma patient Mandy, a founding trustee of BTSNZ, spoke of the fear and uncertainty she felt when she received her diagnosis. It was the complete lack of information and support offered to her which lead her to establish BTSNZ.



The Brain Tumour Support NZ Medical Advisory Board. From L to R: Clinton Turner, Chris Tse (chair), Simon John, Caroline Woon, Catherine Han, Melissa James, Mandy Bathan (trustee), Frank Saran, Andrew Parker

Moira and Tania, both carers of family members with glioblastoma, spoke of the huge burden they carried as caregivers, the lack of recognition and support from some doctors, and the struggle to maintain their own health and wellbeing while taking care of the patient. All panellists mentioned the wider effect of the disease on the individual and family, including the loss of identity and self-esteem, loss of independence, and strain on family relationships.

The session concluded with Chris responding to a question from the floor by presenting the findings of a survey which BTSNZ regularly sends out to its patient community. He called this the “Brain Tumour Patients’ Santa List” and surmised that it would take several Christmas’s before all the items on the list could be delivered.

The list

consisted of fifteen points under the three categories of: 1. Treatments (including medicines and diagnostics); 2. Better care and support; and 3. More research.



Rebecca Lissiman (L) and Caroline Woon (R)



Dr Neal Curtis

The Patient-Oriented Session concluded with presentations from Wellington clinical nurse educators, Caroline Woon and Rebecca Lissiman, who explained their roles as specialist neurosurgical nurses at Wellington Hospital, and Dr Neal Curtis of the University of Auckland Arts, Media and Communications faculty. Dr Curtis’s presentation “Graphic medicine as medical communication” was an entertaining talk on the use of comics to explain complex topics.

New neuro-oncology group formed

The main objective of this conference was the formation of an independent, national brain tumour working group. The final session of the day was dedicated to this task, with conference co-chairs Catherine Han and Thomas Park leading a round table discussion.

Delegates considered various objectives, purposes and priorities for a new group. A national brain tumour registry, national guidelines for clinical practice, and access to clinical trial networks were some of the priorities highlighted. The importance of maintaining international connections was discussed and a letter of support from the current president of the Asian Society for Neuro-Oncology (ASNO) indicating their support for a New Zealand neuro-oncology group was tabled.

Two preferred options for the group’s structure were presented: a fully incorporated neuro-oncology society or a special interest group (SIG) under the umbrella of the NZ Society of Oncology (NZSO). It was decided that the most practical way forward was to adopt the latter option initially, with an eye to transitioning to an incorporated society in the future.



Dr Thomas Park

Group membership was discussed, including the best way to involve the patient voice. Options considered were a separate associate membership category for patient advocates and a set number of patient advocate memberships to be nominated by Brain Tumour Support NZ. The importance of representation by Māori and a commitment to the Treaty of Waitangi/Te Tiriti o Waitangi were also raised.

A name for the group was suggested – New Zealand Aotearoa Neuro-Oncology SIG, or NANO SIG.

Options for future meetings were mooted. The NZSO annual conference often holds satellite meetings for SIGs the day before the conference, however this may not be the best option as many people are members of multiple SIGs. One suggestion was to hold a meeting as part of Queenstown Research Week every second year, alternating with a meeting in the North Island every other year. The next Queenstown Research Week is scheduled for 29-30 August 2023.

It was decided that a smaller working group or committee be established to formalise these issues and advance the formation of the group. Consideration was given to how best achieve an equitable representation across disciplines, medical specialties and geographies. An initial working group was selected, with Catherine Han and Thomas Park confirmed as co-chairs, receiving unanimous support from the conference delegates.

In summary, this conference was both well run and well attended. Previous attempts to establish a neuro-oncology group in New Zealand have fallen by the wayside. Conference participants seemed determined to mark this event as “a beginning” and not “the end”. They may well have witnessed a landmark event in the development of neuro-oncology practice and research in Aotearoa, New Zealand.



Chris Tse
February 2023