

CEO Presentation to AGM

Dr Ken Taylor

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- In particular, management's expectations regarding the approval and commercialization of the product candidates could be affected by, among other things, unexpected clinical trial results, including additional analysis of existing clinical data, and new clinical data; unexpected regulatory actions or delays, or government regulation generally; our ability to obtain or maintain patent or other proprietary intellectual property protection; competition in general; government, industry, and general public pricing pressures; and additional factors that involve significant risks and uncertainties about our products, product candidates, financial results and business prospects.
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One patient's experience of the impact of treatment with NTCELL



A patient in the Phase I/IIa clinical study describes her experience of Parkinson's disease and treatment with NTCELL

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2015 milestones



- Continued development of NTCELL® for Parkinson's disease
- Completed Phase I/IIa clinical trial of NTCELL
- Presented trial result at International Congress of Parkinson's Disease and Movement Disorders, San Diego
- Announced 42 week post NTCELL treatment efficacy
- Met with Scientific Advisors to design next clinical study
- Obtained NZ regulatory input to Phase IIb clinical study to qualify for provisional (fast track) consent to market
- Secured supply of NTCELL, manufacturing GMP licences
- Filed new patent in USA
- Applied for non dilutive financing
 - Awarded Callaghan Innovation grant
- Presented LCT progress to brokers in Australia and New Zealand



Developing NTCELL for Parkinson's

NTCELL development target First-in-class disease modifying treatment



Incidence

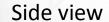
- 7–10 million people living with Parkinson's worldwide
- 8,000 people living with Parkinson's in New Zealand
- 800 <u>new</u> Parkinson's patients diagnosed each year in New Zealand

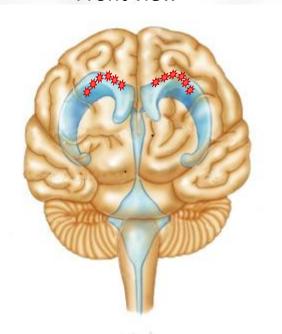
Treatment

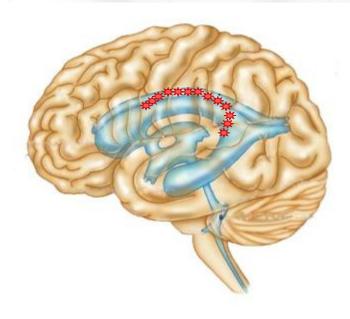
- No disease modifying treatment or cure
- Symptomatic treatments available but limited duration of efficacy
- Levodopa (standard symptomatic treatment) now 50 years old

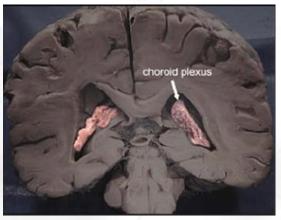
NTCELL treatment is implantation of encapsulated choroid plexus cells into the brain

Front view









Choroid Plexus:

- Secretes cerebrospinal fluid (CSF)
- Provides neurotrophic factors
- Provides neuroprotective factors
- Removes toxin (drugs, metals, etc.)
- Clears waste products

Developing NTCELL for Parkinson's



NTCELL is encapsulated porcine choroid plexus cells

- "Factory" approach for nerve growth: not a single drug intervention
- Plasticity: NTCELL adapts to disease in vivo
- Supply: Porcine advantage over human
- Brain: immuno-privileged

Advantage over stem cells

- No concern of tumorigenicity
- Defined cell population rather than unknown mixed cell types
- No current stem cell technology to generate choroid plexus cells

Targeting Parkinson's

- Severe unmet medical need
- Cost to benefit: focus on benefit
- First disease modifying treatment
- Acceptance of DBS procedure, identified site and endpoint

Completed Phase I/IIa clinical trial of NTCELL LET



NTCELL implantation was safe in four patients

- Administered via unilateral implantation into the putamen of four patients with Parkinson's
- Treatment safe and well tolerated (primary endpoint).
- No adverse events related to NTCELL
- Some were related to the procedure itself
- No clinical or laboratory evidence of PERV transmission in patients or partners.

NTCELL implantation improved clinical features of Parkinson's

Sustained improvement on clinical features in the UPDRS, UDysRS and PDQ-39

Encouraging results justify a confirmatory study

- Study small in scale but results warrant further studies of NTCELL for Parkinson's
- Second clinical trial to confirm potential as a disease modifying treatment

Presented trial result at International Congress of Movement Disorders, San Diego



Safety and clinical effects of NTCELL® (immunoprotected [alginate-encapsulated] porcine choroid plexus cells for xenotransplantation) in patients with Parkinson's disease (PD): 26 weeks follow-up.





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Introduction

Cerebros pinal fluid (CSF) contains a variety of neurotrophic and neuro-protective factors that play critical roles in maintaining the health of the brain. Our pre-clinical studies with NTCELL in animal models of PD indicate that a continuous local production of CSF by NTCELL can result in restoration of degenerated neural functions, thereby supporting the application of NTCELL as a ise-modifying cell-based therapy for neurodegenerative diseases.

We conducted a Phase VIIa clinical study at In four patients with Parkinson's disease (PD), in order to assess the safety and clinical effects of NTCELL implanted into the putamen

Background

NTCELL comprises of neonatal porcine choroid plexus cells encapsulated in alginate microcapsules. The Auckland Island pigs, which are the source of the charaid plexus cells, are extensively studied and screened for pathogens. NTCELL is effectively a neurochemical factory capable of sustained CSF production, and secretion of multiple

Our pre-clinical studies with NTCELL implanted into the striatum of rats and non-human primates show the following:

- Absence of Porcine Endogenous Retrovirus (PERV) transmission in rats and non-human
- No major organ toxicity or shortening of lifespan in rats compared to age-matched controls
- LONGEVITY
- Survival of NTCELL for 18 months in rats EFFICACY
- growth in rats (data on file, LCT)
- Improvement of neurological function and histological evidence of corresponding the striatum as seen in Figure 1, in an MPTP-treated non-human primate model of PD /Luo et al., 2013



Figure 1: Increased TH staining in the striatum of MPTP-treated non-human primates 6 months after NTCEL implantation

and the Northern A Health and Disability Ethics Committee in New Zealand (12/NTA/64).

The trial is registered with ClinicalTrials.gov (NCT01734733). An extensive and enhanced written informed consent procedure was completed prior to four patients participating in this trial.

Patients aged between 40 and 70 years who had previously been accepted for Been Brain Stimulation according to the Australasian Guidelines were eligible for this trial.
We implanted 40 NTCELL microcapsules (approx. 40,000 choroid plaxus cells) into the putamen on the side

The primary endpoints of this trial were:

- events reported over the duration of the study
- Unified Dyskinesia Rating Scale (UDysRS) in the
- Parkinson's Disease Quality of Life Questionnaire (PDQ-39) score
- Positron Emission Tomography (PET) with (18F)-fluorodopa and (11C)-tetrabenazine

Whilst this was an onen label study the assessor did not have access to previous observation results when performing subsequent observations.



Our clinical trial was approved by the Ministry of Health

contralateral to that of the greatest clinical deficit in each

- · Occurrence of adverse events and serious adverse
- Clinical and laboratory evidence of PERV transmission in implant recipients and partners
- The secondary endpoints of this trial included: Unified Parkinson's Disease Rating Scale (UPDRS)

The results at Week 26 following implantation were compared with those at baseline.

MRIwas performed on the day following implantation, and at Weeks 8 and 26. Laboratory tests including biochemistry, haematology, and PERV were performed at intervals throughout this period. All trial data at time points as defined by the protocol were reviewed by an independent Data Safety Monitoring Board (DSMB).



All testing for PERV transmission in patients was penative and



Figure 2 Saggisti MRI showing the cannula tract. Implanted NTCELL micro-capsules can be seen distributed through the platamen at the end of the tract.

There were no serious adverse events in any of the four patients after 26 weeks follow-up. There were a total of 8 treatment emergent adverse even'ts that were considered related to the ant procedure, rather than NTCELL (Table 1). The MRI

A DVERSE EVENT DESCRIPTION	HUMBER OF EVENTS	SEVERITY		
Small are a of implant site is chaemia	2	Mild		
Inflammation of scalpwound	1	Mild		
Subdural has materna (up to 5mm thick)	1	Mild		
Increased dyskines is	1	Mild		
Transient headache	1	Mild		
Transient memory impairment	1	Mild		
Cannula pass through pallidum	1	MIM		

One patient received a pallidal lesion during the implant procedure due to the inaccuracy an effect on the UDysRS when assessed in the 'on' state.

The increased dyskinesia in Patient 001 was resolved by a reduction in their levold dosage. The dosage remained the same in the other three nationts.

Table 3: Patient 001 change in

A.RT		TOTAL DAILY LEYODORA DOSAGE (HG)
eseline	Wask 1	1800
eek 1	Wask 2	900 - 1600
eek 2	Week 3	1100 - 1800
eek 3	Continuing	600 - 1200

AtWeek 26 post-implant there was no

Table 4: PET results with [18F] - fluorodoca iosilateral to the side of NTCELL implan

	RATIO TO AGE HATCHED HORMAL (RATIENT/HEALTHY)			
PATIENT NUMBER	BASELINE	WEEK 26 POST- INPLANT	GHANGE FROM BASELINE	
001	0.28	0.29	0.01	
002	0.37	0.32	-0.05	
003	0.07	0.27	0.20	
200	0.28	0.12	-0.16	
Mann	0.25	0.25	0	

PDO-39

Figure 5: PDQ-39 change from baseline

UPDRS part III motor function There was a significant mean change from baseline to Week 26 (p<0.05) for UPDRS Part III motor function [Figure 3], this happened immediately following NTCELL implant

Discussion

There was a significant mean change from baseline to Week 26 [px0.05] for UDvsRS in the 'On' state (Figure 4).

The DSMB confirmed the investigator's recommendation that none of the

four patients required either deep brainstimulation or asecond implant of NTCELL, which were options defined by the protocol following 26 weeks

this clinical trial was to demonstrate the safety of NTCFLL implantation attributable to the implant procedure, and there were no advers events attributable to the implanted NTCELL.

byvalidated neurological rating scales and and significant mean improvement from baseline. The cause of this change is unclear and must not be over-interpreted in only four patients in an open-label study.

The marked improvement immediately after the procedure could relate to a lesion effect Similar changes were not shown in a previous feetal transplantation study where there was a similar cannula trajectory and implantation of tissue into similar locations in the putamer (Olanow 2003). This raises the possibility of a placebo effect or some immediate effect of NTCELL in our clinical study.

explained as a lesion or placebo effect. with the histological improvement seen in

PACIFIC PARKINSON'S Research Centre

documinargic nerve terminals.

The secondary endoring of officacy as measured questionnaires provides evidence of a consistent

The sustained improvement at Week 26 post-implant in all four patients is less easily The improvement at this time would be consistent animal studies. Moreover, the improvement in the neurological scores in the first patient

Week 74 post-implant PETs cans showed no consistent change in the uptake of levodopa and te trabenazine. This indicates that the mechanism of improvement

Efficacy could be the result of recovery in function degeneration and compensatory mechanisms m to occur in the striatum of PD patients NTCELL is encapsulated choroid plexus cells which after implantation will receive incoming signals that will trigger the release of neurotrophic factors that are appropriate to the demand in each individual nations. uch plasticity and pleiotropy would support the specific individual responses seen in this study. It is tempting to relate efficacy in this choroid plexus, a localised increment in the production of CSF leading to increased neuronal restoration and removal of waste products such as arryloids and proteins. If this is confirmed by future studies, then NTCELL would have considerable potential as a disease modifying agent in PD and other

pleiotropic effect within the brain.

NTCELL implantation was safe and well tolerated.

NTCELL administered via unilateral implantation into the putamen of four patients with PD is safe and well tole rated. There were eight adverse events consider related to the implant procedure, none were considered related to NTCELL. There was no clinical or laboratory evidence of PERV transmission in patients or partners.

NTCELL implantation improved clinical features of PD.

Data suggests sustained improvement on clinical features as seen in the UPDRS, UDysRS and PDQ-39.

Encouraging results justify a confirmatory study.

While the study is small in scale, the results obtained are sufficiently encouraging to warrant further studies with this novel treatment. The results of this study will be used in the design of a second clinical trial of NTCELL to further explore its potential as a disease modifying treatment for patients with PD.





Progression of Parkinson's disease halted

In all four patients NTCELL treatment has stopped the progression of Parkinson's disease as measured by globally accepted and validated neurological rating scales

Improvement in neurological score

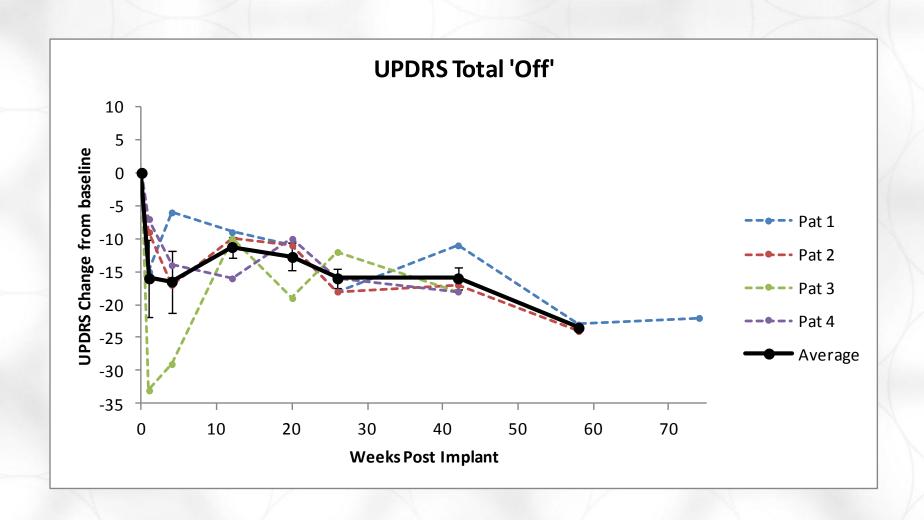
In all four patients the 42 week post-implant data show there is a clinically and statistically significant improvement in the patients' neurological score from their pre-implant baseline

Equivalent of 5 years remission from PD

That improvement is equivalent to approximately 5 years of Parkinson's disease remission and is maintained 74 weeks after NTCELL transplant in the first patient

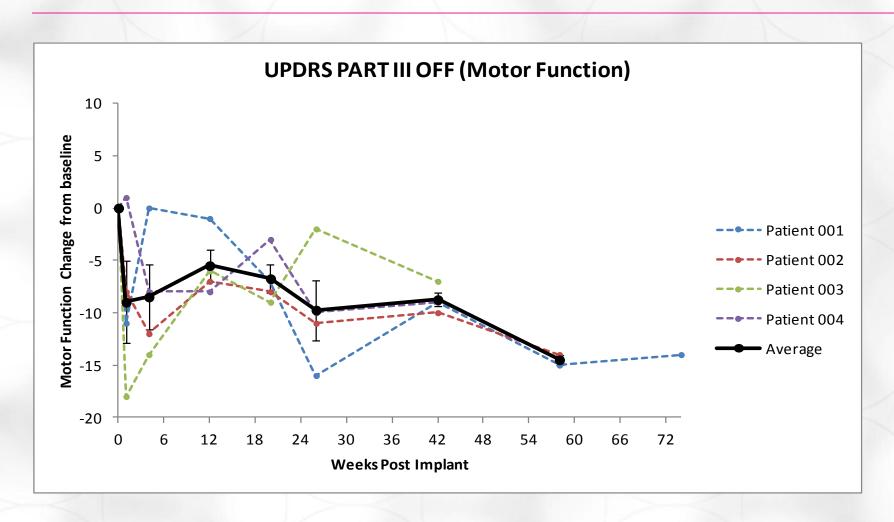
UPDRS (Unified Parkinson's Disease Rating Scale) 20 pt decrease clinically & statistically significant





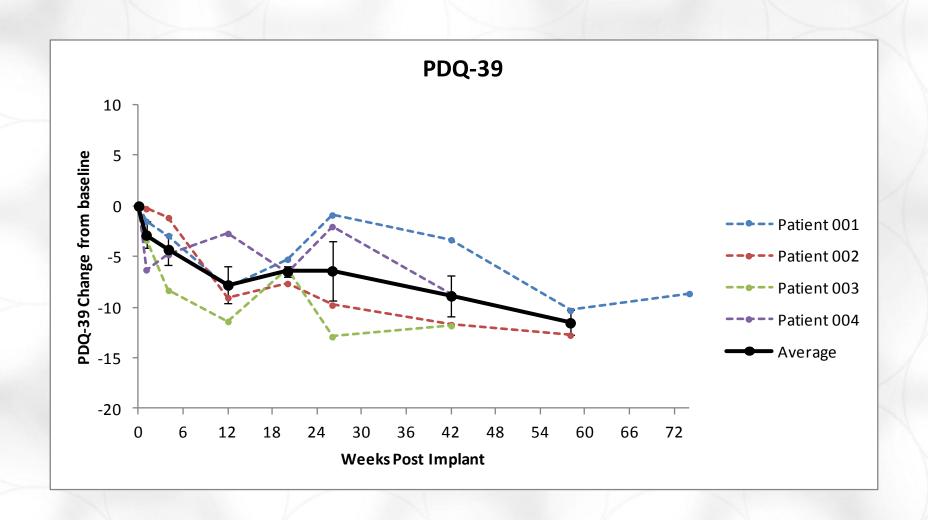
UPDRS Motor Function Improvement clinically & statistically significant





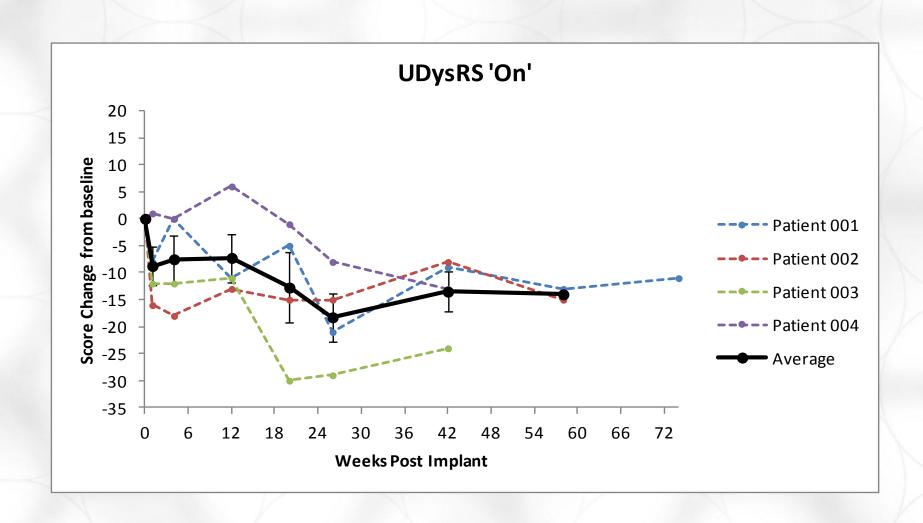
PDQ-39 – Quality of Life Significant improvement





UDysRS – Dyskinesia Rating Scale Significant improvement





Scientific advisors helping design next study



Auckland Clinical Site

Barry Snow, MBChB, FRACP

Principal Investigator, Neurologist

Ari Bok, MBChB, FRACS
Patrick Schweder, MBChB, FRACS
Neurosurgeons

Mark Simpson, MBChB, FRACP Investigator, Neurologist

Lorraine Macdonald, RGON, BHSc (Nsg) Study Nurse

DSMB

Prof Tim Anderson (Neurologist, Chair); Dr Rod Ellis-Pegler (ID); Dr Andrew Hughes (Neurologist)

Scientific Advisors

Anne B Young, MD

Professor of Neurology, Harvard Medical School, Boston, USA

Roger Barker, MD

Professor of Clinical Neurosciences and Deputy Director, John van Geest Centre for Brain Research, University of Cambridge, UK

Richard Faull, MBChB, PhD

Professor of Anatomy and Director, Centre for Brain Research, University of Auckland, NZ

NZ regulatory input to Phase IIb clinical study LCT



To qualify for provisional (fast track) consent to market:

- Define efficacy and any placebo contribution
- Define optimal dose of NTCELL implantation
- Define initial target Parkinson's disease patient subgroup

Phase IIb study



Group 1: Patients 1-6

4 dosed and 2 placebo, randomly assigned 40 NTCELL microcapsules (± 5%) bilaterally [total of 80 microcapsules], or placebo [sham surgery]

Group 2: Patients 7-12

4 dosed and 2 placebo, randomly assigned 80 NTCELL microcapsules (± 5%) bilaterally [total of 160 microcapsules], or placebo [sham surgery]

Group 3: Patients 13-18

4 dosed and 2 placebo, randomly assigned 120 NTCELL microcapsules (± 5%) bilaterally [total of 240 microcapsules], or placebo [sham surgery]

- The study will be unblinded upon completion of the 26-week follow-up period
- The placebo patients will receive the optimal dose of NTCELL

Secured supply of NTCELL, manufacturing GMP licences



- Pigs Bred at Kumeu facility
- Manufacturing GMP facility at Papatoetoe
- People
 - Employed key personnel
 - LCT headcount increases from 9 to 21

Filed new patent in USA



- United States Patent and Trademark Office
- Application Number 62/162,390
- Treatment of CNS disease with encapsulated inducible choroid plexus cells
- Date 15/05/2015

Financing



- See financial annual report 2015
- Awarded Callaghan Innovation grant 20% rebate on Research and Development expenditure
- Assessing partnership opportunities
- Have stock broker feedback on fundraising opportunities

Next steps strategy



- Goal is to launch NTCELL as the first disease modifying treatment for Parkinson's disease in 2017
- New Zealand first launch country
 - Most efficient approach to increasing the number of NTCELL treated patients
- This will expand the NTCELL quality, safety, and efficacy data
 - Necessary to fully globalise the product
 - Will allow submissions to FDA, EMA and Asian authorities
- May seek a global commercialisation partner to fully realise the market potential of NTCELL

Creating shareholder value



- Focused strategy NTCELL for Parkinson's disease
- Continue to meet milestones
 - Minister of Health approved Phase IIb study of NTCELL today
- Capital raising options are under consideration by the Board
- OPF, under licence from DOL, continues to pursue its diabetes strategy in the USA
- LCT continues to hold a 50% share in DOL
- 2015 positive ASX announcements negated by substantial shareholders, who invested in LCT when it was a pure diabetes play, liquidating their shareholdings totalling 42 million shares
- Vasson, Palmert, Coalco, and Persistency have zero balance
- Positive ASX announcements should now reflect share price movement





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