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The Transplantation Society of Australia and New Zealand

Forty First Annual Scientific Meeting

PROGRAM AT A GLANCE

Friday, 16 June 2023		
09:00–17:00	TSANZ HLA DAY	Mezzanine M1 & M2
Saturday, 17 June 2023		
08:15–17:00	TSANZ Post Graduate Course	Boulevard B1
09:00–11:00	HLA discussion with Cynthia Kramer (Rhonda Holdsworth)	Concord Boardroom
10:30–12:00	Donor Surgeons and Donor Coordinators Advisory Committee	Arbour Boardroom
16:00–18:30	Cardiac Transplant Advisory Committee	Concord Boardroom
Sunday, 18 June 2023		
08:00–12:35	Masterclass in Transplantation	Boulevard B1 & Boulevard B2
09:00–10:30	Paediatric Transplant Advisory Committee	Arbour Boardroom
10:30–12:00	Renal Transplant Advisory Committee	Arbour Boardroom
12:00–13:30	Lung Transplant Advisory Committee Liver Transplant Advisory Committee	Arbour Boardroom Concord Boardroom
13:30–14:30	Calibration Session Regarding Donor Selection Across States in Aust/NZ	Boulevard B1
13:00–14:30	Registration	Boulevard Level Foyer Brisbane Convention Centre (Grey Street entrance)
13:30–14:30	**Mark Cocks Patient Forum (Sponsored by Transplant Australia)**	Boulevard B2
14:45–15:00	**Welcome and Smoking Ceremony**	Boulevard Auditorium
15:00–15:10	**Official Opening:** *TSANZ President*	Boulevard Auditorium
15:10–15:40	**PLENARY 1: Astellas Sponsored Session** Advances in Xenotransplantation	Boulevard Auditorium
15:40–16:00	**Ian McKenzie Award Lecture** Therapeutic Strategies to Prevent Graft-Versus-Host Disease – Swimming Upstream	Boulevard Auditorium
16:00–16:20	**Josette Eris Lecture**	Boulevard Auditorium
16:20–16:45	**Afternoon tea**	Boulevard Level Foyer
16:45–17:45	***CONCURRENT FREE COMMUNICATIONS SESSIONS*** **Free Communications 1:** Clinical Science: Surgery and Other **Free Communications 2:** Outcomes and Complications#1 **Free Communications 3:** Basic Science#1 **Mini-oral Session 1**	 Boulevard Auditorium Boulevard B1 Boulevard B2 Boulevard B3

17:45–18:30	**TTS - Women in Transplantation Session**	Boulevard Auditorium
18:30–19:25	**Welcome Reception:** Sponsored by Hansa Biopharma	Boulevard Level Foyer
19:30–20:15 (Followed by Dinner	**SATELLITE EDUCATIONAL DINNER SYMPOSIUM** **Sponsored by Hansa Biopharma** **Management of the Highly Sensitised Patient: HLA Assessment to Perioperative Management** **THIS IS NOT AN OFFICIAL FUNCTION OF THE TSANZ ASM 2023**	Boulevard Room

HANSA BIOPHARMA

On behalf of Hansa Biopharma, please join our faculty for a live symposium:

State of the Art Lectures

Management of the Highly Sensitised Patient: HLA Assessment to Perioperative Management

Featuring:

Robert A. Montgomery, MD, DPhil, FACS (Chair)
Chairman and Professor of Surgery
NYU Langone Health
Director
NYU Langone Transplant Institute

Cynthia Kramer, PhD
Postdoctoral Researcher
Leiden University Medical Center and Eurotransplant Reference Laboratory (ETRL)

Sunday 18 June, 2023
7:30 pm–8:15 pm, Followed by Dinner
Boulevard Room, Brisbane Convention & Exhibition Centre

Scan the QR code to register.

TOPIC	SPEAKER
Welcome and Introductions	Robert A. Montgomery, MD, DPhil, FACS
HLA Delisting Strategies: Experience From the Eurotransplant Acceptable Mismatch Programme	Cynthia Kramer, PhD
HLA Desensitisation: Past, Present, and Future	Robert A. Montgomery, MD, DPhil, FACS
Q&A	Both speakers
Dinner to Follow at Approximately 8:15 pm	

This symposium is not part of the TSANZ 2023 41st Annual Scientific Meeting Program.

HANSA BIOPHARMA

Monday, 19 June 2022		
06:15–07:15	**Fun Run/Walk (5km)**	
07:30–08:00	**Coffee** with sponsors	Boulevard Level Foyer
	Pancreas and Islet Transplant Advisory Committee	Arbour Boardroom
08:00–09:40	**PLENARY 2: Hansa Sponsored Session** **Transplant Options for highly sensitized patients**	Boulevard Auditorium
09:40–10:40	***CONCURRENT FREE COMMUNICATIONS SESSIONS***	
	Free Communications 4: Outcomes and Complications#2	Boulevard Auditorium
	Free Communications 5: Infections	Boulevard B1
	Free Communications 6: Basic Science: Improving Allograft Survival	Boulevard B2
	Mini-oral Session 2	Boulevard B3
10:00–11:00	Guidelines Advisory Panel (GAP)	Arbour Boardroom
10:40–11:10	**Morning tea and Poster Viewing**	Boulevard Level Foyer
	ECRC "Meet the Researcher" Forum	Boulevard B1
11:10–12:50	**PLENARY 3: ThermoFisher Sponsored Session** Cellular Therapy and Transplantation Tolerance	Boulevard Auditorium
12:00–13:00	Vascular Composite Allograft Advisory Committee	Arbour Boardroom
12:50–13:35	**Lunch and Poster Viewing**	Boulevard Level Foyer
13:00–14:00	Heart Transplant Registry Clinical Advisory Committee (Kelly Marshall, ANZDATA)	Arbour Boardroom
13:35–15:35	**President's Prize Symposium**	Boulevard Auditorium
15:35–16:00	**Afternoon tea and Poster Viewing**	Boulevard Level Foyer
15:35–16:35	Australian & New Zealand Lung Transplant Registry (ANZLTR) Protocol Working Group (Kelly Marshall, ANZDATA)	Arbour Boardroom
16:00–17:00	***CONCURRENT FREE COMMUNICATIONS SESSIONS***	
	Free Communications 7: Clinical Science: Other#2	Boulevard Auditorium
	Free Communications 8: Organ Donation and Allocation	Boulevard B1
	Free Communications 9: Basic Science#3	Boulevard B2
17:00–18:00	**TSANZ Annual General Meeting**	Boulevard Auditorium
18:30–22:30	**TSANZ Annual Dinner**	Brisbane Town Hall

Tuesday, 20 June 2022		
07:30–08:00	**Coffee** with sponsors	Boulevard Level Foyer
08:00–09:30	**PLENARY 4: Joint TSANZ /OTA/ATCA Session** Improving Post-Transplant Outcomes	Boulevard Auditorium
09:30–10:30	***CONCURRENT STATE OF THE ART SESSIONS*** **STATE OF THE ART 1** Chronic Pathologies - Emerging Therapies **STATE OF THE ART 2: Hansa Sponsored Session** Transplant Genomics	 Boulevard Auditorium Boulevard B1 & Boulevard B2
10:30–11:00	**Morning tea**	Boulevard Level Foyer
11:00–12:30	**CONCURRENT STATE OF THE ART SESSIONS** **STATE OF THE ART 3:** Future Directions in Transplantation **STATE OF THE ART 4: Astellas Sponsored Session** Controversies in Access to Transplantation	 Boulevard Auditorium Boulevard B1 & Boulevard B2
12:30–13:30	**Lunch**	Boulevard Level Foyer
13:30–15:00	**Plenary 5: Astellas Sponsored Session** HLA and Solid Organ Transplantation	Boulevard Auditorium
15:00–15:25	Afternoon tea	Boulevard Level Foyer
15:25–16:00	**The Great Debate: Cannabis use Should Be a Contraindication for Transplantation Eligibility**	Boulevard Auditorium
16:00	**ASM Concludes**	

OFFICE BEARERS OF THE TRANSPLANTATIONSOCIETY OF AUSTRALIA AND NEW ZEALAND

President
Professor Helen Pilmore
President Elect & Chair, Advisory Committees/Working Groups
Professor Kate Wyburn
Honorary Secretary
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Dr Lucy Sullivan
Professor Angela Webster
Paul Robertson - ATCA Representative
A/Professor Bronwyn Levvey – TNA Representative

Scientific Program & Education Committee (SPEC)

A/Professor Wai Lim (Co-Chair)
Dr Jeanette Villanueva
Dr Siah Kim
A/Professor Antiopi Varelias (ASM)
Dr Jennifer Li (PGC)
Steven James Hiho (Masterclass)
Dr Lucy Sullivan (Co-Chair)
Dr Karen Keung
Dr Sanda Stankovic
Dr Chandima Divithotawela (ASM)
Dr Handoo Rhee (PGC)
Dr Georgina Irish (Masterclass)

Early Career Researchers' Committee

Eric Au – VIC (Co-Chair)
Eric Son – NSW
Samantha Bateman – SA
Griffith Perkins – SA
Georgina Irish – SA
Tracey Ying – NSW
Sarah Scheuer – VIC
Brenda Rosales – NSW (Co-Chair)
Madeleine Gill – NSW
Jennifer Li – NSW
Julian Singer - NSW
Sarah Dart - WA
Tom Crowhurst – SA
Adam Philipoff – WA

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Ms Marina Katerelos
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PARTNERS

The Transplantation Society of Australia and New Zealand gratefully acknowledges the support of the following companies in providing sponsorship for the Annual Scientific Meeting.

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AWARDS

The Transplantation Society of Australia and New Zealand gratefully acknowledges the support of the following companies for sponsoring awards presented at the Annual Scientific Meeting.

AWARDS

The President's Prizes – Basic Science and Clinical Science
(supported by TSANZ)

Early Career Researcher Awards – Basic Science
(supported by TSANZ)

Early Career Researcher Awards – Clinical Science
(supported by Astellas)

Kidney Health Australia Awards

Josette Eris Award
(supported by TSANZ)

Ian McKenzie Award
(supported by TSANZ)

Mark Cocks Patient Forum
(supported by Transplant Australia)

Aviva Rosenfeld Award for Excellence in Patient Care in Transplantation
(supported by TSANZ)

FINANCIAL STATEMENTS

The Transplantation Society of Australia and New Zealand (TSANZ) Financials for the Year Ended December 2022 are available on the easily accessible member password protected section of the TSANZ website www.tsanz.com.au.

INVITED INTERNATIONAL SPEAKERS

Sponsored by RACS Visitor Grant Program

Professor Robert A. Montgomery MD, PhD, FACS

Dr. Robert A. Montgomery is the Chairman and Professor of Surgery at NYU Langone Health and the Director of the NYU Langone Transplant Institute. He received his Doctor of Medicine with Honor from the University of Rochester School of Medicine. He received his Doctor of Philosophy from Balliol College, The University of Oxford, England in Molecular Immunology. Dr Montgomery completed his general surgical training, multi-organ transplantation fellowship, and postdoctoral fellowship in Human Molecular Genetics at Johns Hopkins. For over a decade he served as the Chief of Transplant Surgery and the Director of the Comprehensive Transplant Center at Johns Hopkins.
Dr. Montgomery was part of the team that developed the laparoscopic procedure for live kidney donation, a procedure that has become the standard throughout the world. He and the Hopkins team conceived the idea of the Domino Paired Donation (kidney swaps), the Hopkins protocol for desensitization of incompatible kidney transplant patients and performed the first chain of transplants started by an altruistic donor. He led the team that performed the first 2-way domino paired donation, 3-way paired donation, 3-way domino paired donation, 8-way multi-institutional domino paired donation, and co-led the first 10-way open chain. He is credited in the 2010 Guinness Book of World Records with the most kidney transplants performed in 1 day. He is considered a world expert on kidney transplantation for highly sensitized and ABO incompatible patients and is referred the most complex patients from around the globe.

Dr. Montgomery has had clinical and basic science research supported by the NIH throughout his career. He has authored over 300 peer reviewed articles, cited more than 30,000 times and has an h-index of 94. His academic interests include HLA sensitization, tolerance protocols including simultaneous solid organ and bone marrow transplantation, bioartificial organs and xenotransplantation. He has received important awards and distinctions including a Fulbright Scholarship and a Thomas J. Watson Fellowship and memberships in the Phi Beta Kappa and Alpha Omega Alpha academic honor societies. He has been awarded multiple scholarships from The American College of Surgeons and The American Society of Transplant Surgeons. The National Kidney Foundation of Maryland has recognized his contributions to the field of transplantation with the Champion of Hope Award, the National Kidney Registry with the Terasaki Medical Innovation Award and The Greater New York Hospital Association with the Profile in Courage Award. Newsweek Magazine featured him as one of America's Greatest Disruptors in December 2021. He received the Liberty Science Center's 2022 Genius Award. Modern Healthcare named him one of the Top 25 Innovators in Healthcare for 2022. Also in 2022, he was recognized by Crain's New York Business as a Notable Health Care Leader. He received the 2022 American Association of Kidney Patients Medal of Excellence Award. The American Society for Histocompatibility and Immunogenetics named him the winner of the 2022 Paul I. Terasaki Clinical Science Award. Dr. Montgomery became the recipient of a heart transplant in 2018 and has become known for his advocacy for transplant patients.

Sponsored by the Royal Australasian College of Surgeons

INVITED INTERNATIONAL SPEAKERS

Professor Geoffrey R. Hill MD FRACP, FRCPA

Geoff Hill is a medical graduate of the University of Auckland and Haematologist, training in New Zealand and The Dana Farber Cancer Institute in Boston. He was PI of a transplant immunology laboratory in Brisbane, Australia between 2001 and 2018 which focused on the interactions between cytokines, antigen presenting cells and T cell differentiation during stem cell transplantation. His laboratory developed a number of paradigms in the field that have instructed clinical practice over this period.

Prof Hill moved to The Fred Hutchinson Cancer Center in Seattle, USA in 2018 to take up the Jose Carreras/E. Donnall Thomas Endowed Chair for Cancer Research and Director roles for Hematopoietic Stem Cell Transplantation and the Immunotherapy Integrated Research Center. He is also a Senior Vice President and the Head of The Translational Science and Therapeutics Division at the Fred Hutchinson Cancer Center. Over the last 4 years his laboratory has developed new multiome and imaging approaches to study aberrant and tumor-specific immune responses in tissue that have led to a number of new NIH R01, U01 and P01 funded preclinical and translational clinical studies.

INVITED INTERNATIONAL SPEAKERS

Dr Cynthia Kramer PhD

Dr. Cynthia Kramer is working as a post-doc in the transplantation immunology group of Dr. Sebastiaan Heidt at the department of Immunology at the Leiden University Medical Center and the Eurotransplant Reference Laboratory (ETRL). In 2020 she obtained her PhD on towards HLA epitope matching in clinical transplantation under the supervision of Prof. Frans Claas, Dr. Sebastiaan Heidt and Dr. Dave Roelen. The focus of her research is the definition of immunogenic HLA epitopes and the generation and characterisation of human recombinant monoclonal HLA antibodies. She was actively involved in the epitope projects of the 18th International HLA & Immunogenetics workshop. For ETRL, she is involved in the introduction of virtual crossmatch, she will assist with running the Acceptable Mismatch program and work closely with Eurotransplant on histocompatibility related issues.

INVITED INTERNATIONAL SPEAKERS

Professor Lianne Singer MD FRCPC

Dr. Singer is a Professor of Medicine at the University of Toronto with cross-appointments to the Institute of Medical Science and Institute of Health Policy, Management and Evaluation. She is the Division Head of Respirology and Critical Care Medicine at University Health Network and Sinai Health System, Toronto. She was Medical Director of the Toronto Lung Transplant Program from 2004-2020. Dr. Singer completed her M.D. and postgraduate training in Internal Medicine and Respiratory Medicine at the University of Toronto. She went on to do a Lung and Heart-Lung Transplantation Fellowship at Stanford University, combined with Advanced Training in Clinical Research at the University of California, San Francisco. She has held leadership positions with the International Society of Heart and Lung Transplantation, the American College of Chest Physicians and the Canadian Society of Transplantation. Her research focuses on health outcomes and clinical innovation in advanced lung disease and organ transplantation.

INVITED INTERNATIONAL SPEAKERS

Professor Elaine F. Reed PhD

Elaine F. Reed, Ph.D., is a Professor of Pathology and Laboratory Medicine and the Daljit S. and Elaine Sarkaria Endowed Chair in Diagnostic Medicine at the University of California, Los Angeles. She is also the Director of the UCLA Immunogenetics Center and serves as Vice Chair of Research Services for the Department of Pathology and Laboratory Medicine. Her research interests have focused on mechanisms of antibody-mediated allograft rejection and immune assessment. Her recent research studies demonstrate that anti-HLA antibodies can contribute to the development of chronic rejection by triggering intracellular signaling cascades that culminate in endothelial cell and smooth muscle cell survival and proliferation. Her work has delineated the signaling pathways leading to cell proliferation, survival, and leukocyte recruitment providing the opportunity for the development of therapeutic strategies. An additional focus of Reed's research is in the development of methods for immunologic assessment of the healthy versus unhealthy immune system in various immune, infectious and inflammatory disorders including ischemia reperfusion injury, CMV viremia and bacterial infection. She is an active member of American Society for Histocompatibility and Immunogenetics (ASHI), American Association of Immunologists, American Society of Transplantation, Federation of Clinical Immunology Societies, and The Transplantation Society. She serves on the editorial boards of Human Immunology and the American Journal of Transplantation. She has a strong track record of NIH funding and published extensively in the field of Immunogenetics and Transplant Immunology. She has trained numerous graduate students and post-doctoral research scientists in the fields of Immunogenetics and Transplant Immunology. She is the recipient of the 1991 ASHI Young Investigator Award, 2008 ASHI Distinguished Scientist Award, 2012 ASHI Rose Payne Award, 2017 ASHI Paul I. Terasaki Clinical Science Award, the 2017 UCLA Immunity, Inflammation, Infection, and Transplantation Research Excellence (I3T) Award, the 2020 Woman Leader in Transplantation Award, Transplantation Society, and the 2022 Outstanding Achievement in Transplantation Science (Mentorship or Education & Training) Award from the Transplantation Society.

Sponsored by Women in Transplantation an Initiative of The Transplantation Society

INVITED SPEAKERS

Prof Stephen Alexander
Paediatric Nephrologist, Children's Hospital at Westmead
University of Sydney, School of Medicine, NSW

Dr Swasti Chaturvedi
Paediatric Nephrologist, Royal Darwin Hospital, NT

Prof Peter Cowan
Scientist Director; Immunology Research Centre, St Vincent's Hospital VIC

A/Prof Louise Fuller
Senior Clinical Physiotherapist, Swinburne University of Technology, VIC

Dr Emily Gordon
Consultant Geriatrician,
Princess Alexandra Hospital, QLD

Prof Shane Grey
Transplant Immunologist, Garvan Institute of Medical Research, NSW

Prof Wayne Hawthorne
Professor of Transplantation, Department of Surgery,
University of Sydney, NSW

A/Prof Peter Hughes
Transplantation Physician, Director of the Paired Kidney Exchange Program
Royal Melbourne Hospital, VIC

Dr Joshua Kausman
Paediatric Nephrologist, Royal Children's Hospital Melbourne, VIC

Prof Rajiv Khanna
Senior Scientist, Tumour Immunology Laboratory, QIMR Berghofer, QLD

INVITED SPEAKERS

Prof Peter MacDonald
Professor of Medicine, University of New SouthWales; Medical Director, Heart Transplant Unit, St Vincent's Hospital, Sydney; Head of Transplantation Research Laboratory; Victor Chang Cardiac Research Institute, NSW

Dr Amali Mallawaarachchi
Nephrologist and Clinical Geneticist, Garvan Institute of Medical Research, NSW

Mark McDonald
National Manager of Analytics and Technology
Australian Organ and Tissue Donation and Transplantation Authority (OTA)

Prof David McGiffin
Cardiothoracic and Transplantation Surgeon, Head of Research, Cardiothoracic Surgery
Alfred Hospital VIC

A/Prof William Mulley
Nephrologist and ANZDATA Transplant
Working Group Convenor, Monash Medical Centre, VIC

Prof Philip O'Connell
Executive Director, Westmead Institute for Medical Research, NSW

Professor Helen Pilmore
TSANZ President, Senior Transplant Nephrologist
Auckland City Hospital, New Zealand

Prof Henry Pleass
Professor of Surgery, Westmead Clinical School, NSW

Paul Robertson
Australasian Transplant Coordinators Association (ATCA)

Professor Greg Snell
Medical Head, Lung Transplant Service
Alfred Hospital, VIC

INVITED SPEAKERS

Dr Siok Tey
Haematologist, Royal Brisbane and Women's Hospital
Senior Research Fellow, QIMR Berghofer, QLD

Dr Mark Wallace
Psychiatrist, University of Queensland, QLD

Dr Debbie Watson
Genetics and Immunology Research Laboratory
University of Wollongong, NSW

Professor Angela Webster
Professor of Clinical Epidemiology, Director of Evidence Integration, Nephrologist
University of Sydney and Westmead Hospital, NSW

Professor Germaine Wong
Director of Renal and Transplantation and Renal Medicine
Westmead Hospital, NSW

Prof Kate Wyburn
Deputy Director of Renal Medicine and Head of Kidney Transplantation, Royal Prince Alfred Hospital NSW

ABSTRACT REVIEW PROCESS AND PRESENTATION FORMATS

A total of 94 abstracts were submitted this year. Abstracts were blinded for authors and institutions and were reviewed by four reviewers (see below) assigned by the Scientific Program and Education Committee (SPEC). Reviewers did not review abstracts if a conflict of interest was identified. Reviewers scored between 6 to 12 abstracts and in general there was a close agreement between scores.

Three presentation formats will be used at the 2023 ASM. Free Communications session will have 4 oral presentations (12 min presentation, 3 min questions). 24 abstracts will be presented as mini-orals (4 min presentation, 1 min question) on Sunday evening and Monday morning. Abstracts will also be displayed as posters and the poster viewing sessions will be held during morning tea and lunch on Monday June 19. Presenters should be at their posters during the poster sessions to answer any questions from delegates.

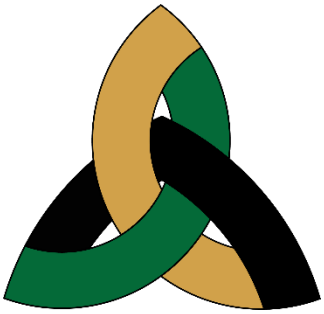
The President's Prize (PP) will be awarded in two categories: Basic Science and Clinical. The highest-ranked abstracts from eligible applicants in both categories will be presented in a single PP session. The award in each category will be based on the quality of the abstract and the presentation on the day.

The reviewers of the abstracts for the TSANZ 2023 meeting were
:

Stephen Alexander
Richard Allen
Eric Au
Scott Campbell
Robert Carroll
Steve Chadban
Carolyn Clark
Philip Clayton
Michael Collins
Peter Cowan
David Darley
Randall Faull
Michael Fink
Ross Francis
Allan Glanville
Hilton Gock
Ahmer Hameed
Bulang He
Munish Heer
Andrea Henden
Peter Hopkins
Peter Hughes
Frank Ierino
Ashley Irish
Georgina Irish
Nikky Isbel
Andrew Jabbour
Darren Lee
Bronwyn Levvey
Jennifer Li
Wai Lim
Kelli MacDonald
Peter Macdonald
Fiona Mackie
Rosemary Masterson
Geoff McCaughan
John Mackintosh
Paul Manley
Ian McKenzie
Tanya Mcwilliams
Brian Nankivell
Eu Ling Neo
Philip O'Connell
Kathy Paizis
Helen Pilmore
Henry Pleass
Chanel Prestige
Amanda Robertson
Paul Robertson
Natasha Rogers
Brenda Rosales
Christine Russell
Sarah Scheuer
Alex Sharland
Julian Singer
Sanda Stankovic
Lucy Sullivan
Antiopi Varelias
Jeanette Villanueva
Karen Waller
Debbie Watson
Angela Webster
Germaine Wong
Kate Wyburn
Nathan Zammit

The committee members thank these reviewers for their reviews and effort in supporting the meeting.

Wai Lim and Lucy Sullivan
Chairs of TSANZ Scientific Program



The Transplantation Society of Australia and New Zealand
Forty First Annual Scientific Meeting

PROGRAM

Friday, 16 June 2023

09:00–17:00	TSANZ HLA DAY	Mezzanine M1 & M2

Saturday, 17 June 2023

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10:30–12:00	Donor Surgeons and Donor Coordinators Advisory Committee	Arbour Boardroom
16:00–18:30	Cardiac Transplant Advisory Committee	Concord Boardroom

Sunday, 18 June 2023

08:00–12:35	Masterclass in Transplantation	Boulevard B1 & Boulevard B2
09:00–10:30	Paediatric Transplant Advisory Committee	Arbour Boardroom
10:30–12:00	Renal Transplant Advisory Committee	Arbour Boardroom
12:00–13:30	Lung Transplant Advisory Committee Liver Transplant Advisory Committee	Arbour Boardroom Concord Boardroom
13:30–14:30	Calibration Session Regarding Donor Selection Across States in Aust/NZ	Boulevard B1

Sunday, June 18, 2023

13:00–14:30	**Registration**	Boulevard Level Foyer Brisbane Convention Centre (Grey Street entrance)
13:30–14:30	**Mark Cocks Patient Forum** Sponsored by Transplant Australia	Boulevard B2
14:45–15:00	**Welcome and Smoking Ceremony**	Boulevard Auditorium
15:00–15:10	**Official Opening:** *TSANZ President* Prof Helen Pilmore	Boulevard Auditorium
15:10–15:40	**PLENARY 1: Astellas Sponsored Session** *Chairs: Dr Anthony Griffin and Prof Peter Cowan* **Advances in Xenotransplantation** Prof Robert Montgomery	Boulevard Auditorium
15:40–16:00	**Ian McKenzie Award Lecture** *Chair: A/Prof Fiona Mackie* **Therapeutic Strategies to Prevent Graft-Versus-Host Disease – Swimming Upstream** Dr Debbie Watson	Boulevard Auditorium
16:00–16:20	**Josette Eris Lecture** *Chair: Dr Sanda Stankovic* Prof Kate Wyburn	Boulevard Auditorium
16:20–16:45	**Afternoon tea**	Boulevard Level Foyer
16:45–17:45	***CONCURRENT FREE COMMUNICATIONS SESSIONS*** **Free Communications 1: Clinical Science: Surgery and Other** *Chairs: Dr Christine Russell and Dr David Soon*	Boulevard Auditorium
Abstract	***— Oral presentations —***	
1	16:45 **THE FIRST AUSTRALIAN UTERUS TRANSPLANTATION PROCEDURE** REBECCA DEANS	

Sunday, June 18, 2023

2	17:00	**VENOUS DRAINAGE VIA THE INFERIOR VENA CAVA IS ASSOCIATED WITH A DECREASE IN GRAFT LOSS FROM EARLY PANCREAS ALLOGRAFT THROMBOSIS** DENNISON CHEUNG	
3	17:15	**DCD KIDNEYS ARE ASSOCIATED WITH REDUCED FLOW AND INCREASED RESISTANCE ON COLD PERFUSION MACHINE** ALICE NICOL	
4	17:30	**BEST-FLUIDS: BALANCED CRYSTALLOID SOLUTION VS. SALINE TO PREVENT DELAYED GRAFT FUNCTION IN DECEASED DONOR KIDNEY TRANSPLANTATION** MICHAEL COLLINS	
16:45–17:45	**Free Communications 2: Outcomes and Complications#1** *Chairs: Dr James Thomas and Dr Laura De Souza*		Boulevard B1
Abstract	***— Oral presentations —***		
5	16:45	**ASSOCIATIONS BETWEEN SLOW GRAFT FUNCTION AND LONG-TERM KIDNEY TRANSPLANT OUTCOMES** KARTHIK VENKATARAMAN	
6	17:00	**P-CUBE-A MULTI-STEP PRECISION PATHWAY FOR PREDICTING ALLOGRAFT SURVIVAL IN HETEROGENEOUS COHORTS OF KIDNEY TRANSPLANT RECIPIENTS** YUNWEI ZHANG	
7	17:15	**NORMOTHERMIC MACHINE PERFUSION COMPARED WITH COLD STORAGE OF LIVER GRAFTS FOR LATE LIVER RETRANSPLANTATION** ANGUS HANN	
8	17:30	**A PHASE 3 STUDY COMPARING CMV PROPHYLAXIS WITH LETERMOVIR VERSUS VALGANCICLOVIR IN KIDNEY TRANSPLANT RECIPIENTS** ROB CARROLL	
16:45–17:45	**Free Communications 3: Basic Science#1** *Chairs: Prof David McGiffin and Dr Katharine Hegerty*		Boulevard B2
Abstract	***— Oral presentations —***		
9	16:45	**DRUG REPURPOSING IN THE CONTEXT OF ACUTE KIDNEY INJURIES** AADHAR MOUDGIL	
10	17:00	**THE KINETICS OF KIDNEY INJURY AND NECROINFLAMMATION IN A MOUSE MODEL OF KIDNEY ISCHEMIA-REPERFUSION INJURY** ASPASIA PEFANIS	

Sunday, June 18, 2023

11	17:15	**NOVEL BIOMARKERS TO PREDICT BILIARY REGENERATION DURING LONG-TERM EX-VIVO NORMOTHERMIC MACHINE PERFUSION OF HUMAN GRAFTS** MARK LY	
12	17:30	**ASSESSING GRAFT SUITABILITY FOR LIVER TRANSPLANTATION DURING EX-VIVO NORMOTHERMIC MACHINE PERFUSION USING CELL-FREE DNA** DANIEL COX	
16:45–17:45	**Mini-Oral Session 1** *Chairs: Prof Matthew Jose and A/Prof Kate Gartlan*		Boulevard B3
Abstract	***— Mini-oral presentations —***		
13	16:45	**HAND-ASSISTED LAPAROSCOPIC DONOR NEPHRECTOMY: OVER A DECADE'S EXPERIENCE AT MELBOURNE HEALTH** CALVIN PENG	
14	16:50	**DELAYED BLOCKADE OF THE ACID SENSOR ASIC1A PROTECTS AGAINST KIDNEY ISCHEMIA-REPERFUSION INJURY** JENNIFER MCRAE	
15	16:55	**THE EPIDEMIOLOGY OF HEREDITARY PANCREATITIS IN AUSTRALIA AND ITS EFFECT ON PATIENT OF TOTAL PANCREATECTOMY WITH ISLET AUTO-TRANSPLANTATION (TP-IAT)** DENGHAO WU	
16	17:00	**NORMOTHERMIC EX-VIVO MACHINE PERFUSION FOR LIVER TRANSPLANTATION: A SYSTEMATIC REVIEW OF PROGRESS IN HUMANS** CHARLES RISBEY	
17	17:05	**OUTCOMES OF CARDIAC TRANSPLANTATION IN ADULTS WITH CONGENITAL HEART DISEASE: A WESTERN AUSTRALIAN EXPERIENCE** LAUREN GIUDICATTI	
18	17:10	**THE EFFECT OF IMMUNOSUPPRESSION ON DONOR AND RECIPIENT LEUCOCYTE RESPONSES POST-TRANSPLANTATION** AMY PROSSER	
19	17:15	**FEASIBILITY OF TECHNOLOGY-ASSISTED DIET AND EXERCISE SUPPORT FOR TRANSPLANT RECIPIENTS – A RANDOMISED CONTROLLED TRIAL** JAIMON KELLY	
20	17:20	**BONE MARROW EFFECTOR TREGS INDUCE TOLERANCE TO MURINE LIVER TRANSPLANTS** AMY PROSSER	

Sunday, June 18, 2023

21	17:25	**IMPROVING THE PRECISION IN ORGAN ALLOCATION USING A UTILITY-BASED PREDICTION MODEL** YUNWEI ZHANG	
22	17:30	**ABERRANT IMMUNE CELL FUNCTION UNDERPINS INCREASED MORTALITY IN RESPIRATORY VIRAL INFECTED BONE MARROW TRANSPLANT RECIPIENTS** SOPHIE HAMANN	
23	17:35	**THE MANAGEMENT OF BORDERLINE T CELL MEDIATED REJECTION IN KIDNEY TRANSPLANTATION** LESLEIGH WINKS	
24	17:40	**ACTIVATION OF HUMAN CD4+CD25+CD127LO TREG WITH ALLOANTIGEN AND RIL-2** NIRUPAMA VERMA	
17:45–18:30		**TTS - Women in Transplantation Session** **Promoting Gender Equity, Acknowledging all Genders are Different** **17:45 Introduction** Prof Germaine Wong **17:50 Promoting Equality and Inclusiveness in a Professional Society** Prof Elaine Reed **16:25 Closing the Wide Gap in Kidney Transplant Access- Aboriginal and Torres Strait Islander Children and Young Adults** Dr Swasti Chaturvedi	Boulevard Auditorium
18:30–19:25		**Welcome Reception** Sponsored by Hansa Biopharma	Boulevard Level Foyer

19:30–20:15 *(Followed by Dinner)*	**SATELLITE EDUCATIONAL DINNER SYMPOSIUM** Sponsored by Hansa Biopharma **Management of the Highly Sensitised Patient: HLA Assessment to Perioperative Management** Prof Robert Montgomery and Dr Cynthia Kramer **THIS IS NOT AN OFFICIAL FUNCTION OF THE TSANZ ASM 2023**	Boulevard Room

HANSA BIOPHARMA

On behalf of Hansa Biopharma, please join our faculty for a live symposium:

State of the Art Lectures

Management of the Highly Sensitised Patient: HLA Assessment to Perioperative Management

Featuring:

Robert A. Montgomery, MD, DPhil, FACS (Chair)
Chairman and Professor of Surgery
NYU Langone Health
Director
NYU Langone Transplant Institute

Cynthia Kramer, PhD
Postdoctoral Researcher
Leiden University Medical Center and Eurotransplant Reference Laboratory (ETRL)

Sunday 18 June, 2023
7:30 pm–8:15 pm, Followed by Dinner
Boulevard Room, Brisbane Convention & Exhibition Centre

Scan the QR code to register.

TOPIC	SPEAKER
Welcome and Introductions	Robert A. Montgomery, MD, DPhil, FACS
HLA Delisting Strategies: Experience From the Eurotransplant Acceptable Mismatch Programme	Cynthia Kramer, PhD
HLA Desensitisation: Past, Present, and Future	Robert A. Montgomery, MD, DPhil, FACS
Q&A	Both speakers
Dinner to Follow at Approximately 8:15 pm	

This symposium is not part of the TSANZ 2023 41st Annual Scientific Meeting Program.

HANSA BIOPHARMA

Monday, June 19, 2023

06:15–07:15	**TSANZ Fun Run/Walk** (5 km)	
07:30–08:00	**Coffee** with sponsors	Boulevard Level Foyer
	Pancreas and Islet Transplant Advisory Committee	Arbour Boardroom
08:00–09:40	**PLENARY 2: Hansa Sponsored Session** **Transplant Options for Highly Sensitised Patients** *Chairs: Dr Nick Larkins and Dr Chandima Divithotawela* 08:00 **Desensitisation Strategies and Emerging Therapies for Antibody-Mediated Rejection** Prof Robert Montgomery 08:40 **Non-HLA Ab and Transplantation** Prof Elaine Reed 09:10 **Positive Crossmatch Transplant Experience From Toronto** Prof Lianne Singer	Boulevard Auditorium
09:40–10:40	***CONCURRENT FREE COMMUNICATIONS SESSIONS***	
	Free Communications 4: Outcomes and Complications#2 *Chairs: A/Prof Sean Kennedy and A/Prof Fiona Mackie*	Boulevard Auditorium
Abstract	***— Oral presentations —***	
25	09:40 **INCREASED EARLY MORTALITY RISK FOLLOWING KIDNEY TRANSPLANT FAILURE IN AUSTRALIA AND NEW ZEALAND (1980-2019)** DARREN LEE	
26	09:55 **PREDICTORS OF OMICRON COVID SEVERITY IN A LARGE LUNG TRANSPLANT COHORT** BRONWYN LEVVEY	
27	10:10 **RISK FACTORS FOR DEVELOPMENT OF BK POLYOMAVIRUS AND TREATMENT OUTCOMES IN ADULT KIDNEY TRANSPLANT PATIENTS: AN 8-YEAR RETROSPECTIVE COHORT STUDY** ALYSSA PRADHAN	
28	10:25 **ERRATIC TACROLIMUS LEVELS AT 6-12 MONTHS POST LUNG TRANSPLANT PREDICTS POOR OUTCOMES** SAMUEL WALTERS	
09:40–10:40	**Free Communications 5: Clinical Science: Other #1** *Chairs: A/Prof Peter Hughes and Dr Joshua Kausman*	Boulevard B1
Abstract	***— Oral presentations —***	

Monday, June 19, 2023

29	09:40	**BARIATRIC SURGERY AND TRANSPLANTATION IN PATIENTS RECEIVING CHRONIC DIALYSIS: 15-YEAR EXPERIENCE IN AUSTRALIA AND NEW ZEALAND** SHAUN CHANDLER	
30	09:55	**COMPARISON OF BLOOD LYMPHOCYTE SUBPOPULATIONS BETWEEN LONG-SURVIVING RENAL TRANSPLANT PATIENTS AND HEALTHY VOLUNTEERS** PRATEEK KUMAR RAKESH	
31	10:10	**MYOCARDIAL INFARCTION AS A CORE OUTCOME MEASURE FOR CARDIOVASCULAR DISEASE IN KIDNEY TRANSPLANTATION** GREGORY WILSON	
32	10:25	**THE USE OF BANFF HOT PANEL MOLECULAR DIAGNOSTICS IN KIDNEY TRANSPLANT BIOPSIES** STELLA MCGINN	
09:40–10:40	**Free Communications 6: Basic Science#2** *Chairs: Prof Wayne Hawthorne and Prof David Johnson*		Boulevard B2
Abstract	***— Oral presentations —***		
33	09:40	**EARLY BRONCHOALVEOLAR LAVAGE BIOMARKERS PREDICT CHRONIC LUNG ALLOGRAFT DYSFUNCTION** ELLIE REILLY	
34	09:55	**LOCAL IMMUNOSUPPRESSION: EVALUATION OF TRANSGENIC PIGS EXPRESSING A HUMAN T CELL DEPLETING ANTI-CD2 MONOCLONAL ANTIBODY** PETER COWAN	
35	10:10	**IDENTIFICATION OF COPY NUMBER VARIANTS IN CHILDREN WITH KIDNEY TRANSPLANTS AT CHILDREN'S HOSPITAL AT WESTMEAD** STEPHEN ALEXANDER	
36	10:25	**THE EFFECT OF MHC- AND TISSUE-MISMATCHING ON DONOR LEUCOCYTE RETENTION FOLLOWING LIVER AND KIDNEY TRANSPLANTATION** AMY PROSSER	
09:40–10:40	**Mini-Oral Session 2** *Chairs: Dr Michael Collins and Dr Debbie Watson*		Boulevard B3
Abstract	***— Mini-oral presentations —***		
37	09:40	**PORTAL VENOUS PRESSURES AND LIVER FUNCTION TESTS FOLLOWING ISLET CELL TRANSPLANTATION: A SINGLE-CENTRE EXPERIENCE** VINCENT TRINH	

Monday, June 19, 2023

38	09:45	**FREQUENCY AND STABILITY OF SUBPOPULATIONS OF CD4+CD25+FOXP3+CD127LO TREG IN HEALTHY ADULT VOLUNTEERS** RANJE AL-ATIYAH	
39	09:50	**CONVERTING THE 'UN-TRANSPLANTABLE' KIDNEY TO TRANSPLANTS: AN ANALYSIS OF OUTCOMES TO DEVELOP A DUAL-KIDNEY DONOR PROFILE INDEX** MARK BEECHER	
40	09:55	**INTESTINAL GRAFT-VERSUS-HOST-DISEASE IN A DISH** AMIR SHAMSHIRIAN	
41	10:00	**TOCILIZUMAB AS ADJUVANT THERAPY IN REFRACTORY ANTIBODY MEDIATED REJECTION IN PAEDIATRIC KIDNEY TRANSPLANT RECIPIENTS** MELANIE ALDRIDGE	
42	10:05	**LOWER FLOW AND HIGHER RESISTANCE ON COLD PERFUSION MACHINE IS ASSOCIATED WITH HIGHER LIKELIHOOD OF REQUIRING DIALYSIS POST RENAL TRANSPLANT** ALICE NICOL	
43	10:10	**A COMPARISON OF VIRTUAL XM, FLOW XM AND CDCXM IN HEART AND LUNG TRANSPLANTS PERFORMED IN WESTERN AUSTRALIA** JONATHAN DOWNING	
44	10:15	**EXPLORING YOUNG PEOPLE'S KNOWLEDGE, ATTITUDES AND PERCEPTIONS OF ORGAN DONATION IN AUSTRALIA** BROOKE HUUSEKS	
45	10:20	**USING TOTAL LYMPHOID IRRADIATION TO TREAT REFRACTORY ACUTE RENAL ALLOGRAFT REJECTION PRECIPITATING THROMBOTIC MICROANGIOPATHY** LIPI CHAKRAVORTY	
46	10:25	**A CASE SERIES OF SUCCESSFUL KIDNEY TRANSPLANTATION FROM SNAKE ENVENOMATION DONOR KIDNEYS** ANDREA VIECELLI	
47	10:30	**EVALUATING THE STRENGTH OF AUSTRALIAN DONATION AND TRANSPLANTATION LAW AGAINST INTERNATIONAL LEGAL NORMS** MAEGHAN TOEWS	
48	10:35	**IDENTIFYING CARDIOVASCULAR OUTCOMES OF IMPORTANCE IN KIDNEY TRANSPLANT CLINICAL TRIALS: AN INTERNATIONAL SURVEY** SASKIA LEIBOWITZ	
10:00–11:00	Guidelines Advisory Panel (GAP)		Arbour Boardroom

Monday, June 19, 2023

10:40–11:10	**Morning tea and Poster Viewing**	Boulevard Level Foyer
	ECRC "Meet the Researcher" Forum ***(A/Prof Antiopi Varelias, Dr Michael Collins and Dr Melanie Wyld)***	Boulevard B1
11:10–12:50	**PLENARY 3: ThermoFisher Sponsored Session** **Cellular Therapy and Transplantation Tolerance** *Chairs: Prof Steve Chadban and A/Prof Antiopi Varelias* 11:10 **BMT and Cellular Therapies (Including CAR T-Cell)** Prof Geoff Hill 11:50 **CAR-Treg Cells in Antibody-Mediated Rejection** Prof Stephen Alexander 12:10 **Phase I Clinical Trial of a Novel CD19 CAR T Cell Therapy for Relapsed Blood Cancers: the Local RBWH Experience** Dr Siok Tey 12:30 **Cellular Therapies for Viral Infection in Solid Organ Transplantation** Prof Rajiv Khanna	Boulevard Auditorium
12:00–13:00	VCAAC	Arbour Boardroom
12:50–13:35	**Lunch and Poster Viewing**	Boulevard Level Foyer
13:00–14:00	Heart Transplant Registry Clinical Advisory Committee (Kelly Marshall, ANZDATA)	Arbour Boardroom
13:35–15:35	**President's Prize Symposium** *Chair: TSANZ President, Prof Helen Pilmore* ***— Oral presentations —*** 49 13:35 **NORMOTHERMIC MACHINE PERFUSION OF PAIRED DCD KIDNEYS PRIOR TO TRANSPLANTATION – FIRST AUSTRALASIAN TRIAL** AHMER MOHAMMAD HAMEED 50 13:50 **AN EXPERIMENTAL RODENT MODEL FOR LONG-TERM EX-VIVO NORMOTHERMIC MACHINE PERFUSION OF LIVERS** MARK LY	Boulevard Auditorium

Monday, June 19, 2023

51	14:05	**SPLIT-LIVER TRANSPLANTATION FOR PSC IS ASSOCIATED WITH REDUCED GRAFT SURVIVAL DUE TO HEPATIC ARTERY THROMBOSIS** DANIEL COX	
52	14:20	**TARGETING CD47 IMPROVES ISLET FUNCTION AND SURVIVAL** ATHARVA KALE	
53	14:35	**PAN-ORGAN ALLOGRAFT DYSFUNCTION** HARRY ROBERTSON	
54	14:50	**SINGLE CELL TRANSCRIPTOME OF ALLOREACTIVE CD8 T CELLS SUPPORTS ROLES FOR BOTH DELETION AND EXHAUSTION IN TOLERANCE INDUCTION** MOUMITA PAUL	
55	15:05	**THE EARLY EFFECT OF COVID-19 INFECTION ON SPIROMETRY IN LUNG TRANSPLANT RECIPIENTS** SAMANTHA ENNIS	
56	15:20	**POST-TRANSPLANT CYCLOPHOSPHAMIDE WITH TOCILIZUMAB LIMITS GRAFT-VERSUS-HOST DISEASE AND PRESERVES GRAFT-VERSUS-LEUKAEMIA IMMUNITY** CHLOE SLIGAR	
15:35–16:00	**Afternoon tea and Poster Viewing**		Boulevard Level Foyer
15:35–16:35	Australian & New Zealand Lung Transplant Registry (ANZLTR) Protocol Working Group (Kelly Marshall, ANZDATA)		Arbour Boardroom
16:00–17:00	***CONCURRENT FREE COMMUNICATIONS SESSIONS***		
	Free Communications 7: Clinical Science: Other#2 *Chairs: Dr Melanie Wyld and Dr Alison Graver*		Boulevard Auditorium
Abstract	***— Oral presentations —***		
57	16:00	**TRANSPLANT PROFESSIONALS' PERSPECTIVES ON REPORTING OF TRAVEL FOR ORGAN TRANSPLANTATION: AN INTERNATIONAL CROSS SECTIONAL STUDY** GEORGINA IRISH	
58	16:15	**KIDNEY TRANSPLANT OUTCOMES FOR PEOPLE OF MĀORI AND PASIFIKA ETHNICITY TRANSPLANTED IN AUSTRALIA** LAURA DE SOUZA	

Monday, June 19, 2023

59	16:30	**NIRMATRELVIR-RITONAVIR IN RENAL TRANSPLANT RECIPIENTS FOR THE TREATMENT OF COVID-19** SHU LING FAN	
60	16:45	**THE ADSORPTION CROSSMATCH CELLS AND ELUTION (AXE) TECHNIQUE TO IDENTIFY TRUE HLA SPECIFIC ANTIBODIES** RORY LEAHY	
16:00–17:00		**Free Communications 8: Organ Donation and Allocation** *Chairs: Prof Frank Ierino and A/Prof Darren Lee*	Boulevard B1
Abstract		***— Oral presentations —***	
61	16:00	**TRANSMISSION AND NON-TRANSMISSION OF MELANOMA FROM DECEASED ORGAN DONORS TO TRANSPLANT RECIPIENTS: AN UPDATE USING RE-INKED DATA** BRENDA ROSALES	
62	16:15	**DECISION SUPPORT TOOL FOR ASSESSING ABSOLUTE RISK OF CANCER TRANSMISSION FROM DECEASED KIDNEY DONORS** JAMES HEDLEY	
63	16:30	**THE USE OF BRIDGE DONORS IN THE AUSTRALIAN AND NEW ZEALAND KIDNEY EXCHANGE PROGRAM (ANZKX)** STELLA MCGINN	
64	16:45	**NORMOTHERMIC MACHINE PERFUSION INCREASES OVERALL DCD LIVER UTILISATION** GABRIEL LAND	
16:00–17:00		**Free Communications 9: Basic Science#3** *Chairs: A/Prof Alexandra Sharland and Dr Jennifer Li*	Boulevard B2
Abstract		***— Oral presentations —***	
65	16:00	**RAPAMYCIN AS A VACCINE ADJUVANT TO IMPROVE CELLULAR MEDITATED-T CELL RESPONSE FOLLOWING COVID-19 VACCINATION** CHENG SHENG CHAI	
66	16:15	**A NOVEL SUBSET OF MEMORY-LIKE CD127HIGHCD4+FOXP3+TREG MAINTAINS ISLET-XENOTRANSPLANT TOLERANCE** HAINA (HANNAH) WANG	
67	16:30	**MULTIPLEX BARCODED DEXTRAMER STAINING REVEALS PMHC SPECIFICITY AND CROSS-REACTIVITY WITHIN ALLOREACTIVE T CELL REPERTOIRES** MOUMITA PAUL	

Monday, June 19, 2023

68	16:45	**DONOR-DERIVED LYMPHOCYTE HOMEOSTASIS AND CORRELATION WITH CHRONIC LUNG ALLOGRAFT DYSFUNCTION AFTER LTX** SANDA STANKOVIC	
17:00–18:00		**TSANZ Annual General Meeting**	Boulevard Auditorium
18:30–22:30		**TSANZ Annual Awards Dinner**	Brisbane Town Hall

Tuesday, June 20, 2023

07:30–08:00	**Coffee** with sponsors	Boulevard Level Foyer
08:00–09:30	**PLENARY 4: Joint TSANZ /OTA/ATCA Session** **Improving Post-Transplant Outcomes** *Chairs: Dr Georgina Irish and Dr Jeanette Villanueva* 08:00 **DCD Donor Lung Transplants** Prof Greg Snell 08:20 **DCD Donor Heart Transplants** Prof Peter MacDonald 08:40 **DCD Donor Renal Transplants** Prof Henry Pleass 09:00 **OTA Report-What is the Data Telling us?** Mr Mark McDonald 09:15 **ADTCA Update** Mr Paul Robertson	Boulevard Auditorium
09:30–10:30	***CONCURRENT STATE OF THE ART SESSIONS*** **STATE OF THE ART 1:** **Chronic Pathologies - Emerging Therapies** *Chairs: A/Prof Kelli MacDonald and A/Prof Nikky Isbel* 09:30 **Immunological Risk Assessment - Beyond DSA** Dr Joshua Kausman 09:50 **Immune Checkpoint Inhibitors: Use in Solid Organ Transplant Recipients With Cancer** Prof. Kate Wyburn 10:10 **Chronic GVHD Treatment Options** Prof Geoff Hill	Boulevard Auditorium

Tuesday, June 20, 2023

09:30–10:30	**STATE OF THE ART 2: Hansa Sponsored Session** **Transplant Genomics** *Chairs: Prof Carmel Hawley and Dr Siah Kim* 09:30 **HLA Molecular Mismatch in Kidney Transplant Risk Assessment** Dr Cynthia Kramer 09:50 **Role of Genotype to Inform Kidney Transplantation and Risk of Disease Recurrence** Dr Amali Mallawaarachchi 10:10 **Denisovan Heritage Impact on Kidney Transplant Immunology** Prof Shane Grey	Boulevard B1 & Boulevard B21
10:30–11:00	**Morning tea**	Boulevard Level Foyer
11:00–12:30	***CONCURRENT STATE OF THE ART SESSIONS*** **STATE OF THE ART 3:** **Future Directions in Transplantation** *Chairs: Dr Handoo Rhee and A/Prof Kavitha Muthiah* 11:00 **How did we get Here: History of Xenotransplantation** Prof Wayne Hawthorne 11:30 **The Future of Xenotransplantation** Prof Peter Cowan 12:00 **Hypothermic Machine Perfusion of Donor Hearts** Prof David McGiffin	Boulevard Auditorium

Tuesday, June 20, 2023

11:00–12:30	**STATE OF THE ART 4: Astellas Sponsored Session** **Controversies in Access to Transplantation** *Chairs: A/Prof James Walsh and A/Prof Graeme Macdonald* 11:00 **Frailty Measurement in Solid Organ Transplantation** Dr Emily Gordon 11:30 **Clinical Implications of Frailty in Solid Organ Transplantation?** Prof Lianne Singer 11:50 **Tune me up Pre and post: Pre and Post-Transplant Rehabilitation** A/Prof Louise Fuller 12:10 **Supporting Evidence-Based Decisions for Utilising Donors With a History of Prior Cancer** Prof Angela Webster	Boulevard B1 & Boulevard B2
12:30–13:30	**Lunch**	Boulevard Level Foyer
13:30–15:00	**PLENARY 5: Astellas Sponsored Session** **HLA and Solid Organ Transplantation** *Chairs: Dr Wai Lim and Prof Kate Wyburn* 13:30 **Towards HLA Epitope Matching in Clinical Transplantation** Dr Cynthia Kramer 14:00 **Mechanisms of Antibody-Mediated Rejection: Manifestations and Mechanisms** Dr Elaine Reed 14:20 **"The Crystal Ball" Predicting Antibody-Mediated Rejection** A/Prof Peter Hughes 14:40 **Treatment Options for Antibody-Mediated Rejection in Renal Transplantation** Prof Philip O'Connell	Boulevard Auditorium
15:00–15:25	**Afternoon tea**	Boulevard Level Foyer

Tuesday, June 20, 2023

15:25–16:00	**The Great Debate: Cannabis use Should Be a Contraindication for Transplantation Eligibility** *Moderator: Prof Nikky Isbel* Pro team: Prof Lianne Singer and Dr Mark Wallace Con team: A/Prof William Mulley and Prof Helen Pilmore Pro Team, speaker 1 Con Team, speaker 1 Pro Team, speaker 2 Con Team, speaker 2 Pro Team rebuttal (if required) Con Team rebuttal (if required)	Boulevard Auditorium
16:00	**ASM Concludes**	

TSANZ ASM, Brisbane June 18-20, 2023 Posters

Abstract	*— Poster —*
69	**A STUDY PROTOCOL FOR LIVE AND DECEASED DONOR UTERUS TRANSPLANTATION AS A TREATMENT FOR ABSOLUTE UTERINE FACTOR INFERTILITY** BRIGITTE GERSTL
70	**OUTCOMES OF COMPATIBLE PAIRS IN AUSTRALIAN AND NEW ZEALAND KIDNEY EXCHANGE PROGRAM (ANZKX) 2018-2022** STELLA MCGINN
71	**SIMULTANEOUS PANCREAS KIDNEY TRANSPLANTATION IN AN ASYLUM SEEKER** KENNETH XIE
72	**IDENTIFYING THE BARRIERS TO KIDNEY TRANSPLANTATION FOR PATIENTS IN RURAL AND REMOTES AREAS – A SCOPING REVIEW** TARA WATTERS
73	**CHARACTERISATION OF PRE- AND POST-TRANSPLANT URINE MICROBIOME IN KIDNEY TRANSPLANT RECIPIENTS** BELINDA BURGESS
74	**THE ROLE OF ORGANMATCH MATCHING ALGORITHMS IN THE IMPLEMENTATION OF THE VIRTUAL CROSSMATCH (VXM) IN AUSTRALIA** REBECCA SCAMMELL
75	**HOSPITAL ADMISSIONS ASSOCIATED WITH DEHYDRATION IN CHILDHOOD** AMELIA LE PAGE
76	**A METHOD OF RAPID DIAGNOSIS OF MICROSPORIDIA INFECTION IN A KIDNEY TRANSPLANT RECIPIENT** ELAINE PHUA
77	**PREVALENCE OF MULTIDRUG RESISTANCE IN URINE CULTURE INCREASES IN THE EARLY POST-TRANSPLANT PERIOD** BELINDA BURGESS
78	**REGISTRATION PROCESS AND COVID RISK ASSESSMENT FOR WORLD TRANSPLANT GAMES FEDERATION (WTGF) IN PERTH, APRIL 2023** RICHARD ALLEN
79	**ACUTE KIDNEY INJURY (AKI) IN A KIDNEY TRANSPLANT RECIPIENT FOLLOWING PAXLOVID** JACK RYCEN
80	**DULAGLUTIDE USE IN RENAL TRANSPLANT RECIPIENTS IN AUCKLAND** ALASTAIR RICHARDS

TSANZ ASM, Brisbane June 18-20, 2023 Posters

Abstract	— *Poster* —
81	**WHY OUR KIDNEY TRANSPLANTS RECIPIENTS (KTR) WERE NOT FULLY VACCINATED AGAINST COVID19. HOW CAN WE DO BETTER?** JOCELYN SHAN
82	**HIGH PREVALENCE OF THROMBOTIC EVENTS (TES) IN AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE (ADPKD) POST-NEPHRECTOMY** JOEL ERN ZHER CHAN
83	**CORRECTION OF HYPEROXALURIA IN PRIMARY HYPEROXALURIA AFTER LIVER TRANSPLANTATION PRESERVES KIDNEY FUNCTION IN TWO CHILDREN** EMILY RONNING
84	**INFLUENCE OF PERIOPERATIVE MANAGEMENT ON EARLY POSTOPERATIVE OUTCOMES OF PAEDIATRIC LIVING DONOR KIDNEY TRANSPLANTATION** JENNIFER ZHANG
85	**THE CHANGING INCIDENCE AND RISK OF RENAL ALLOGRAFT THROMBOSIS IN AUSTRALIA AND NEW ZEALAND: A REGISTRY ANALYSIS** KWANG KIAT SIM
86	**ACUTE POST-OPERATIVE QUADRIPARESIS IN A SIMULTANEOUS PANCREAS KIDNEY TRANSPLANT RECIPIENT** MOHAMMAD ALAMEIN
88	**CAT-SCRATCH DISEASE MASQUERADING AS POST-TRANSPLANT LYMPHOPROLIFERATIVE DISORDER - A CASE REPORT AND LITERATURE REVIEW** BRIAN NG HUNG SHIN
89	**INCIDENTAL DIAGNOSES OF INTRACRANIAL ANEURYSMS IN AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE: A SINGLE-CENTRE EXPERIENCE** JOEL ERN ZHER CHAN
90	**IN ADULT RENAL TRANSPLANT SURGERY, IS THERE AN ASSOCIATION BETWEEN INTRAOPERATIVE HYPOTENSION AND DELAYED GRAFT FUNCTION?** ANGELINA KOH
91	**THE MANAGEMENT OF RENAL STONE DISEASE IN TRANSPLANT KIDNEYS, A SINGLE AUSTRALIAN CENTRE EXPERIENCE** TRENT PATTENDEN

TSANZ ASM, Brisbane June 18-20, 2023 Posters

Abstract	***— Poster —***
92	**SYMPTOMATIC SCROTAL-INGUINO-RETROPERITONEAL LYMPHOCELE IN A KIDNEY TRANSPLANT PATIENT - TO DRAIN BUT HOW TO DRAIN?** BRIAN NG HUNG SHIN

Abstract No. 1

THE FIRST AUSTRALIAN UTERUS TRANSPLANTATION PROCEDURE

DEANS R[1], PITTMAN J[2], ABBOTT J[2], BRANNSTROM M[3]

[1]School of Women's and Children's Health, Royal Hospital for Women, [2]School of Women's and Children's Health, University of New South Wales, [3]Obstetrics and Gynaecology, University of Gothenberg

Aims: To report the results of Australia's first uterus transplant.

Methods: Following longstanding collaboration between the Swedish and Australian teams, Human Research Ethics approval was received to perform 6 uterus transplant (UTx) procedures in a collaborative multi-site research study (2019/ETH13038) including Royal Hospital for Women, Prince of Wales Hospital and Westmead Hospitals in New South Wales. Surgeries are approved in both the live donor (LD) and deceased donor (DD) model in collaboration with the inaugural Swedish UTx team.

Results: The first case is a LD is a mother donating her uterus to her daughter. The total operative time for the donor was 9 hours and 54 minutes. Concurrently, recipient surgery was synchronised to minimise graft ischaemic time, and the total operative time for the recipient was 6 hours and 12 minutes. Surgery was by laparotomy in the LD and recipient. The total warm ischaemic time of the graft was 1 hour 53 minutes, and the cold ischaemic time was 2 hours and 17 minutes (total ischaemic time 4 hours and 10 minutes). The patient's 1st menstruation occurred 33 days following the UTx procedure.

Conclusion: Twenty-five years of Swedish and Australian collaboration has led to Australia's first successfully performed UTx surgery at the Royal Hospital for Women, Sydney Australia.

Abstract No. 2

VENOUS DRAINAGE VIA THE INFERIOR VENA CAVA IS ASSOCIATED WITH A DECREASE IN GRAFT LOSS FROM EARLY PANCREAS ALLOGRAFT THROMBOSIS

CHEUNG D[1], THWAITES S[2], SAUNDER A[2], YII M[2], SOON DSC[2], MULLEY W[1], KANELLIS J[1]

[1]Department of Nephrology, Monash Medical Centre, Melbourne, [2]Department of Vascular and Transplantation Surgery, Monash Medical Centre, Melbourne

Introduction/Aims: Early pancreas allograft thrombosis (EPAT) is usually from venous thrombosis, leading to graft loss in approximately 10% of cases. We hypothesised that the recipient venous anastomotic site was an important factor determining the incidence of EPAT.

Methods: Records of 236 patients that underwent solid organ pancreas transplantation between 2002-2022 were retrospectively reviewed following a change in surgical practice. Recipients with EPAT occurring in the first 4 weeks were identified. Logistic regression was used to identify the relationship between EPAT and the venous anastomotic site.

Results: There were 28 early graft losses (28/231 simultaneous pancreas kidney, 0/5 pancreas after kidney). Compared to those with inferior vena cava (IVC) drainage, common iliac (CIV) and external iliac (EIV) venous drainage were associated with a greater incidence of EPAT (See Table). EPAT risk in those with superior mesenteric venous (SMV) drainage appeared higher but did not reach statistical significance.

Discussion: Our approach for pancreas transplantation using SMV anastomosis was gradually, then subsequently completely changed, to favour systemic venous drainage in the late 2000s. Using a venous extension, as is required for iliac vein anastomosis as opposed to IVC anastomosis, may be an important factor predisposing pancreas allografts to EPAT. Where possible, we currently favour the use of IVC drainage for all solid organ pancreas allografts.

Conclusions: Pancreas allografts with anastomoses to CIV or EIV were associated with a higher incidence of EPAT compared to those using the IVC. Surgical approaches for minimising EPAT require constant review and remain highly important in pancreas transplantation.

Table

Venous drainage and anastomotic site of pancreas allografts				
Anastomotic site	Grafts lost in the first 4 weeks	Odds Ratio	p	95% CI
IVC	7/119 (5.9%)	1.00		
CIV	5/19 (23.3%)	5.7	0.007	1.6 – 20.5
EIV	6/23 (26.1%)	5.6	0.005	1.7 – 18.8
SMV	10/75 (13.3%)	2.5	0.081	0.9 – 6.8

Abstract No. 3

DCD KIDNEYS ARE ASSOCIATED WITH REDUCED FLOW AND INCREASED RESISTANCE ON COLD PERFUSION MACHINE

NICOL A[1], TAN AL[1], KANAGARAJAH V[1], LOCKWOOD D[1], RAY M[1], GRIFFIN A[1], WOOD S[1], LAWSON M[1], PRESTON J[1], RHEE H[1]

[1]Renal Transplant Unit, Princess Alexandra Hospital, Brisbane

Purpose: We aimed to evaluate the difference in cold perfusion machine flow and resistance between kidneys donated after circulatory death (DCD) and kidneys donated after brain death (DBD).

Method: This was a retrospective review on 173 patients who underwent a renal transplant between 2012 and 2022 who had the cold perfusion machine (CPM) used for their donor kidney. Data was extracted from the princess Alexandra hospital records and from the cold perfusion machine. Flow and resistance between kidneys from DCD donors to DBD donors was compared.

Results: There were 173 patients included, 115 males and 58 females. Eighty-two patients received kidneys from DCD donors, of these recipients the mean age was 52.28 +/- 15 years. Ninety-one patients received kidneys from DBD donors, of these recipients the mean age was 48.79 +/- 16. A total of 51 patients required dialysis post transplant, 27 (33%) recipients of DCD kidneys and 23 (25%) of DBD kidneys. There was reduced flow (p=0.026) and increased resistance (p=0.004) on CPM when comparing DCD donor kidneys to DBD kidneys.

Conclusion: To date this record is one of the largest patient dataset with the longest follow up to date. Results indicated that kidneys from DCD donors may be associated with reduced flow and higher resistance on CPM.

	DCD (N=82)	DBD (N=91)
Age	52.28 +/- 15	48.79 +/- 16.7
Sex	Male = 51 Female = 31	Male = 64 Female = 27
Cold Ischaemic Time	18.97 +/- 4.99	18.84 +/- 4.49
Perfusion	Good = 57 Average = 18 Poor = 3 Unknown = 4	Good = 56 Average = 27 Poor = 3 Unknown = 5
Urine on table	Yes = 27 No = 24 Unknown = 31	Yes = 48 No = 19 Unknown = 24
Need for dialysis	Yes = 28 No = 53 Unknown =1	Yes = 23 No =66 Unknown = 2
DGF*	DGF 1 = 34 DGF 2 = 3 DGF 3 = 17 DGF 4 = 28	DGF 1 = 48 DGF 2 = 6 DGF 3 = 14 DGF 4 = 23
Flow	125.3 +/- 53.2	143.81 +/- 46.4
resistance	0.609 +/- 2.46	0.179 +/- 0.095
Cr 3 months	144 +/- 90	146 +/-38
Cr 1 year	135 +/- 49	121 +/- 45
Cr 3 years	130 +/- 39	136 +/- 32
Cr 5 years	173 +/- 61	109 +/- 28

* DGF 4 - No spontaneous fall in serum creatinine; dialysis required witihn 72 hours, DGF 3 – no spontaneous fall in serum creatinine within 24 hours but no dialysis needed, DGF 2 - Spontaneous fall in serum creatinine by 10% between 25-72 hours, DGF 1 - Spontaneous fall in serum creatinine of 10% within 24 hours

Abstract No. 4

BEST-FLUIDS: BALANCED CRYSTALLOID SOLUTION VS. SALINE TO PREVENT DELAYED GRAFT FUNCTION IN DECEASED DONOR KIDNEY TRANSPLANTATION

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Background: Delayed graft function (DGF) is a major adverse complication of deceased donor kidney transplantation. Intravenous fluids are routinely given to kidney transplant recipients to maintain intravascular volume and optimise graft function. Saline (0.9% sodium chloride) is widely used but may increase the risk of DGF due to its high chloride content. We hypothesised that using a balanced low-chloride crystalloid solution (Plasma-Lyte 148) instead of saline would reduce the incidence of DGF.

Methods: BEST-Fluids was an investigator-initiated, pragmatic, registry-embedded, multicentre, double-blind, randomised, controlled trial conducted at 16 hospitals in Australia and New Zealand. Adults and children receiving a deceased-donor kidney transplant were randomised (1:1) to balanced crystalloid solution or saline during surgery and up until 48 hours post-transplant. Clinicians determined the fluid volume, rate, and time of discontinuation. The primary outcome was DGF, defined as receiving dialysis within seven days post-transplant. The trial was prospectively registered (ANZCTR ACTRN12617000358347, and ClinicalTrials.gov: NCT03829488).

Results: Between January 2018 and August 2020, 808 participants (n=404 balanced crystalloid, n=404 saline) were enrolled. One participant in the saline group withdrew before seven days and was excluded. DGF occurred in 121/404 (30.0%) participants in the balanced crystalloid group, compared to 160/403 (39.7%) in the saline group; adjusted relative risk 0.74 (95% confidence interval [CI], 0.66-0.84; P<0.0001); adjusted risk difference 10.1% (95% CI 3.5%-16.6%). Numbers of serious adverse events were similar in both groups.

Conclusions: In deceased donor kidney transplant recipients, intravenous fluid therapy with balanced crystalloid solution reduces the incidence of DGF compared with saline.

Abstract No. 5

ASSOCIATIONS BETWEEN SLOW GRAFT FUNCTION AND LONG-TERM KIDNEY TRANSPLANT OUTCOMES

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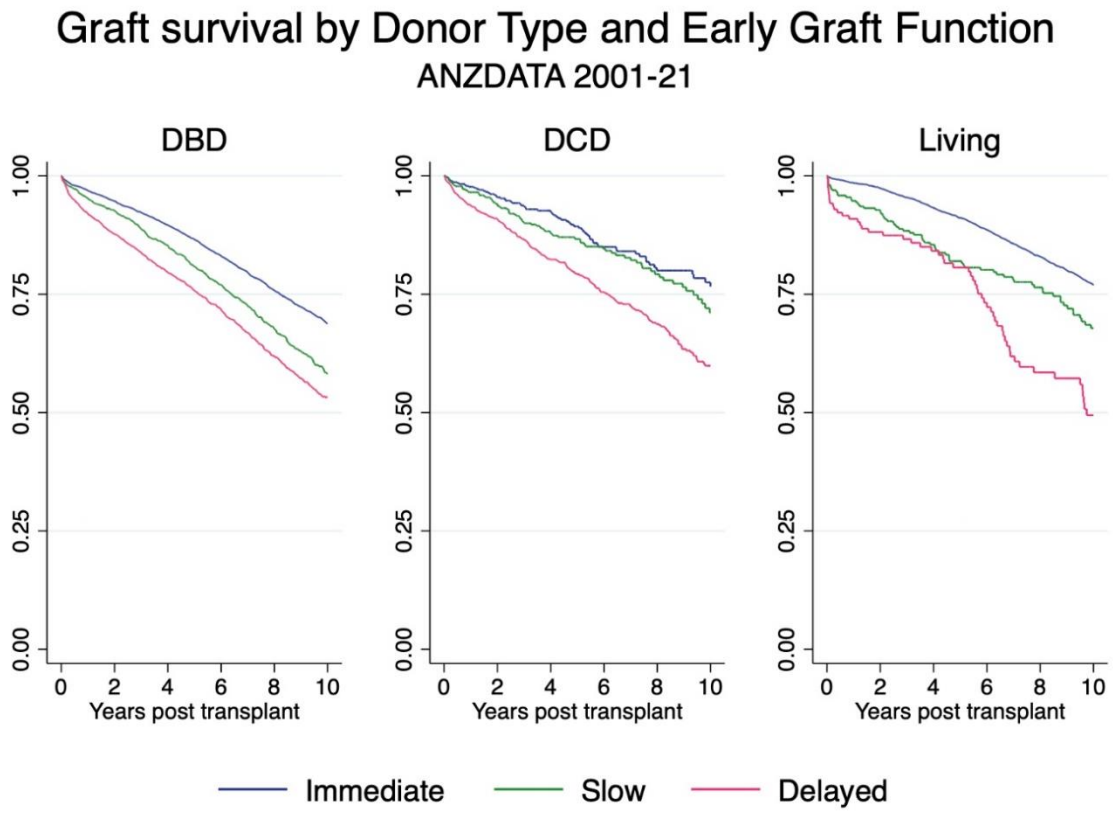
Background: Delayed graft function (DGF), defined by the requirement for dialysis post kidney transplantation, is associated with increased risks of graft failure and mortality. Poor graft function without the need for dialysis, termed slow graft function (SGF) has been variably linked to adverse graft outcomes. We investigated the associations between SGF and DGF and long-term kidney transplant outcomes, and whether these associations were modified by donor type.

Methods: Using data from the Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry, we included 17,579 adult kidney-only transplant recipients from 2001 to 2021 (5904 living donor [LD], 9316 donation after brain death (DBD) and 2359 donation after circulatory death). We used Cox proportional hazards models to examine the associations between SGF and DGF (stratified by donor type) and graft survival (GS), death censored graft survival (DCGS) and patient survival (PS).

Results: Figure 1 shows GS according to post operative graft function, stratified by donor type. SGF was associated with worse GS in LD [SGF: HR 1.54 (95% CI 1.21-1.96) p andlt;0.001] and DBD [SGF: HR 1.15 (95% CI 1.04-1.28) p 0.008] recipients, and worse PS in LD recipients. DCGS was similar to GS. However, SGF in DCD recipients was not associated with poorer long-term outcomes.

Conclusions: SGF represents a less severe phenotype of poor kidney function post-transplant than DGF, but is independently associated with worse graft outcomes and patient survival in LD and DBD recipients. Interventions aimed at preventing SGF have the potential to improve patient outcomes.



Abstract No. 6

P-CUBE—A MULTI-STEP PRECISION PATHWAY FOR PREDICTING ALLOGRAFT SURVIVAL IN HETEROGENEOUS COHORTS OF KIDNEY TRANSPLANT RECIPIENTS

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Aims: Accurate prediction of allograft survival after kidney transplantation allows early identification of at-risk recipients for adverse outcomes and initiation of preventive interventions to optimize post-transplant care. However, the current prediction algorithms do not account for cohort heterogeneity and may lead to inaccurate assessment of longer-term graft outcomes among minority groups.

Methods: Using data from the ANZDATA registry (2008-2017) as the derivation set, we developed P-Cube, a multi-step precision prediction pathway model (Figure 1a) for predicting overall graft survival in three ethnic subgroups: European Australians, Asian Australians and Aboriginal and Torres Strait Islander Peoples.

Results: The concordance index for the European Australians, Asian Australians, and Aboriginal and Torres Strait Islander Peoples subpopulations were 0.99 (with 95%-CI of 0.98 – 0.99), 0.93 (0.92 -0.94) and 0.92 (0.91 – 0.93). Similar findings were observed when the model was validated with external data (Scientific Registry of Transplant Recipient Registry, 2006-2020). Six sub-categories of transplant recipients with distinct risk factor profiles for allograft survivals were identified (Figure 1b). Donor age and blood group compatibility were among the factors considered important across the entire transplant population. Other factors such as human leukocyte antigen (HLA)-DR mismatches were unique to older recipients (Figure 1c).

Conclusions: The P-cube model identified the specific risk factors that may impact on allograft survival within a heterogenous population and offers a personalized approach to survival prediction in a diverse cohort of kidney transplant recipients.

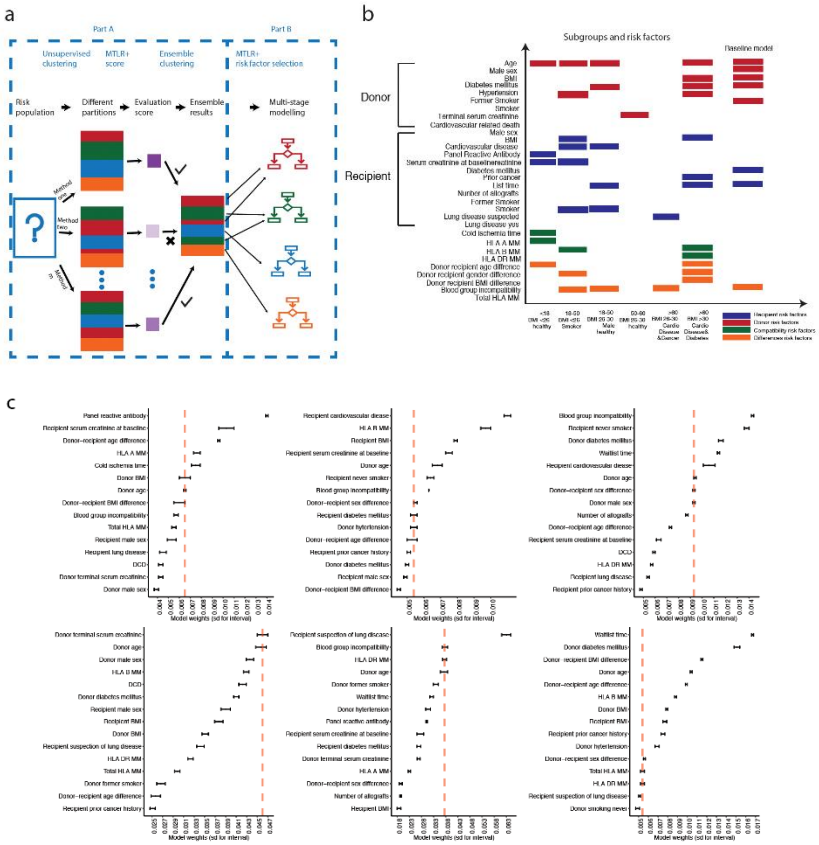

Figure 1. P-Cube workflow for kidney transplant allograft survival prediction. a: P-Cube workflow. b: subgroups and risk factors for ANZDATA registry. c: weights for risk factors in each model of each subgroup.

Abstract No. 7

NORMOTHERMIC MACHINE PERFUSION COMPARED WITH COLD STORAGE OF LIVER GRAFTS FOR LATE LIVER RETRANSPLANTATION

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Introduction: The pool of donor organs available for patients undergoing liver retransplantation is small due to the perceived need for an optimal graft. The aim of this study was to determine if patients undergoing liver retransplantation, can be safely transplanted with sub-optimal grafts following normothermic machine perfusion.
Methods: Between November 2018 and November 2021, a prospectively enrolled group of retransplant candidates consented to receive livers with suboptimal features but preserved and viability tested with normothermic machine perfusion (NMP). Donor, graft and clinical outcomes were compared to a retrospective group that underwent retransplantation with a graft preserved via static cold storage (SCS) between January 2015 and November 2021. The primary outcome of this study was 12-month graft and patient survival.
Results: During the study period, 40 retransplants were performed with a NMP preserved graft and 56 with a SCS graft. Donor, graft, operative and outcome variables are displayed in table 1. The 12-month graft (82% v 84%. P=0.85) and patient (92% vs 91%, P=0.56) survival did not differ (Table 1). This was despite the NMP group having significantly more steatotic grafts (Moderate steatosis; 30% vs 4%, P<0.01), donors with transaminases >1000 IU/L, and grafts declined by at least one other transplant centre (78% v 26%, P<0.01) (Table 1).
Conclusion: This is the first study to demonstrate that NMP technology can be safely used for sub-optimal liver grafts and liver retransplantation. Survival was equivalent between groups can therefore expand the graft options available to this high-risk group.

Table 1

Donor	SCS group (N= 56)	NMP group (N= 40)	*P*
Donor age, (IQR)	52 (44-69)	50 (42-56)	0.67
Donor BMI (IQR)	24.9 (22.5-28.3)	24.1 (21.4-27.7)	
DRI (IQR)	1.55 (1.40-1.73)	1.57 (1.38-1.69)	0.92
DLI (IQR)	1.05 (0.92-1.21)	0.99 (0.86-1.13)	0.16
Liver Biochemistry			
Peak ALT, IU/L (IQR)	53 (21-99)	109 (40-669)	<0.01
Peak Bilirubin, mg/dL (IQR)	9 (7-16)	13 (8-20)	0.03
Donor ALT > 1000 IU/L	0 (0%)	9 (23%)	<0.01
Graft	SCS group (N=56)	NMP group (N=40)	
Declined by at least 1 other centre[a]	14 (26%)	31 (78%)	<0.01
Steatosis			<0.01
None	40 (73%)	21 (53%)	
Mild	13 (24%)	7 (18%)	
Moderate	2 (4%)	12 (30%)	
Cold ischaemic time, min (IQR)	482 (409-596)	372 (325-425)	<0.01
Perfusion time, min (IQR)	-	759 (488-953)	N/A
Total preservation[b] ,min (IQR)	482 (409-596)	1107 (746-1330)	<0.01
Recipient	SCS group (N=56)	NMP group (40)	*P*
Age (IQR)	43 (29-56)	36 (24-50)	0.05
UKELD	58 (55-63)	58 (53-61)	*0.73*
MELD	19 (14-25)	21 (13-26)	*0.82*
Number of previous grafts			0.06
One (first retransplant)	49 (87%)	29 (72%)	
Two (second retransplant	7 (13%)	9 (21%)	
Three (third retransplant)	0 (0%)	2 (7%)	
Indication			*0.40*
Hepatic artery thrombosis	17 (30%)	14 (35%)	
Chronic rejection	5 (9%)	8 (20%)	
Biliary complications[c]	18 (32%)	9 (22%)	
Disease recurrence	13 (23%)	6 (15%)	
Waitlist duration (days)	72 (26-151)	235 (60-423)	*<0.01*
Outcomes	SCS group (N=56)	NMP group (N=40)	*P*
6-month graft survival	48/56 (86%)	34/40 (90%)	0.59
6-month patient survival[d]	49/53 (93%)	33/36 (92%)	0.79
12-month graft survival	47/56 (84%)	33/40 (82%)	0.85
12-month patient survival[d]	48/53 (91%)	33/36 (92%)	0.56
PNF	1 (2%)	0 (0%)	0.39
EAD (Olthoff criteria[1])	21 (37%)	19 (47.5%)	0.33
EAD (MEAF score[2])	4.30 (2.91-5.10)	3.76 (3.07-5.18)	0.54
Peak ALT in first 7-days (IU/L, IQR)	796 (485-1540)	521 (275-1138)	0.02
ICU admission (days)	4 (2-9)	4 (3-6)	0.74
Hospital admission (days)	19 (13-30)	18 (12-27)	0.61
Biliary Complications			
Anastomotic stricture	6 (11%)	1 (3%)	0.12
Non-anastomotic stricture	6 (11%)	2 (5%)	0.31
Bile leak	2 (4%)	0 (0%)	0.22
Vascular complications			
Hepatic artery thrombosis	3 (5%)	5 (12%)	0.22
Hepatic artery dissection	0 (0%)	1 (3%)	0.23
Hepatic artery stenosis	4 (7%)	1 (3%)	0.30
Venous complication	2 (4%)	1 (3%)	0.77
Acute TCMR	15 (27%)	20 (50%)	0.02
Early emergency reoperation	8 (14%)	7 (17%)	0.67
CVVH	20 (36%)	23 (58%)	0.04

Legend: Values for continuous variables displayed as medians and interquartile ranges (IQR). Categorical and continuous variables compared with the Chi-Square and Mann-Whitney U test respectively. aDeclined for a reason of graft concern bTotal preservation time comprised of the cold ischaemic plus perfusion time. cIncluded in this group if hepatic artery patent. dIf patient retransplanted more than once during study period, patient remained in initial group for patient survival analysis.1Olthoff et al, Liver Transplantation 2010 Aug;16(8):943-9. 2 Pareja E et al. Liver Transpl. 2015 Jan;21(1):38-46.BMI=Body mass index, DRI=Donor Risk Index, DLI= Donor liver index ALT= Alanine aminotransferase, BMI= Body mass index, UKELD= United Kingdom model of end stage liver disease, MELD= Model of end stage liver disease, RBC=Red blood cells, FFP=Fresh frozen plasma

Abstract No. 8

A PHASE 3 STUDY COMPARING CMV PROPHYLAXIS WITH LETERMOVIR VERSUS VALGANCICLOVIR IN KIDNEY TRANSPLANT RECIPIENTS

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Aim: This randomized, double-blind, Phase 3 non-inferiority study evaluated CMV prophylaxis with letermovir (LET) versus valganciclovir (VGCV) in kidney transplant recipients (KTR) at high risk for CMV disease. **Methods:** Adult CMV D+/R- KTRs randomized 1:1 <7 days post-kidney transplant (KT) received LET 480mg QD (PO/IV) with acyclovir (400mg PO BID, adjusted for renal function), or VGCV (900mg PO QD, adjusted for renal function), through Week 28 post-KT and followed up through Week 52 post-KT. Primary endpoint was proportion of participants with CMV disease adjudicated by blinded committee through Week 52 post-KT. **Results:** A total of 601 patients were randomized; 589 received ≥1 dose of study medication (median age [range], 51 [18–82] years; male, 72%; deceased donor, 60%; received lymphocyte-depleting induction immunosuppression, 46%). The proportion of patients with CMV disease through Week 52 post-KT was 10.4% with LET vs. 11.8% with VGCV (stratum-adjusted treatment difference, -1.4% [95% CI -6.5, 3.8]). Drug-related adverse events (AEs) were reported in 19.9% of patients with LET and 35.0% of patients with VGCV through Week 28 post-KT. Discontinuation rate due to an AE was 4.1% in LET arm and 13.5% in VGCV arm. The incidence of neutropenia (absolute neutrophil count <1000/μL) during treatment phase was lower with LET than VGCV (4.1% vs. 19.5%; difference, -15.4% [95% CI -20.7, -10.5]).

Conclusion: The study met its primary endpoint: LET was non-inferior to VGCV in preventing CMV disease in high-risk (CMV D+/R-) KTRs through Week 52 post-KT,and led to a lower rate of myelotoxicity than VGCV.

Abstract No. 9

DRUG REPURPOSING IN THE CONTEXT OF ACUTE KIDNEY INJURY

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Introduction: Acute kidney injuries (AKI) continue to be a major point of concern in clinical settings. Currently, a fifth of all adult hospital admissions experience an AKI. With only conservative modes of management of disease available, there is a need to establish alternative forms of therapy.

Methods: We identified publicly available RNA sequencing datasets of ischemia reperfusion injury (IRI) in mice and developed a customised bioinformatics pipeline to determine differentially expressed genes (DEG) and conserved pathways. These were mapped onto drug databases to find potential therapeutic agents for IRI. Male, C57BL/6 mice underwent bilateral renal IRI (20 minutes/36°c) and treated perioperatively with relevant drugs. Analysis of renal function, histology and biomolecular phenotyping was performed 24-hours post-operatively.

Results: We curated a list of 24 DEG in IRI and mapped these against KEGG and Gene Ontology databases, revealing changes in metabolic processes as the most crucial gene disturbances. We mapped this data to 22 drug databases, identifying perhexiline and disulfiram as potential drug repurposing candidates. Administration of either drug prior to IRI was protective against injury, demonstrating lower serum creatinine, histological injury and cell death scores (TUNEL staining). Disulfiram, but not perhexiline, limited pro-inflammatory cytokine transcripts in kidney tissue. Perhexiline decreased fatty acid accumulation (Oil Red O staining) and upregulated expression of anti-apoptotic factors, including Bcl-xL.

Conclusion: Bioinformatics analyses enabled us to characterise novel transcriptomic features of AKI and identify several drugs - perhexiline and disulfiram - that can be effectively repurposed for testing in AKI models and subsequent clinical application.

Abstract No. 10

THE KINETICS OF KIDNEY INJURY AND NECROINFLAMMATION IN A MOUSE MODEL OF KIDNEY ISCHEMIA-REPERFUSION INJURY

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Background: Ischemia-reperfusion injury (IRI) following kidney transplantation results in delayed graft function and chronic allograft nephropathy. Lack of effective preventative treatments is partly due to limited understanding of cellular processes that occur following IR.

Aims: To (i) investigate the kinetics of kidney injury, inflammation and necroptosis in a mouse model of IRI, and (ii) evaluate the effect of genetic deletion of the key necroptosis effector MLKL.

Methods: 10-12 wk old male C57BL/6 WT mice were anaesthetised followed by right nephrectomy and left renal pedicle clamping for 18 min. Separate cohorts were euthanased for sample collection at 3, 12, 24, 48, 72 hrs and 4 wks following IR. MLKL KO mice were then compared to WT littermates in the model.

Results: In WT mice, gene expression of inflammatory cytokines including TNFα was upregulated at 3 hrs, with associated tubular injury (Figure 1). Hereafter, necroptosis was activated with phosphorylated MLKL detected within tubular cells at 12 hrs, migrating to the cell membrane by 24-48 hrs prior to necroptotic cell death, causing increased tubular injury. By 4 wks, tubular injury had mostly resolved, although TNFα gene expression remained elevated. In MLKL KO mice, early inflammation (TNFα mRNA level, p=0.029) and subsequent kidney injury (Tubular injury score, p=0.045; serum creatinine, p=0.004) were reduced compared to WT littermates.

Conclusions: Our data indicate a cycle of necroinflammation whereby IR causes inflammation which stimulates necroptosis, resulting in cell death with further inflammatory mediator release. Therapeutically targeting necroptosis and necroinflammation may reduce IRI-associated graft dysfunction with improved graft outcomes.

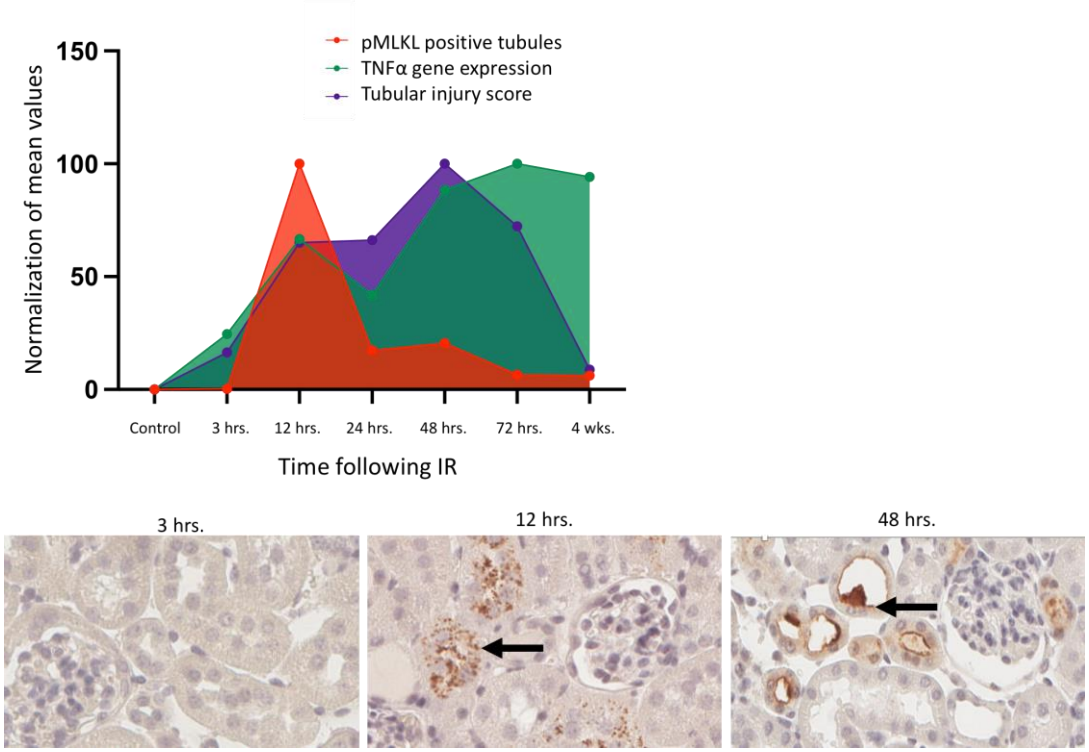

*Figure 1. (**top**) The kinetics of kidney injury, inflammation and necroptosis following IR in WT mice. pMLKL protein expression (red), TNFα mRNA level (green) and tubular injury (purple) are compared at various times following IR. Data presented as mean values, normalised with maximal value of 100 and minimal value of 0. Note the non-linear scale of the x-axis. **Below**, representative sections of pMLKL stained kidney sections at various times following IR. pMLKL protein (arrow) is detected within the proximal tubule at 12 hrs, migrating to the cellular membrane and into the lumen of ruptured cells by 48 hrs*

Abstract No. 11

NOVEL BIOMARKERS TO PREDICT BILIARY REGENERATION DURING LONG-TERM EX-VIVO NORMOTHERMIC MACHINE PERFUSION OF HUMAN GRAFTS

LY M[1], LAU N[1], DENNIS C[2], CHEN J[3], RISBEY C[1], TAN S[2], EWENSON K[4], METROVIC N[4], MCKENZIE C[2], KENCH J[2], MAJUMDAR A[1], GORRELL M[3], MCCAUGHAN G[1], CRAWFORD M[1], PULITANO C[1]

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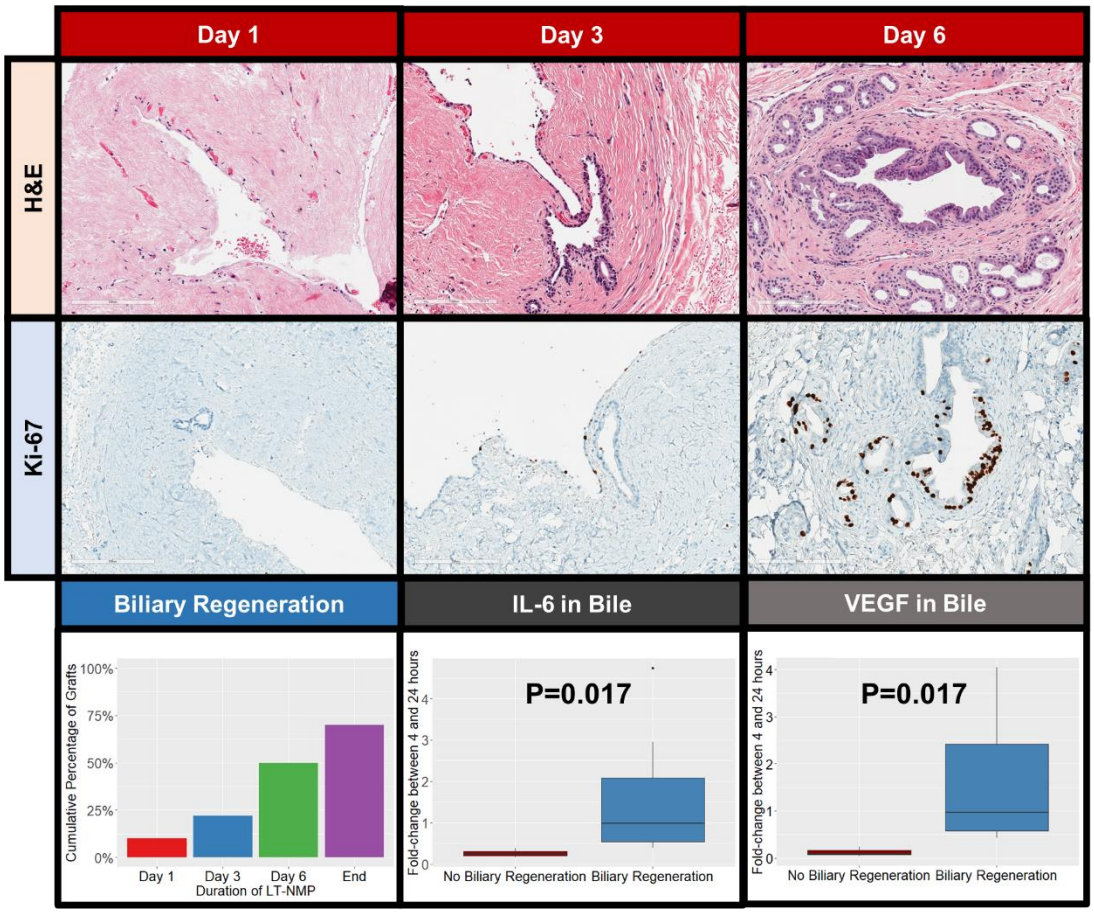
Introduction: Inadequate biliary regeneration is thought to play a major role in the development of post-transplant biliary strictures. Assessment of biliary regeneration is unfeasible due limitations in current preservation technology. The aim of this study is to assess biliary regeneration during Long-Term Normothermic Machine Perfusion (LT-NMP).

Methods: Human livers, unsuitable for transplantation, were perfused at 36°C for up to 14 days. Grafts were supported using a customized LT-NMP system. Bile duct biopsies, bile and perfusate were collected throughout perfusion. Biopsies were examined for injury, regeneration and Peribiliary Gland (PBG) proliferation using immunohistochemistry (CK19, Ki67 and Sox9). TNF-α, IL-6 and VEGF were quantified in bile as novel biomarkers for biliary regeneration.

Results: Ten livers were included in this study, with a median perfusion time of 7.5 days. All grafts had severe bile duct injury initially, and 70% had biliary regeneration during LT-NMP. The median re-epithelisation rate was 46% by day 6 perfusion. PBG proliferation rate was 11% in the biliary regeneration group, compared to 2% in the no-regeneration group. Although biliary glucose improved during LT-NMP, criteria for biliary viability were not associated with biliary regeneration. IL-6 and VEGF in bile within 24 hours reperfusion were associated with biliary regeneration (p=0.017 and 0.017 respectively).

Conclusion: LT-NMP has the potential to assess biliary regeneration in grafts with severe bile duct injury. For the first time, we identified IL-6 and VEGF as early biomarkers of biliary regeneration. LT-NMP allows sophisticated assessment of biliary tree and may increase the number of livers available for transplantation.



Abstract No. 12

ASSESSING GRAFT SUITABILITY FOR LIVER TRANSPLANTATION DURING EX-VIVO NORMOTHERMIC MACHINE PERFUSION USING CELL-FREE DNA

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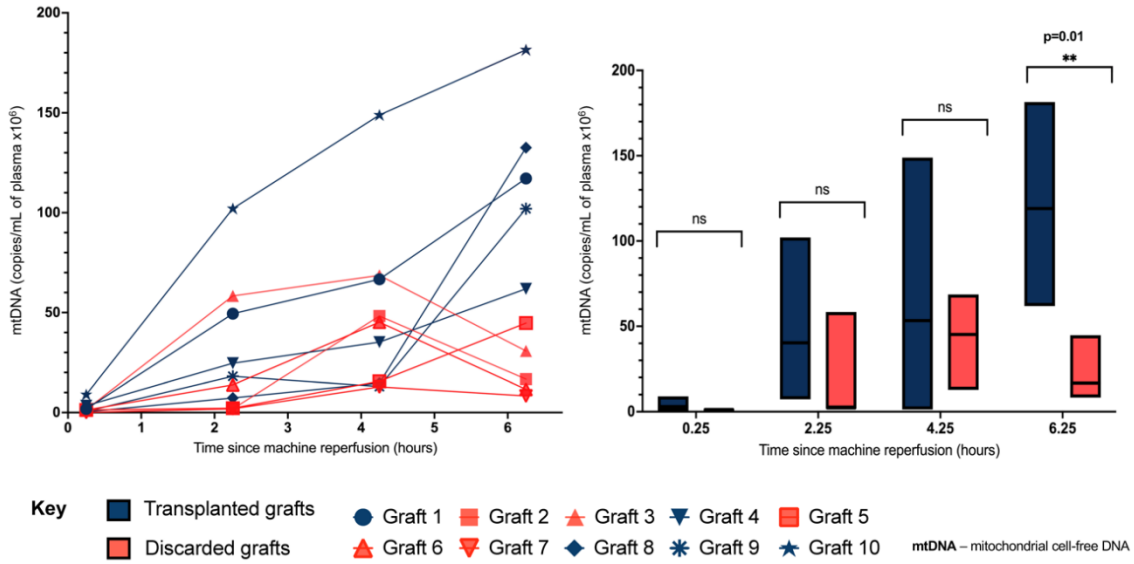
Background: Ex-vivo normothermic machine perfusion (NMP) is an organ preservation technique that enables extended assessment of graft suitability prior to liver transplantation (LT). Graft-derived cell-free DNA (gdcfDNA) analysis is an emerging tool for monitoring graft health following transplantation. We investigated the feasibility of monitoring gdcfDNA during NMP for LT in a prospective, observational cohort study.

Methods: Serial plasma and bile samples were collected during NMP for 10 consecutive grafts, at 15 minutes post-machine reperfusion and then two-hourly intervals. Digital PCR was used to quantify gdcfDNA at each timepoint.

Results: Five grafts were suitable for transplantation, there were no cases of primary non-function or death in the recipients. gdcfDNA was successfully quantified in all bile and plasma samples (n>100). In plasma, gdcfDNA levels climbed post-machine reperfusion until 4.25 hours (see Figure). gdcfDNA concentrations then diverged significantly when comparing the viable and non-viable graft groups (6.25 hours, median viable: 117.15x106 copies/mL vs median non-viable: 16.72x106 copies/mL). The difference in gdcfDNA between these two groups was statistically significant (p = 0.01) and correlated in all cases with the viable/non-viable outcome. There was a trend of gradual decline in bile gdcfDNA levels from viable grafts post-machine reperfusion. Discarded grafts showed more variable patterns in bile gdcfDNA levels.

Conclusions: gdcfDNA analysis during NMP is a feasible and promising, objective tool to inform viability assessment during NMP for LT. Bile gdcfDNA monitoring offers the prospect of providing an objective means to assess the degree of biliary injury associated with organ procurement.

Figure 1.



Abstract No. 13

HAND-ASSISTED LAPAROSCOPIC DONOR NEPHRECTOMY: OVER A DECADE'S EXPERIENCE AT MELBOURNE HEALTH

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Aims: Hand-assisted laparoscopic donor nephrectomy is an accepted technique for kidney donation internationally. Locally published data regarding outcomes is lacking. This study aims to assess outcomes after hand-assisted laparoscopic donor nephrectomy (HALDN) in the Australian setting.

Methods: A retrospective review of all patients undergoing HALDN was conducted at Royal Melbourne Hospital and Melbourne Private Hospital between March 24th 2011 and December 31st 2022. Patients were identified from prospectively collected surgical and renal databases. Primary outcome of interest was post operative complications (Type and Clavien-Dindo classification). Secondary outcomes include length of stay, rate of conversion to open and readmission to hospital.

Results: A total of 387 patients (55.6% female) underwent HALDN during the study period. The median age of patients was 58 years (range 29-75). The median BMI of donors was 26.7 kg/m2 (range 18.6 – 39.8). The left kidney was donated in 85.3% of patients. Post operative complication rate was 11.4% (n = 44), with most complications classified as being Clavien-Dindo 2 (27/44). 8 patients required return to the operating theatre (1.9% of all cases). One patient required conversion to open due to bleeding from stapler malfunction. Median length of stay in hospital was 5 days (range 3-24) and the hospital readmission rate was 3.6%. Median creatinine at day 1 post surgery was 101 μmol/L with the median creatinine at discharge being 99 μmol/L.

Conclusion: HALDN is safe method of kidney donation, with low rates of conversion to open, post operative complication and hospital readmission.

Abstract No. 14

DELAYED BLOCKADE OF THE ACID SENSOR ASIC1A PROTECTS AGAINST KIDNEY ISCHEMIA-REPERFUSION INJURY

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Background: Ischemia-reperfusion injury (IRI) is a complex process that has short- and long-term detrimental effects on kidney transplants. Acidotoxicity is a component of IRI; increased tissue acidity activates the acid sensor ASIC1a, which in turn triggers cell death pathways including apoptosis and the more inflammatory necroptosis. We have shown that the spider venom derived ASIC1a inhibitor Hi1a is protective when given immediately after reperfusion in a mouse model of kidney IRI. In this study, we investigated whether protection was maintained if Hi1a treatment was delayed, and sought evidence of a role for necroptosis.

Methods: C57BL/6 mice underwent right nephrectomy followed by 22 min left renal ischemia. Mice were treated i.v. with 1 mg/kg Hi1a or vehicle 3 hrs after reperfusion. Mice were euthanased at 24 hrs to analyse renal function (serum creatinine), and kidneys were assessed for cellular infiltration and complement deposition by immunofluorescence, and relative gene expression of NGAL (kidney injury), MLKL and RIPK3 (necroptosis) by qRT-PCR.

Results: Vehicle-treated mice subjected to IR exhibited significant kidney injury and inflammation, indicated by increases in creatinine, cellular infiltration, C9 deposition, and NGAL expression (see Table). Treatment with Hi1a 3 hrs after reperfusion protected against IRI, with a significant reduction in all parameters. IR also upregulated expression of the key necroptosis mediators MLKL and RIPK1, and this was suppressed by Hi1a treatment.

Conclusion: Hi1a protects against kidney IRI even when administered 3 hrs after reperfusion. The upregulation of necroptotic genes and suppression by ASIC1a blockade points to the involvement of necroptosis.

	Sham (n = 4)	**Vehicle** (n = 9-10)	**Hi1a** (n = 9-10)
Creatinine (µM)	30.5 ± 1.55	241.9 ± 13.2††	152.6 ± 19.2**
Neutrophils (count/HPF)	1 ± 0.5	50 ± 3.4††	31 ± 3.6**
Macrophages (count/HPF)	1 ± 0.5	48 ± 4.0††	33 ± 4.0*
C9 deposition (RawIntDen)	$1.0 \times 10^7 \pm 1.5 \times 10^6$	$9.0 \times 10^7 \pm 2.9 \times 10^{6}$††	$6.1 \times 10^7 \pm 7.0 \times 10^{6}$*
NGAL (rel. to GAPDH)	1.25 ± 0.30	472 ± 94.8††	211 ± 51.5*
MLKL (rel. to GAPDH)	0.19 ± 0.02	5.01 ± 0.53††	2.58 ± 0.29***
RIPK3 (rel. to GAPDH)	0.11 ± 0.02	1.27 ± 0.21††	0.78 ± 0.11*
		†† p<0.01 vs Sham	* p<0.05 vs Vehicle ** p<0.01 vs Vehicle *** p<0.001 vs Vehicle

Abstract No. 15

THE EPIDEMIOLOGY OF HEREDITARY PANCREATITIS IN AUSTRALIA AND ITS EFFECT ON PATIENT OF TOTAL PANCREATECTOMY WITH ISLET AUTO-TRANSPLANTATION (TP-IAT)

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Aims: Hereditary Pancreatitis (HP) is a rare genetic disease that results in inflammation of the pancreas from a young age, chronic abdominal pain, and dependency upon pain management opioids. Severe HP are candidates for TP-IAT. This project is the first to identify Australian families suffering from HP. We aim to assess correlation between phenotypic disease outcome and genotypic variant with the goal of establishing a comprehensive list of candidates for the TP-IAT program within Australia.

Methods: HP patients from existing hospital records and interviews were administered to collect HP-associated data including pain management, medical prescriptions, interventions, smoking and alcohol history, and overall quality of life. Saliva biosamples were obtained for whole-exome-sequencing (WES). Genetic data were for variant discovery and correlation with HP phenotype.

Results: A total of 21 pedigrees comprising 155 individuals were recruited for the project. Overall, 76% of HP presented with clinical onset before the age of 10. Ongoing opioid usage for pain management in the HP cohort was 55% and 64% of patients reported ongoing moderate to severe pain. Strikingly, 38% of HP cohort identified as Indigenous Australians and HP was 67 times more prevalent in Indigenous populations than non-Indigenous.

Conclusion: Our estimated prevalence of HP is higher than previously described and disproportionately affect Indigenous populations. The percentage of HP patients requiring lifelong analgesics is alarming and genetic factors are an important cause of pancreatitis in Australian children. The study highlighted the importance of utilising genetic studies to guide medical decision-making in HP, and successfully established a patient database for candidates of TP-IAT treatment.

Abstract No. 16

NORMOTHERMIC EX-VIVO MACHINE PERFUSION FOR LIVER TRANSPLANTATION: A SYSTEMATIC REVIEW OF PROGRESS IN HUMANS

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Background: Liver transplantation is a lifesaving procedure for patients with end-stage liver disease, however, many never receive a transplant due to an insufficient donor supply and allograft discard. Historically, organs have been preserved using static cold storage (SCS), however, recently ex-vivo normothermic machine perfusion (NMP) has emerged as an alternative technique.

Methods: Papers evaluating the clinical or biochemical outcomes of NMP for liver transplantation in humans were included. Lab based studies, case reports and papers utilising animal models were excluded. Literature searches of Medline and SCOPUS were conducted. The revised Cochrane risk-of-bias tool for randomised trials (RoB 2) and the risk of bias in non-randomised studies for interventions (ROBINS-I) tools were used to assess bias. Due to heterogeneity of included papers, a meta-analysis was not completed.

Results: 606 records were identified, with 25 meeting the inclusion criteria. 16 papers evaluated early allograft dysfunction (EAD) with some evidence for lower rates using NMP compared to SCS. 19 papers evaluated patient or graft survival, with no evidence to suggest superior outcomes with either NMP or SCS. 10 papers evaluated utilisation of marginal and donor after cardiac death (DCD) grafts, with good evidence to suggest NMP is superior to SCS.

Conclusions: There is good evidence to suggest that NMP is safe, and likely affords clinical and biochemical advantages to SCS. The weight of evidence supporting NMP is growing, and this review found the strongest evidence in support of NMP to be its capacity to increase the utilisation rates of marginal and DCD allografts.

Abstract No. 17

OUTCOMES OF CARDIAC TRANSPLANTATION IN ADULTS WITH CONGENITAL HEART DISEASE: A WESTERN AUSTRALIAN EXPERIENCE

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Background: Heart failure remains the leading cause of morbidity and mortality in patients with adult congenital heart disease (ACHD). CHD is an increasing indication for referral for cardiac transplantation. The literature is conflicting regarding peri-operative mortality and post-transplant outcomes in this cohort. Data in an Australian population is limited.

Aim: To describe outcomes of heart and heart-lung transplantation in a contemporary Australian ACHD cohort.

Methods: Retrospective analysis of patients undergoing heart or heart-lung transplantation for CHD between 2015-2022, identified through the Western Australian cardiac transplantation database. Electronic medical records were reviewed. Data collected included basic demographics, comorbidities, underlying cardiac anatomy, prior surgery, waitlist time, 30-day re-admission and mortality. Outcomes: 12 patients were listed for heart (n=5, 45%) or heart-lung (n=7, 58%) transplantation for underlying CHD at Fiona Stanley Hospital between Jan 2015-Dec 2022. One patient died on the waitlist for heart-lung transplant. Of 11 transplanted; 64% were male, mean age at transplant=39years. Median days listed=112, 63% (n=7) systemic left ventricle, 82% (n=9) prior sternotomy, 36% (n=4) ICD or Zoll vest, 27% (n=3) inotrope support pre-transplant. Peri-procedural outcomes included: median ischaemic time 254 minutes, median length-of-stay=24 days, 30-day rehospitalisation 36% (n=4), acute rejection 18% (n=2). 64% had new renal failure, 55% requiring dialysis. All patients were alive at median follow-up 2.9 years.

Conclusion: Our data support recent literature and show excellent intermediate term survival in CHD patients post-cardiac transplantation. There were notably high rates of new renal failure post-transplant. Ongoing research is critical to guide management in the growing ACHD population.

Abstract No. 18

THE EFFECT OF IMMUNOSUPPRESSION ON DONOR AND RECIPIENT LEUCOCYTE RESPONSES POST-TRANSPLANTATION

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Background: During solid organ transplantation, donor leucocytes residing within the organ are simultaneously transferred. The retention of donor leucocytes within a transplanted organ is likely to be important to graft health post-transplantation. We have previously demonstrated that in the absence of immunosuppression, donor leucocytes are depleted following major histocompatibility complex (MHC)-mismatched transplants, due to infiltrating recipient effector cells. We hypothesised that the retention of donor leucocytes described following mismatched transplantation in humans is a result of immunosuppressive therapy, which targets recipient effector cells. **Aim:** To investigate the effects of tacrolimus, mycophenolate, abatacept and methylprednisolone monotherapies on donor and recipient leucocyte responses post-transplantation.

Methods: We developed immunosuppression regimens in mice, that replicated therapeutic drug concentrations in humans post-transplant, and treated mice receiving MHC-mismatched kidney transplants for seven days. Thereafter, we compared the retention of donor leucocytes and the recipient leucocyte responses of mice on immunosuppression to untreated controls.

Results: In comparison to untreated controls, no monotherapeutic immunosuppression regimen improved donor leucocyte retention after MHC-mismatched kidney transplantation. However, tacrolimus monotherapy suppressed recipient leucocyte responses in the graft and periphery in comparison to untreated controls. In addition, tacrolimus reduced T cell CTLA-4 expression and altered tissue-resident macrophage phenotypes in comparison to untreated controls.

Conclusions: We describe changes to donor and recipient leucocyte responses after MHC-mismatched murine kidney transplantation in the presence of immunosuppression monotherapies applied at doses that are clinically relevant. A more detailed understanding of the immunological effects of these drugs post-transplantation could be vital to improving outcomes for organ recipients.

Abstract No. 19

FEASIBILITY OF TECHNOLOGY-ASSISTED DIET AND EXERCISE SUPPORT FOR TRANSPLANT RECIPIENTS – A RANDOMISED CONTROLLED TRIAL

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Health technologies can improve patient access to allied health specialists and innovate service delivery to support lifestyle interventions in transplant recipients.

Aim: To assess the feasibility of offering technology-assisted diet and exercise support.

Method: A 26-week randomised controlled trial recruited adults from kidney and liver outpatient clinics (transplant cohort reported). The intervention group received a suite of imposed and self-selected technology-assisted options for lifestyle support including text-messages; mobile and online educational resources; weekly (exercise) and/or monthly (diet) group video-conferenced telehealth appointments. The comparator group received usual multidisciplinary care. All participants received an activity tracker (fitbit). Feasibility was determined by *a priori* criteria for safety (number of study-related serious adverse events (SRSAEs)), recruitment (>50% of eligible patients), retention (>70% participants completing end-of-program assessments), patient exposure to health professionals (>75% of intervention group have greater contact with health professionals) and telehealth adherence (>80% attendance).

Results: Of 67 participants, 32 (48%) were transplant recipients (n=19 kidney, n=13 liver) and randomised to intervention (n=16) or comparator (n=16) group. Of the transplant recipients in the intervention, 86% chose 2-3 text messages per week, 80% chose telehealth exercise and 87% chose telehealth diet sessions. No SRSAEs occurred. Recruitment (51%), retention (84%) and exposure (94%) targets were met. Telehealth adherence was not met (39% diet and 42% exercise attendance).

Conclusion: Technology-assisted access to diet and exercise support is safe and feasible to deliver from tertiary care centres to transplant recipients. Incorporating patient choice may assist engagement however targeted solutions to support telehealth attendance are still needed.

Abstract No. 20

BONE MARROW EFFECTOR TREGS INDUCE TOLERANCE TO MURINE LIVER TRANSPLANTS

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Introduction: Regulatory T cells (Tregs) are pivotal in inducing and maintaining self-and non-self-tolerance by suppressing effector T cells. In the context of transplantation, they have exceptional potential for preventing or inhibiting anti-graft alloresponses. Tregs possess distinct functional characteristics depending on their localisation within the body, which may also influence their effectiveness at preventing graft rejection. **Methods:** We have performed liver transplantation in genetically mismatched mice and characterised Tregs in the liver graft and lymphoid organs (bone marrow (BM), spleen, lymph nodes, and blood). Treg localisation, expansion, and function was examined using high-parameter flow cytometry for up to one month after transplantation.

Results: Liver grafts underwent a transient rejection episode which peaked at day 7, with CD8 T cell activation and cytotoxicity observed in the graft and BM. Graft-infiltrating Treg numbers also peaked in the graft at day 7 but reached a nadir in the BM. Migration of both Tregs and CD8 T cells from the BM to the graft occurred, likely aided by increased expression of chemokine receptors. Between days 7 and 28 when tolerance was established, Treg numbers expanded in the BM but contracted in the graft. Effector Tregs preferentially expanded in the graft during rejection, and in the BM during tolerance induction.

Conclusion: These data indicate that the BM is an important source of effector Tregs that can migrate to the liver graft and exert their suppressive functions. Targeting of Tregs in or to the BM may help suppress alloresponses and prevent graft damage

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Abstract No. 21

IMPROVING THE PRECISION IN ORGAN ALLOCATION USING A UTILITY-BASED PREDICTION MODEL

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Introduction: There is increasing focus towards incorporating precise donor-recipient matching that optimizes outcomes in kidney allocation systems. However, this strategy may conflict with an equity-focused allocation system. We examine the incremental gains in wait-times and survivals across different recipient subgroups using compatibility matching based on recipients and donor factors.

Methods: Using ANZDATA registry data (2006-2017) and adjusted logistic regression, we developed the expected recipient score (ERS) and kidney donor characteristics (KDC). Donors with the top 20% KDC scores with recipients were assigned with the top 20% ERS scores. For the individual ERS-KDC match, we calculated the projected wait-time to transplant, and compared this with the actual waiting time based on current algorithms. Recipient survivals across age subgroups were assessed using adjusted Cox proportional hazard models.

Results: A total of 5,629 recipient-donor matches were assigned. Of these, 24%(n=1,326) were from DCD donors, and 37%(n=2062) were female recipients, with an average age of 50.6(14.2) years. Compared to the current allocation algorithm, the ERS-KDC matching found a significant reduction in the wait-time (SD) of 4.33(0.21), 0.03(0.32) and 0.04(0.01) years could be achieved among recipients aged <18, 18-45 and 45-65 years respectively depending on recipient/donor factor combinations. However, the survival gains across these subgroups were insignificant (>0.05).

Conclusion: Inclusion of different combinations of recipient/donor factors in the allocation algorithm may reduce the waiting time to transplantation for certain subgroups of transplant candidates. However, a significant gain in survival benefit was not observed across these subgroups

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Abstract No. 22

ABERRANT IMMUNE CELL FUNCTION UNDERPINS INCREASED MORTALITY IN RESPIRATORY VIRAL INFECTED BONE MARROW TRANSPLANT RECIPIENTS.

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Allogeneic haematopoietic stem cell transplantation is the curative treatment for patients with high-risk haematological malignancies and provides alloimmunity to eliminate malignant cells and prevent relapse. However this elicits graft-versus-host disease (GVHD), a life-threatening complication that limits treatment success. Use of immunosuppressive agents to minimise GVHD increases the risk of opportunistic infections. Respiratory syncytial virus (RSV) is a common infection that is fatal in up to 50% of infected transplant recipients. Given the immunological determinants that underpin respiratory failure are not well understood, the aim of this study was to utilize a novel preclinical model which we have developed and shown recapitulates the outcome seen in patients, to define the cellular immune response. Recipients of allogeneic bone marrow grafts (alloBMT) were infected with pneumonia virus of mice (PVM; murine homologue of RSV), and the immune response in lung and lymphoid tissues assessed by flow cytometry one week post-infection. This revealed a reduced number and/or frequency of the donor conventional dendritic cell type-2 subset (cDC2), effector memory CD4+ and CD8+ T-cells and B-cells in lung/spleen of PVM-infected compared to uninfected alloBMT recipients, suggesting inability of mice to prime effective adaptive and/or humoral immune responses to control the virus and limit disease compared to syngeneic-BMT. Analysis of the lung-derived donor T-cell proteome by mass spectrometry revealed a significant enrichment in proteins involved in regulation of gene expression and macromolecule metabolic processes in PVM-infected versus uninfected alloBMT recipients, consistent with aberrant T-cell function. Mechanistic studies to interrogate PVM antigen-specific responses leading to pneumonitis are warranted

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Abstract No. 23

COMPLIANCE AND UNDERSTANDING OF TACROLIMUS MEDICATION: A PATIENT AUDIT WITHIN THE QUEENSLAND LUNG TRANSPLANT SERVICE.

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Aims: In lung transplant recipients precise tacrolimus dosing intervals (12or 24-hour) and accurate monitoring of trough levels have been proven as the most effective way of maintaining therapeutic drug levels and reducing the risk of developing Chronic Lung Allograft Dysfunction. We aimed to identify the level of knowledge the LTR had to the dosing and compliance of their tacrolimus, and the timing of necessary blood tests for therapeutic monitoring. Adaptability to smart device applications for reminders was also evaluated.

Methods: 313 LTRs were contacted to complete an anonymous questionnaire.

Results: 136 responses were received, median age was 60 + years (n=68), 53% male (n=72). 6.61% < 12 months post Tx (n=9), 41.91%, 1-5 years (n=57), 39.70% 5-10 years, (n=54) & 11.76% >10 years (n=16). 96.32% (n=131) were taking their tacrolimus as BD dosing. 54.41% (n=74) never missed a tacrolimus dose, 35.29% (n=48) confirmed “rarely”, 6.61% (n=9) confirmed “once or twice per month”, & 0.73% (n=1) missed a dose at least weekly. 77.03% (n=104) understood the importance of 12hr trough blood levels. 47.79% (n=65) “rarely” delayed tacrolimus administration beyond 12hr BD dosing, 33.82% (n=46) only for blood tests. Reported barriers for taking tacrolimus on time daily: “unspecified other” (54.95%), social situations (29.67%), forgetful of time (12.08%) & too busy(12.08%).50% (n=67) would regularly use a smartphone application to assist with medication and blood test reminders.

Conclusions: Patients would benefit from additional education regarding importance of timing of dosing and accurate trough blood levels. A consumer smartphone application may be beneficial.

Abstract No. 24

ACTIVATION OF HUMAN CD4+CD25+CD127LO TREG WITH ALLOANTIGEN AND RIL-2

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Introduction: Antigen specific Treg are potential therapy in transplant. We found rodent CD4+CD25+Treg are activated by alloantigen and rIL-2 to Ts1 cells expressing receptors for IFN-(IFNGR) and IL-12(IL-12R2), which are potent suppressors of alloactivation Human Treg(CD4+CD127loCD25+) can be segregated into Pop I (resting, CD25+CD45RA+); PopII (activated, CD25hiCD45RA-) and PopIII(CD25+CD45RA-). PopII and III express CXCR3(Th1) and CCR6(Th17), while Pop I express CCR7.

Methods: CD4+CD127loCD25+ Treg and enriched subpopulations were cultured for 4 days with rIL-2 and irradiated allogeneic PBMC, and were examined for shifts in Pop 1, II, III and chemokine receptors and foxp3 and ifngr.

Results: Culture of whole Treg alone reduced Pop II (1.3% vs 8.6%). Culture with allostimulators only preserved PopII(12% vs 8.6%) whereas rIL-2 alone(5/8 experiments) or with allostimulators(6/8 experiments) increased Pop II. CXCR3 expression in Pop II did not change with rIL-2 or allostimulators alone or rIL-2/allostimulators.Fresh Treg expressed foxp3+, but not ifngr. Culture with rIL-2/allostimulators induce foxp3+/ifngr+ double positive cells.Culture of enriched subpopulations demonstrated that PopI cultured with both allostimulators and rIL-2 had cells with higher Foxp3 and CD25, retaining CD45RA expression with no increase in CXCR3 or CCR6 suggesting a new subpopulation (Foxp3hi/CD15hiCD45RA+). Pop II died in absence of rIL-2. rIL-2 alone or with allostimulators increased expression of Foxp3 and CD25, maintained CCR4 and CXCR3 and increased CCR6.

Conclusion: Human tTreg, with allostimulators and rIL-2 induced a Ts1 type cells, consistent with our rat studies. Understanding Treg activation pathways may produce potent antigen specific Treg for therapy.

Abstract No. 25

INCREASED EARLY MORTALITY RISK FOLLOWING KIDNEY TRANSPLANT FAILURE IN AUSTRALIA AND NEW ZEALAND (1980-2019)

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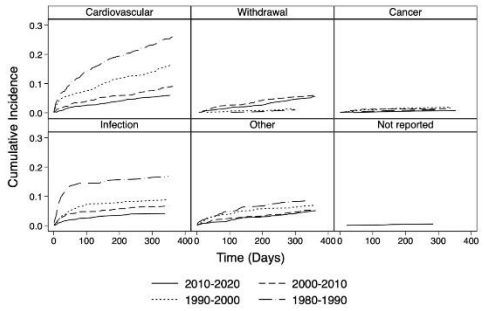
Aims: Previous studies were conflicting on the increased mortality risk following kidney transplant failure. Contemporary data is lacking.

Methods: Using ANZDATA, Cox regression with time-dependent covariates was used to compare the mortality risk of adult patients aged 18-84 years who a) returned to dialysis following kidney transplant failure (transplant-failure group) with those who b) commenced dialysis without a previous kidney transplant (transplant-naïve group). Mortality hazard ratios (HR) were adjusted for age, gender, dialysis modality, era, cause of kidney failure and comorbidities.

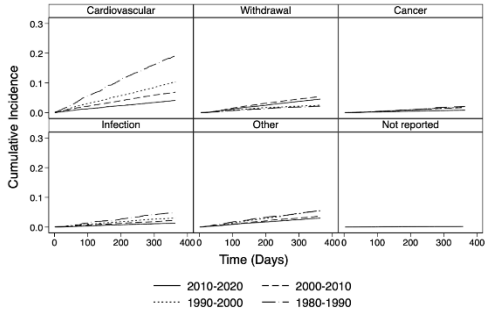
Results: Compared to the transplant-naïve group (n=72,010), transplant-failure group (n=6,569) were younger (median age 48 vs 61 years), less likely with diabetes (20.5% vs 46.4%), other comorbidities, or initiated on peritoneal dialysis (15.0% vs 29.9%). The mortality HR was highest in the first week after dialysis commencement (HR 12.80 (95% CI 8.81-18.62)) and persisted to 181-365 days (HR 1.46 (1.27-1.68)) but not beyond the first year. This observation remained significant when stratified by age, diabetes history, era, or dialysis modality. Within the first year, the proportion of deaths related to infections was higher in transplant-failure versus transplant-naïve group (25.0% vs 11.3%) while the proportion of cardiovascular deaths was similar (39.0% vs 37.5%). The incidence of early infection-related deaths has declined in the recent decades but remained higher than the transplant-naïve group (Figure).

Conclusions: Despite the improvement over the past 40 years, the mortality risk remains high in the early period following kidney transplant failure. Identifying strategies to reduce this risk in patients with a failing transplant is urgently required.

Transplant-Failure Group



Transplant-Naïve Group



Abstract No. 26

PREDICTORS OF OMICRON COVID SEVERITY IN A LARGE LUNG TRANSPLANT COHORT

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Aims: Lung transplant recipients (LTR) are at high risk of developing allograft dysfunction and serious illness following COVID-19 infection. Lockdowns andamp; a multi-pronged prevention strategy limited COVID infections to only 6 LTR in 2020-21. In 2022, by end of lockdowns and the arrival of omicron variant, an extra 296 LTR were COVID positive (COV+). This paper investigates predictors of COVID-19 severity/outcomes in a large LTR cohort.

Methods: Demographic, COVID treatment and outcome data on all COV+ LTR between Mar 2020- Dec 2022 were collected prospectively. LTR with higher NIH COVID-19 severity (score≥3) were compared to low severity using logistic regression.

Results: 302/650 LTR became COV+. Median age 60yrs, 58% male, 98% bilateral LTR. Median time from LTx to COV+ was 5.2yrs (IQR 2.7-10). 257 (85%) received ≥3 COVID vaccines ,198 (57%) Evusheld prohylaxis. COVID treatment was given within 48hrs in 226 (71%). 69 (22%) COV+ LTR were hospitalized, 12 (4%) were admitted to ICU. Only 11 (6%) LTR had a COVID severity score ≥ 3, 6 /11 (54%) died- 4 deaths due to COVID pneumonitis, 2 deaths from COVID-related complications. Logistic regression predictors of COVID severity were increased BMI, CKD stage 4/5, andlt;3 vaccinations, and absence of treatment with Remdesivir (Table 1). LTR age and CLAD diagnosis did not predict poor outcome.

Conclusion: Vaccination and Remdesivir therapy proved potent omicron LTR COVID management strategies with less morbidity and mortality than previously described. Patients with CKD and obesity are at high-risk and should be targeted in new COVID-19 waves.

Table 1: Comparison of LTR with severity score ≥3 compared to those <3 (n=302).

Characteristic	Severity score <3 (n=291)	Severity score ≥3 (n=11)	Odds ratio (95% CI)	p-value
Age, median, IQR,	60, 43-68	61, 57-68	1.02 (0.98-1.06)	0.34
Male gender, no. (%)	169 (58%)	5 (45%)	0.70 (0.22-2.17)	0.53
Diabetes, no. (%)	129 (44%)	5 (45%)	1.09 (0.32-3.39)	0.88
Hypertension, no. (%)	88 (30%)	5 (45%)	1.14 (0.30-3.65)	0.83
BMI	27.0, 22.2-30.6	29.8, 27.9-34.1	1.11 (1.01-1.23)	0.03
Chronic kidney disease stage 4/5 vs. 1-3	20 (10%)	5 (45%)	7.84 (2.33-25.95)	<0.001
Diagnosis of CLAD, no. (%)	20 (10%)	1 (9%)	0.76 (0.04-4.19)	0.80
Time from transplant to COVID diagnosis (years), median, IQR	5.2, 2.9-10.2	4.5, 0.5-6.5	0.9 (0.76-1.01	0.13
Type of antiviral treatment None Sotrovimab Molnupiravir Remdesevir	45 (15%) 52 (18%) 39 (13%) 155 (54%)	3 (27%) 3 (27%) 4 (37%) 1 (9%)	Ref 0.56 (0.14-2.46) 0.41 (0.08-2.03) 0.06 (0.00-0.43)	0.42 0.27 0.01
Number of vaccine doses ≥3	257 (88%)	8 (62%)	0.22 (0.07-0.79)	0.01

Abstract No. 27

RISK FACTORS FOR DEVELOPMENT OF BK POLYOMAVIRUS AND TREATMENT OUTCOMES IN ADULT KIDNEY TRANSPLANT PATIENTS: AN 8-YEAR RETROSPECTIVE COHORT STUDY

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Introduction: BK viraemia (BKV) approaches 30% in kidney transplant recipients (KTRs), with graft-threatening BK nephropathy (BKN) in up to 10%. However, risk factors for developing BKV, BKN, and graft loss are incompletely described. We sought to determine the prevalence, risk factors and long-term impact of BKV.

Methods: A single-centre retrospective study of adult KTRs between 2010-2018. We used logistic regression to determine odds ratios (OR) of developing BKV, and survival analysis to assess the impact of BKV on graft and patient survival.

Results: Of 531 patients, 138(26%) developed BKV including 46(9%) developed BKN. Viraemia occurred at mean of 216(±211) days after transplant. Immunosuppression reduction (88%) was the mainstay of treatment. In the 46 patients who developed BKN, treatments included (i) changing mycophenolate to leflunomide 35/46(76%), (ii) cidofovir 35/4(76%), and (iii) IVIG 8/46(17%). Repeat biopsy demonstrated resolution or stable histology with treatment in 22(48%), and graft failure in 2(4%). Logistic regression (Table 1) identified associations with BKV as non-Caucasian recipient race (OR0.5, CI0.29-0.88, p=0.015), greater HLA mismatch (OR1.5, CI1.07-2.12, p=0.019), pre-transplant diabetes (OR2.10, CI1.07-4.07, p=0.028), higher dose prednisolone (OR1.15, CI1.04-1.28, p=0.006) and lower recipient body mass index (OR0.96, CI0.93-1.00, p=0.03). Over 10-year follow-up, graft and patient survival rate were not significantly different between groups.

Conclusion: Approximately 25% KTRs developed BKV and 9% developed BKN. We identified important predictors of BKV. Graft loss from BKN was uncommon and BKV did not reduce long-term graft or patient survival, indicating reducing immunosuppression may be sufficient in this patient subgroup.

Table 1: Logistic regression model for odds of developing of BK virus

Characteristic	OR[1]	95% CI[1]	p-value
Age	0.99	0.97, 1.01	0.4
Caucasian ethnicity	0.50	0.29, 0.88	0.015
HTN	1.57	0.78, 3.37	0.2
Diabetes	2.10	1.07, 4.07	0.028
Gender			
Female	—	—	
Male	0.74	0.43, 1.30	0.3
Graft number	1.04	0.48, 2.10	>0.9
Graft type			
Deceased donor	—	—	
Living donor	0.56	0.25, 1.23	0.2
ABOI	0.89	0.31, 2.58	0.8
HLA mismatch	1.50	1.07, 2.12	0.019
Desensitisation prior to transplant			
No	—	—	
Yes	1.14	0.55, 2.32	0.7
Initial graft function			
Delayed: Dialysis required within the first 7 days post-transplant	—	—	
Immediate: Spontaneous fall in creatinine by 10% within 24 hours	1.11	0.53, 2.30	0.8
Slow: No spontaneous fall in creatinine within 24 hours, without dialysis	1.14	0.45, 2.74	0.8
Baseline dose of prednisolone	1.15	1.04, 1.28	0.006
Baseline tacrolimus trough level	1.00	0.94, 1.06	>0.9
Episode of rejection prior to BK nephropathy	1.00	0.55, 1.78	>0.9
BMI	0.96	0.93, 1.00	0.030

Abstract No. 28

ERRATIC TACROLIMUS LEVELS AT 6-12 MONTHS POST LUNG TRANSPLANT PREDICTS POOR OUTCOMES

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Background: It has previously been described that erratic tacrolimus blood levels are associated with graft failure in kidney and liver transplants. We have previously described, using a small cohort, that higher tacrolimus blood level concentration standard deviation (SD) 6-12 months after lung transplant increased risk of chronic lung allograft dysfunction (CLAD) and death. We aimed to determine if these findings are still true in a larger cohort and further identify potential risk factors for higher standard deviation.

Methods: We retrospectively reviewed 351 lung transplant recipients who received tacrolimus- based immunosuppression. Cox proportional hazard modelling was used to investigate the effect of tacrolimus mean and SD levels on survival and CLAD.

Results: Tacrolimus SD from 6-12 months was independently associated with both CLAD (HR, 1.21; 95% CI, 1.15-1.32; p=<0.001) and death (HR, 1.22; 95% CI, 1.12-1.33; p=<0.001). Conversely, mean trough tacrolimus blood concentration between 6-12 months was not associated with an increased risk of CLAD (HR, 0.94; 95% CI, 0.84-1.06; p=0.34) or death (HR, 0.91; 95% CI, 0.82-1.01; p=0.07). In a multivariable model, erratic tacrolimus levels were associated with anti-fungal use (β 1.02 95% CI 0.54 – 1.51, p<0.001) and younger age (β -0.10 95% CI -0.17 - -0.03 p=0.005 per ever 5 years).

Conclusion: Erratic tacrolimus levels at 6-12 months post lung transplant are associated with poor lung transplant outcomes. Interventions to optimise tacrolimus SD have significant potential to improve post-transplant survival.

Abstract No. 29

BARIATRIC SURGERY AND TRANSPLANTATION IN PATIENTS RECEIVING CHRONIC DIALYSIS: 15-YEAR EXPERIENCE IN AUSTRALIA AND NEW ZEALAND

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This study aimed to describe postoperative outcomes of bariatric surgery in patients receiving chronic dialysis and whether it improves access to kidney transplantation and overall survival. Data-linkage between Australia and New Zealand Dialysis and Transplant (ANZDATA) Registry and jurisdictional hospital admission datasets was used to identify all patients receiving dialysis between 2000 and 2015 who underwent bariatric surgery, as defined by the Australian Classification of Health Interventions. Cox regression with competing risk analysis using the Fine-Gray method, was used to determine the association of bariatric surgery with mortality. Using 1:3 propensity score matching, patients who underwent surgery were matched to dialysis patients who did not undergo surgery. The surgical (n=41) and non-surgical groups (n=117) were similar in age, dialysis vintage, body mass index, modality and co-morbidities. No postoperative deaths, cardiovascular or infective complications occurred following surgery. Median times to transplant were 57 months versus 54 months in the surgical and non-surgical groups (P=0.78), with mean weight losses of 29.2kg and 2.25kg, respectively (pandlt;0.001). Cumulative incidence of kidney transplantation was higher in the surgical compared to the non-surgical group, 30/41 (73%) and 26/117 (22.5%), respectively (p<0.001). Bariatric surgery was associated with a lower all-cause mortality at 5 years compared to those not undergoing surgery (HR 0.13, 95% CI 0.03-0.50). In this carefully selected group on chronic dialysis who underwent bariatric surgery, there was a low rate of postoperative complications.

Table 1:

	Bariatric surgery (n=41)	No surgery (n=117)	P Value
Age, Years(SD)	50.9 (10.1)	52.3 (11.7)	0.86
≤40	5 (12.2)	18 (15.4)	
>40 - ≤50	12 (29.3)	25 (21.4)	
>50 - ≤60	16 (39)	48 (41)	
>60 - ≤70	8 (19.5)	22 (18.8)	
>70	0	4 (3.4)	
Gender – Male (%)	20 (48)	52 (44.4)	
BMI, kg/m2 (SD)	41.8 (5.3)	40.3 (6.7)	0.19
≤30	1 (2.4)	3 (2.6)	
>30 – ≤35	2 (4.9)	11 (9.4)	
>35 - ≤40	13 (31.7)	41 (35)	
>40 - ≤45	15 (36.6)	29 (24.8)	
>45	10 (24.4)	33 (28.4)	
Dialysis modality			
HD	24 (58.5)	76 (65)	
PD	3 (7.3)	18 (15.4)	
HHD	14 (34.1)	23 (19.7)	
Vintage, years (SD)	4.3 (4)	3.4 (4.8)	0.28
≤1	8 (19.5)	37 (31.6)	
>1 - ≤3	13 (31.7)	31 (26.5)	
>3-≤5	7 (17.1)	29 (24.8)	
>5	13 (31.7)	20 (17.1)	
Comorbidities			
IHD (%)	7 (17.1)	25 (21.4)	0.55
DM (%)	25 (61)	76 (65)	0.64
HTN (%)	32 (78)	99 (84.6)	0.33
CVA (%)	1 (2.4)	6 (5.1)	0.47
PVD (%)	1 (2.4)	4 (3.4)	0.36
OSA (%)	5 (12.2)	11 (9.4)	0.74
COPD (%)	1 (2.4)	7 (6)	0.36
Transplant (SD)	30 (73.2)	26 (22.5)	<0.001
Change in weight prior to transplant (kg) (SD)	-29.2 (15.2)	-2.25 (14)	<0.001
Change in BMI prior to transplant (kg/m2) (SD)	-10.1 (5.3)	-0.58 (5.2)	<0.001

Abstract No. 30

COMPARISON OF BLOOD LYMPHOCYTE SUBPOPULATIONS BETWEEN LONG-SURVIVING RENAL TRANSPLANT PATIENTS AND HEALTHY VOLUNTEERS

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Introduction: Previous studies of Treg using limited markers have failed to establish a test of tolerance. $CD4^+$T cells are comprised of five populations (Pop) identified by immunostaining with mAb to CD25/CD45RA/Foxp3, PopI-III as naïve ($Foxp3^+CD45RA^+$), activated/memory ($Foxp3^{hi}CD45RA^-$), PopIII ($Foxp3^+CD45RA^-$) Treg and PopIV-V as naïve ($Foxp3^-CD45RA^+$) $CD4^+$ and effectors ($Foxp3^-CD45RA^-$).

Aim. To examine changes in Treg populations I-III within $CD4^+CD25^+CD127^{lo}$Treg and T effector in $CD4^+$ cells to test whether long-standing renal-transplant patients have increased activated $CD4^+CD25^+CD127^{lo}Foxp3^+$Treg consistent with transplant tolerance development.

Methods: Blood from healthy volunteers (HV)(n=14) and patients with renal-transplant surviving >10yrs (RT)(n=15) was subjected to multicolour flow cytometry to analyse T/B/NK cells (CD3/CD4/CD8/CD45/CD19/CD16&CD56) and PBMCs were isolated to examine Treg (CD4/CD25/CD127/CD45RA/Foxp3) and B cell subpopulations (CD19/CD21/CD24/CD27/CD38/CD45/IgD/IgM). Data was acquired on BD FACSCantoII and analysed using FlowJo. Lymphocyte populations were examined after FSC vs SSC gating and doublets exclusion.

Results: RT had similar lymphocyte, $CD4^+$T and NK cells numbers, but lower total Treg(PopI, II, III)($p<0.05$), naïve Treg(PopI)($p<0.01$) and naïve effector $CD4^+$T cells(PopV). RT had greater activated Treg(PopII+III) and activated effector T(PopIV)($p<0.05$) but not Treg PopII. RT had lower B cells($p<0.05$) and Transitional B cells($p<0.001$). Ratio of activated Treg (PopII+III) to B cells was markedly greater in RT($p<0.05$). No difference was found in NK cells between RT and HV.

Conclusion: RT had reduced naïve Treg and naïve effectors but increased proportion of activated Treg and effector cells. Increased ratio of activated Treg/B cells may be associated with increased suppression. Further studies may establish its relevance to transplant tolerance induction.

Abstract No. 31

MYOCARDIAL INFARCTION AS A CORE OUTCOME MEASURE FOR CARDIOVASCULAR DISEASE IN KIDNEY TRANSPLANTATION

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Aims: Cardiovascular disease (CVD) is a critically important research domain in kidney transplantation however, CVD outcome reporting is highly heterogeneous. We aimed to determine a core outcome measure for CVD to be included in the Standardising Outcomes in Nephrology kidney Transplantation (SONG-Tx) core outcome set.

Methods: Two 60-minute online consensus workshops in English and Spanish were conducted in May and September 2022. Participants received pre-workshop educational materials and a 10-minute workshop presentation on why myocardial infarction (MI) was proposed as the core outcome based on international survey data and literature review. Participants then discussed the suitability of MI as the proposed core outcome measure in small breakout groups. The workshop discussions were recorded and thematically analysed.

Results: The two workshops were attended by 86 health professionals and 43 patients from 18 countries. Participants endorsed MI as the most suitable core outcome measure for CVD. This was due to it being a leading cause of death in transplant recipients, the 'fear' of MI, and the functional impact of MI on patients. Thematic analysis of the discussion identified three additional themes: 1) the need for robustness and validity in the definition of MI, 2) the feasibility of implementing a pragmatic MI definition in different trial settings and 3) the dilemmas of using cardiovascular composite outcomes.

Conclusions: MI is a suitable core outcome and requires a pragmatic and robust outcome measure that can be implemented in diverse research and healthcare settings.

Abstract No. 32

THE USE OF BANFF HOT PANEL MOLECULAR DIAGNOSTICS IN KIDNEY TRANSPLANT BIOPSIES

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Renal transplant biopsy is the gold standard for diagnosing rejection using the BANFF scoring system. Despite this, diagnostic challenges remain with 'borderline' cases that do not fulfil diagnostic criteria. However gene expression analysis on allograft tissue may prove a valuable complementary tool. The BANFF Foundation for Allograft Pathology has recently developed the B-HOT (Banff Human Organ Transplant Panel) with Nanostring to fast track biomarker discovery for diagnosing rejection.

Aim: A pilot study assessing the feasibility of using the B-HOT panel on allograft biopsies, and the potential of gene expression analysis to predict histological diagnosis and outcome.

Methods: Twenty-four retrospective renal transplant biopsies were reviewed by two pathologists to confirm the histological diagnosis and the adequacy of the tissue. The cohort included: 3 normal biopsies, 2 acute tubular necrosis, 3 BK nephropathy, 4 'borderline'rejection, 7 acute and chronic active antibody-mediated rejection, 5 acute and chronic active T-cell mediated rejection. RNA was extracted using the Qiagen FFPEasy kit. Gene expression was quantified using the B-HOT panel and NanoString nCounter System.

Results: Distinct differential gene expression was detected between the diagnostic categories involving multiple genes with a fold change of >2. Pathway scoring and gene set analyses showed significant expression of genes involved in multiple pathways including Toll-like receptor signalling, chemokine signalling, interferon signalling and the adaptive immune system.

Conclusions: Gene expression analysis using the B-HOT panel appears to be a promising tool to complement histological assessment of renal transplant biopsies. Further study and validation is needed to introduce it into clinical practice.

Abstract No. 33

EARLY BRONCHOALVEOLAR LAVAGE BIOMARKERS PREDICT CHRONIC LUNG ALLOGRAFT DYSFUNCTION

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Introduction: Chronic lung allograft dysfunction (CLAD) is a major barrier following lung transplantation (LTx), occurring in >40% of patients within the first 5 years. CLAD is characterised by a decline in lung function and has been associated with differential cytokine and protein profiles at the time of diagnosis.

Aims: To characterise the bronchoalveolar lavage (BAL) cytokine and protein profiles early post-LTx to predict CLAD development.

Method: We retrospectively analysed the BAL of 34 patients with and without CLAD. Cytometric bead array (CBA) was used to quantify 6 cytokines and enzyme-linked immunosorbent assay (ELISA) was used to quantify collagen type 1 alpha 1 (COL1α1) protein, a possible pro-fibrotic marker, up to 1-year post-LTx. Cytokine and protein levels were then correlated with clinical parameters such as infections, hospital stay, primary graft dysfunction and CLAD.

Results: IL-6 and IL-8 CBA results showed a significantly higher concentration in the CLAD group compare to the CLAD-free group at two weeks (Fig 1a), with no significant correlation with aforementioned clinical parameters. COL1a1 concentrations decreased significantly between 2 and 12 weeks, with a more pronounced reduction in the CLAD-free group (Fig 1b) suggesting a slower decline in the CLAD group.

Conclusions: Early BAL IL-6 and IL-8 levels post-LTx may have utility as biomarkers for future CLAD development, allowing for timely intervention. Early post-transplant changes in COL1a1 reveal recovery differences, however, a larger cohort is needed to assess changes within CLAD and CLAD-free groups. We propose that key events, which set the scene for CLAD, take place as early as the first several weeks post-LTx.

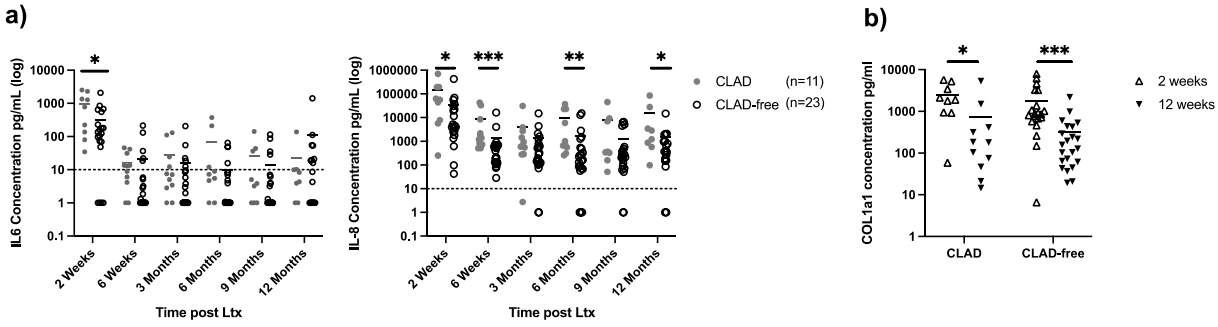

Figure 1. Early events post lung-transplant predict CLAD. BAL from 34 LTx patients was retrospectively analysed up to 12 months post-transplant for proteins that can be used as early diagnostic markers. (a) IL-6 and IL-8 concentration was significantly higher in the CLAD group compared to the CLAD-free group at 2 weeks (p=0.05 and p=0.03, respectively). (b) COL1a1 protein concentration was determined by ELISA with 2 week concentrations significantly higher in CLAD (p=0.03) and CLAD-free groups (p=0.0002) compared with 12 weeks.

Abstract No. 34

LOCAL IMMUNOSUPPRESSION: EVALUATION OF TRANSGENIC PIGS EXPRESSING A HUMAN T CELL DEPLETING ANTI-CD2 MONOCLONAL ANTIBODY

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Background: Although we have achieved long-term survival of islet xenografts in a preclinical pig-to-baboon model, T cell mediated rejection inevitably occurs following withdrawal of maintenance immunosuppression. Local production of an anti-T cell agent by the xenograft may be a solution to this problem. We generated two pig lines transgenic for the T cell depleting anti-CD2 mAb diliximab, under the control of either an MHC class I promoter (MHCIP) for widespread expression or the pig insulin promoter (PIP) for islet-specific expression. In both cases, the transgenes were knocked into GGTA1, the gene for the major xenoantigen αGal.

Aim: To evaluate diliximab expression in the two transgenic pig lines.

Methods: Expression of diliximab was assessed by ELISA (serum), RT-qPCR and immunohistochemistry (tissues). Islets from MHCIP-diliximab and control non-transgenic neonatal pigs were transplanted under the kidney capsule of diabetic SCID mice.

Results: Diliximab was present in the serum of MHCIP-diliximab pigs at a mean concentration of 1.8 g/ml, and was expressed at the mRNA and protein levels in spleen, kidney, heart, liver, lung, and pancreas. However, diliximab was not expressed in the serum or tissues of PIP-diliximab pigs. MHCIP-diliximab islet xenografts restored normoglycemia in diabetic mice, and expression of the mAb was detected at the graft site.

Conclusion: Diliximab was widely expressed in MHCIP-diliximab pigs, and islet transplants from these pigs exhibited local production. Whether the level of expression is sufficient to prevent T cell mediated islet xenograft rejection awaits further investigation. Unexpectedly, diliximab was not expressed in the islets of PIP-diliximab pigs

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Abstract No. 35

IDENTIFICATION OF COPY NUMBER VARIANTS IN CHILDREN WITH KIDNEY TRANSPLANTS AT CHILDREN'S HOSPITAL AT WESTMEAD

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Aims: To identify Copy Number Variants in paediatric transplant recipients

Methods: Retrospective review of the last 100 patients transplanted at Children's Hospital at Westmead 2012-2022. CNV identified using CGH arrays at the cytogenetic service at Children's Hospital at Westmead. CGH array testing was done with a standard 60,000 SNP panel. Children with multi-organ disease or a potential genetic defect or significant developmental delay received a CGH array, often before proceeding to Exome testing.

Results: We identified 8 patients with a positive CGH array abnormality. 12 CNVs were identified across 8 patients including 1 patient with 3 CNVs and 2 patients with 2 CNVs. 6 of the CNVs were classified as VOUS and 5 CNVs in 3 children were classified as likely pathogenic or pathogenic. The child with CAKUT and most severe developmental delay had a duplication on Chr20 covering 164 genes including SOX18 and a deletion on Chr21 of 122 genes. A second child had FSGS and developmental delay and a duplication of Chr6 covering 224 genes including DUSP22 and a deletion of Chr18 covering 18 genes. A third child with CAKUT and developmental delay had a deletion on Chr22 covering 49 genes and consistent with velocardiofacial syndrome. Two other children had CNVs covering single genes or parts of genes that led to Mendelian phenotypes including Cystinosis and C3GN, and a number had CNVs of uncertain significance.

Conclusions: CNVs may explain a proportion of CKD and suggests broader uptake of CGH arrays in kidney transplantation in children is warranted.

Abstract No. 36

THE EFFECT OF MHC- AND TISSUE-MISMATCHING ON DONOR LEUCOCYTE RETENTION FOLLOWING LIVER AND KIDNEY TRANSPLANTATION

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Background: During solid organ transplantation, donor leucocytes are transferred along with the organ itself, which has implications for the post-transplantation immune response. Organ allocation does not always consider major-histocompatibility-complex (MHC) or tissue-matching, and the effect of matching on the retention of donor leucocytes is unknown.

Aim: To examine the effects of differences in the level of mismatch between donors and recipients on the retention of donor leucocytes and the recipient leucocyte response, using mouse models of liver and kidney transplantation.

Methods: We performed liver and kidney transplants in mice with different levels of MHC- and tissue-mismatch and examined the immune response. Leucocytes were isolated from the graft and recipient tissues post-transplantation and assessed by flow cytometry.

Results: Seven days following fully matched liver transplantation, 21% of donor leucocytes present in a naïve liver were detectable within grafts. In contrast, after kidney transplantation, the total number of donor leucocytes in fully matched grafts increased 1.2-fold by day 7. In both organ models, the presence of any level of MHC- or tissue-mismatch resulted in reduced retention of donor leucocytes. However, in MHC-matched, tissue-mismatched liver grafts, donor leucocytes of all but three subsets retained in fully matched grafts were detectable. Recipient leucocytes infiltrated all grafts, albeit to a greater extent following any type of mismatched transplantation than following fully matched transplantation.

Conclusions: These data demonstrate key differences in the immune response to transplantation associated with differences in the level of MHC- and tissue-mismatch and contribute to our understanding of the post-transplantation immune environment.

Abstract No. 37

PORTAL VENOUS PRESSURES AND LIVER FUNCTION TESTS FOLLOWING ISLET CELL TRANSPLANTATION: A SINGLE-CENTRE EXPERIENCE

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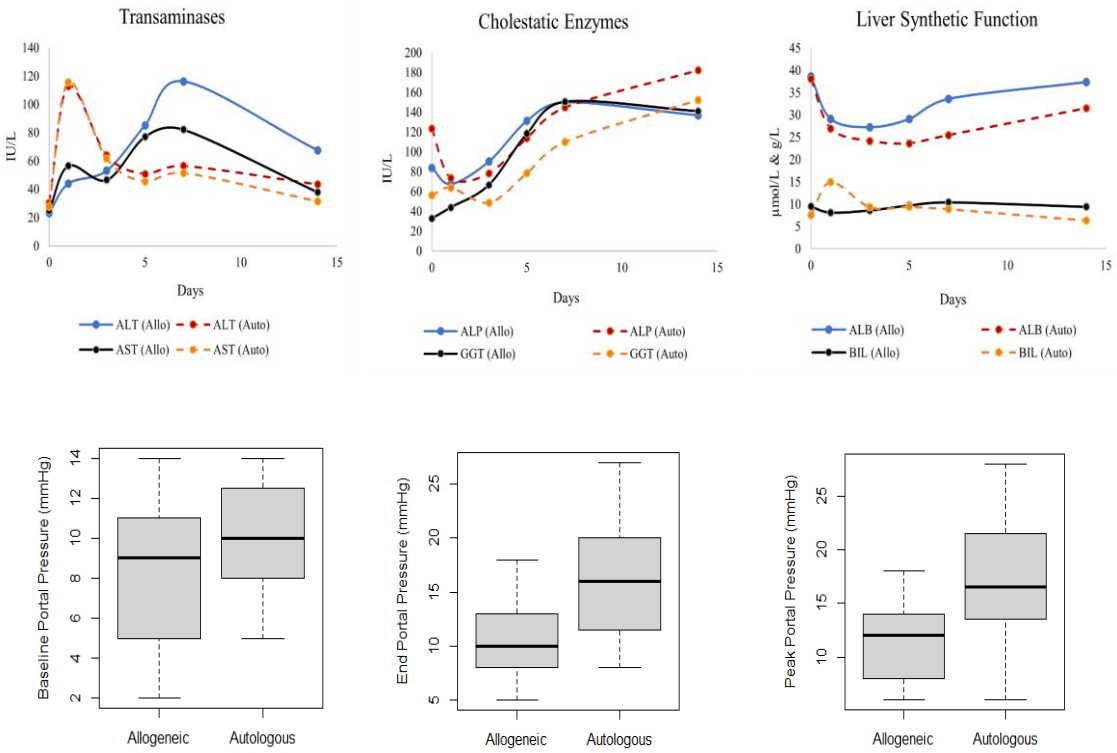
Aim: Transient elevation of liver functions tests (LFTs) and portal venous pressures are often observed following intraportal allogeneic and autologous islet cell transplantation (ICT). Elevated portal pressures may contribute toward early cell loss and portal thrombosis, therefore factors associated with portal pressure increase and the association with LFT derangement were examined.

Methods: A retrospective audit of all allogeneic and autologous ICT performed at a single tertiary centre was conducted to identify recipient and islet preparation characteristics. Spearman correlation analyses of portal venous pressure with transfusion characteristics and LFTs were performed with comparison between both groups.

Results: 13 autologous and 27 allogeneic ICT were audited. Autologous recipients received higher packed cell volumes (PCV, 7 vs 1.7mL, $p < 0.01$). No baseline differences were observed in portal pressures or LFTs between groups. Observed differences in peak, close and portal pressure change did not reach statistical significance. The autograft group experienced an earlier transaminase peak day 1 post-operatively (ALT 55 vs 23IU/L, $p < 0.01$, AST 74 vs 33IU/L, $p < 0.01$) with uptrending cholestatic enzymes day 14 post-procedure (ALP 171.5 vs 106IU/L, $p = 0.10$, GGT 127.5 vs 98IU/L, $p = 0.56$). PCV had no strong association with portal pressures and mixed correlations with LFTs. Moderate and strong correlations were found between portal pressures and baseline ALT, AST, and ALP values in the autologous receipients.

Conclusion: Although common trends were observed in LFTs following ICT, the varied strength of their correlation with portal venous pressures may make them an unreliable predictive factor.

Figure 2: Comparison of Liver Function Tests and Portal Venous Pressures



Abstract No. 38

FREQUENCY AND STABILITY OF SUBPOPULATIONS OF CD4+CD25+FOXP3+CD127LO TREG IN HEALTHY ADULT VOLUNTEERS

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Introduction. Ability to monitor activated Treg will be of benefit in transplant tolerance induction protocols. Human Treg ($CD4^+CD25^+Foxp3^+$) have 3 subpopulations; PopI as naïve/resting $Foxp3^+CD45RA^+$, PopII are activated $Foxp3^{hi}$ $CD45RA^-$ and PopIII ($Foxp3^+CD45RA^-$). PopI express CCR7, while Pop II and III express CXCR3. Here, we examined proportion of three Treg populations and the stability of their frequency distribution over time in healthy volunteers (HV).

Methods. 44 HV (17 male/ 27 female) had PBMC analysed for a total of 110 measurements. 10 HV had repeat analysis over three years. PBMC stained with panels of mAb to CD4, CD25, CD127, CD45RA, Foxp3, CXCR3 and CCR7, and analysed by FACS.

Results. The $CD4^+CD25^+CD127^{lo}$ and $CD4^+CD25^+CD127^{lo}Foxp3^+$ were nearly always <10% of $CD4^+$T cells. The proportion of $CD4^+CD25^+CD127^{lo}$ cells and of $CD4^+CD25^+CD127^{lo}Foxp3^+$ cells were stable in same HV in repeat analysis over 4 years. Proportion of $CD4^+$ cells in lymphocytes had variation, however, the proportion of PopI, and II, related to either $CD4^+$T cells or $CD4^+Foxp3^+CD127^{lo}$Treg was very stable over time. PopIII frequency was more variable. Males and females had similar proportion of all Population. With age, the proportion of $CD4^+CD25^+CD127^+Foxp3^+$T cells declined due to a fall in PopI, whereas Pop II and Pop III had an increase ($p<0.0001$ in linear regression). PopI and V expressed mainly CCR7 whereas PopII, II and IV expressed CXCR3.

Conclusions. Healthy individuals have stable proportion of Treg. Establishment of normal ranges, with age variations may allow detection of changes in transplant tolerance.

Abstract No. 39

CONVERTING THE 'UN-TRANSPLANTABLE' KIDNEY TO TRANSPLANTS: AN ANALYSIS OF OUTCOMES TO DEVELOP A DUAL-KIDNEY DONOR PROFILE INDEX

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Aims: To address the organ shortage, kidneys from "marginal" donors are being retrieved. Unfortunately, these are often not utilised due to concerns about recipient prognosis. An alternative is transplanting these as dual kidney transplants. Our study aimed to compare death-censored graft survival (DCGS) in dual to single kidney transplants and develop a kidney donor profile index (KDPI) for dual transplants.

Methods: We included all adult kidney only deceased donor transplants from 2002-2021 from the Australian and New Zealand Dialysis and Transplant (ANZDATA) Registry. The outcome of DCGS was analysed in 3 ways: 1) A Cox proportional hazard model 2) An adjusted dual KDPI was developed 3) Efficacy of this score was demonstrated by cohort matched by adjusted KDPI (prognosis-score matching).

Results: There were 10787 single and 174 dual kidneys. Dual kidneys had a higher median KDPI (dual 93[IQR:79-98] vs. single 53[31-76]). The Cox model follow-up was split at day 3 (figure1). There was no difference in DCGS for the first 3 days for dual compared to single transplants, Hazard Ratio (HR) 1.7 (95%CI0.7-4.2, p=0.2). Dual transplants showed superior DCGS after day 3 HR 0.5(95%CI0.28-0.85, p=0.01). There were 164 prognosis-matched pairs, with no difference in DCGS after matching single and dual transplants for DCGS before/after day 3 (before: HR 2.7(95%CI0.3-24,p=0.4, after:HR0.7(95%CI0.3-1.7,p=0.4). The dual KDPI adjusted the KDPI to allow comparison on a single scale.

Conclusions: Dual kidneys have better DCGS than single kidney with same KDPI if they survive past day 3. The dual KDPI estimate long-term prognosis on same scale as single kidneys.

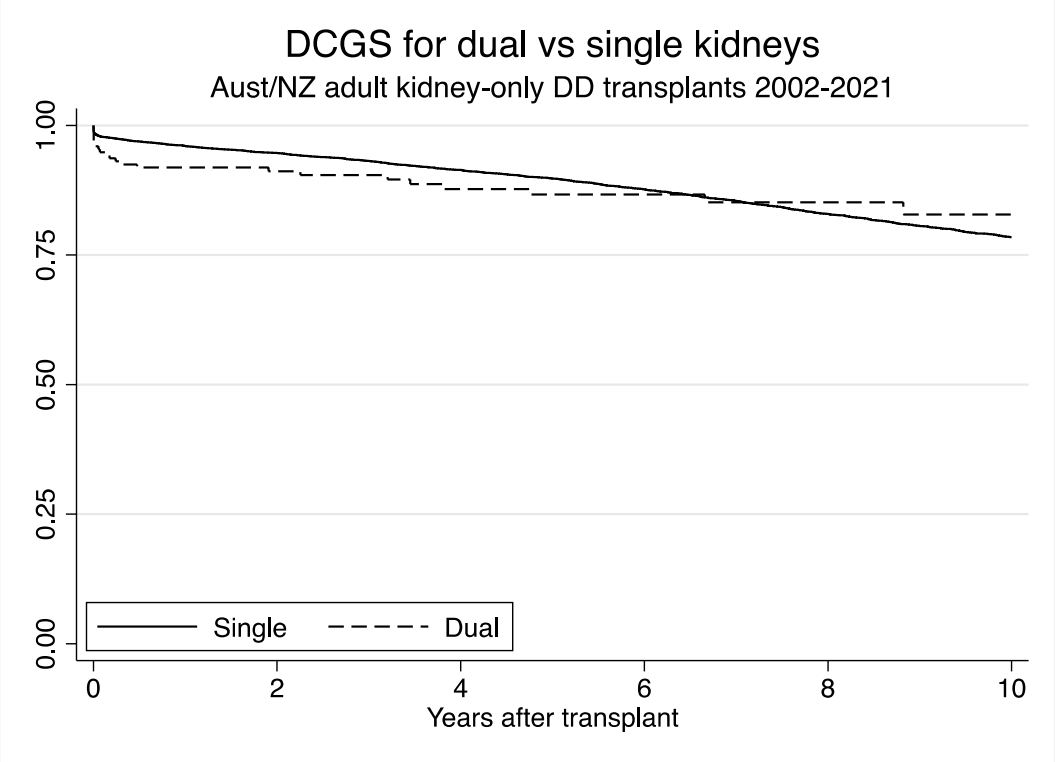

Figure 1: Unadjusted Kaplan-Meier for overall single compared to dual kidneys for outcome of death censored graft survival for deceased donor kidneys.

Abstract No. 40

INTESTINAL GRAFT-VERSUS-HOST-DISEASE IN A DISH

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Stem cell transplantation (SCT) is an important curative therapy for those who suffer from blood cancers. The goal of SCT is to re-establish the defective host immune system with donor-derived hematopoietic stem cells and provide the graft-versus-leukaemia effect, in which host malignant cells are targeted by donor lymphocytes due to donor/host genetic disparity. Graft-versus-Host-Disease (GVHD) is an often lethal complication that arises after SCT, which is characterised by donor T-cell-driven damage to healthy host organs due to the same genetic disparities between the graft and recipient tissues (1, 2).Cytokines are a large group of important effector molecules that play critical roles in the pathophysiology of GVHD. The skin, liver, lung and gastrointestinal tract are the main target tissues in GVHD, and organ damage is directly related to proinflammatory cytokines such as interleukin (IL)-1, IL-6, interferon (IFN)γ, and tumour-necrosis-factor (TNF). In contrast, cytokines such as IL-10, IFNλ, and transforming-growth-factor-β (TGF-β) have regulatory and protective roles. Interestingly, cytokines such as IL-22 and IL-17 have been found to have opposing effects based on the cellular source and site of secretion (3-5). Intestinal organoids have been key to discovery of the protective functions of IFNλ and IL-22 therapy in gastrointestinal GVHD. A well-defined in vitro platform can help accelerate future drug discovery through high-throughput therapeutic target screening and validation. Hence, we developed an allogeneic T cell and intestinal organoid-based platform to simulate gut GVHD in vitro and study the effect of different immune cells on intestinal organoids and cytokine interactions in this setting. In this model, we show how co-culturing T-cells with intestinal organoids causes tissue damage in an allo-specific manner, mimicking in vivo gut GVHD in an in vitro setting.

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Abstract No. 41

TOCILIZUMAB AS ADJUVANT THERAPY IN REFRACTORY ANTIBODY MEDIATED REJECTION IN PAEDIATRIC KIDNEY TRANSPLANT RECIPIENTS

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Background: Antibody mediated rejection (ABMR) is a significant complication of kidney transplantation, which has deleterious effects on graft survival. Standard of care combines the use of plasmapheresis, intravenous immunoglobulins (IVIG), steroids +/- rituximab. Recent evidence supports the use of tocilizumab, an IL-6 receptor antagonist, in refractory ABMR.

Methods: We performed a retrospective, single centre, observational study of kidney transplant patients who received tocilizumab for refractory ABMR between May 2019 and December 2022; with follow up through to December 2022.

Results: Six patients were included, aged 5-13. All patients had ABMR confirmed on renal biopsy and received IV tocilizumab (8mg/kg monthly) for at least 12 months, after clinical deterioration with plasmapheresis and/or IVIG. Renal function stabilised and donor specific antibodies (DSA's) MFI improved in all patients (100%). The main side effect was infection with two (33%) patients ceasing tocilizumab due to presumed sepsis. One (17%) patient had recurrent severe stomatitis that resolved on temporary cessation of therapy. At the end of follow up three (50%) patients remain on monthly tocilizumab with stable renal function. One patient (17%) ceased therapy during the COVID pandemic due to perceived poor compliance when switched to subcutaneous administration; renal function remains stable. During the follow up period one patient developed T cell mediated rejection and one patient developed CMV positive titres during tocilizumab therapy.

Conclusion: Tocilizumab was an effective adjuvant therapy for refractory ABMR in stabilising renal function and improving DSA's. More studies are required to support these results and to determine duration of therapy.

Abstract No. 42

LOWER FLOW AND HIGHER RESISTANCE ON COLD PERFUSION MACHINE IS ASSOCIATED WITH HIGHER LIKELIHOOD OF REQUIRING DIALYSIS POST RENAL TRANSPLANT

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Aim: We aimed to evaluate if lower flow and higher resistance on cold perfusion machine was associated with a higher likelihood or requiring dialysis post renal transplantation.

Method: This was a retrospective review on 170 patients who underwent a renal transplant between 2012 and 2022 who had the cold perfusion machine (CPM) used for their donor kidney. Data was extracted from the princess Alexandra hospital records and from the cold perfusion machine.

Results: There were 170 patients included, 113 males and 57 females. Eighty-one patients received kidneys donated after circulatory death (DCD), and eighty-nine patients received kidneys donated after brain death (DBD). A total of 51 patients (30%) required dialysis post-transplant with a. mean age of 53.84 +/- 12. A total of 119 patients (70%) did not require dialysis post transplantation, with a mean age of 49.13+/-16.99. A total of 28 patients (55%) requiring dialysis received kidneys from kidneys DCD, compared to 53 patients (44%) that did not require dialysis. Mean flow in CPM for patients requiring dialysis was 128.31 compared to 138.02 in patients who did not require dialysis and mean resistance in patients requiring dialysis was 0.649 compared to 0.270 in patients who did not require dialysis ($p<0.001$).

Conclusion: To date this record is one of the largest patient dataset with the longest follow up to date. Results indicated that lower flow and higher resistance may be associated with higher likelihood of requiring dialysis post transplantation. Further research is needed to determine if causation exists.

	Dialysis (N=51)	No dialysis (N=119)
Age	53.84 +/- 12.8	49.13 +/- 16.99
Sex	Male = 37 Female = 14	Male = 76 Female = 43
Donor type	DBD = 23 DCD = 28 (55%)	DBD = 66 DCD = 53
Cold Ischaemic Time	21.78 +/- 4.78	19.098 +/- 4.72
Perfusion	Good = 28 Average = 18 Poor = 4 Unknown = 1	Good = 82 Average = 27 Poor = 2 Unknown = 4
Urine on table	Yes = 15 No = 18 Unknown = 17	Yes = 58 No = 24 Unknown = 36
Flow	128.31 +/- 49.977	138.023 +/- 50.517
resistance	0.649 +/- 2.948	0.270 +/ 0.691
Cr 3 months	169 +/- 59	133 +/- 72
Cr 1 year	146 +/- 50	119 +/- 45
Cr 3 years	164 +/- 28	117 +/- 28
Cr 5 years	145 +/- 54	133 +/- 60

Abstract No. 43

A COMPARISON OF VIRTUAL XM, FLOW XM AND CDCXM IN HEART AND LUNG TRANSPLANTS PERFORMED IN WESTERN AUSTRALIA

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The assessment of suitability for heart and/or lung transplant includes the identification of potentially deleterious pre-transplant donor specific HLA antibodies (DSA). Historically this has been performed using the complement dependant cytotoxicity crossmatch (CDCXM), flow cytometry crossmatch (FCXM) and/or the use of HLA antibody profiles determined by single antigen bead (SAB) assay (VXM). In order to determine whether the SAB results can predict a positive CDCXM or FCXM we retrospectively analysed 87 heart and lung transplants performed in Western Australia between October 2019 and December 2022. In this period, a CDCXM was always performed prior to transplant until October 2022 (n = 76) and a FCXM was performed retrospectively in most cases (n = 60).

Results: Table 1 shows the prevalence of positive HLA antibodies, donor specific HLA antibodies and crossmatch results in the absence and presence of Class I and II DSAs. DSA was present in 12.5% of heart and 27.6% of lung transplants. Lack of DSA was an excellent predictor of a negative CDC/FCXM. Presence of DSA did not always predict a positive CDC or FCXM. A FCXM was positive in 4/10 cases of Class I and 4/8 cases of class II DSA; whereas a CDCXM was positive in 0/10 class I and 1/8 cases of class II DSA.

Conclusion: The use of SAB data alone (VXM) is effective at identifying low risk heart and lung transplants. The presence of DSA poorly predicted a positive physical crossmatch.Table 1 incidence of HAB, DSA and FC/CDCXM in heart and lung transplants

Table 1 incidence of HAB, DSA and FC/CDCXM in heart and lung transplants

	Heart (n=40)	Lung (n=47)
Class I only HAB +ve	1	10
Class II only HAB +ve	7	11
Class I & II HAB +ve	7	13
Class I only DSA +ve	2	7
Class II only DSA +ve	3	3
Class I & II DSA +ve	0	3
	Heart (n=33)	Lung (n=43)
Class I DSA -ve / T CDC XM -ve	32	34
Class I DSA +ve / T CDC XM -ve	1	9
Class I DSA -ve / T CDC XM +ve	0	0
Class I DSA +ve / T CDC XM +ve	0	0
Class II DSA -ve / B CDC XM -ve	30	36
Class II DSA +ve / B CDC XM -ve	3	5
Class II DSA -ve / B CDC XM +ve	0	1
Class II DSA +ve / B CDC XM +ve	0	1
	Heart (n=25)	Lung (n=35)
Class I DSA -ve / TFCXM -ve	23	26
Class I DSA +ve / TFCXM -ve	0	6
Class I DSA -ve / TFCXM +ve	0	1
Class I DSA +ve / TFCXM +ve	2	2
Class II DSA -ve / BFCXM -ve	22	29
Class II DSA +ve / BFCXM -ve	2	2
Class II DSA -ve / BFCXM +ve	0	1
Class II DSA +ve / BFCXM +ve	1	3

Abstract No. 44

EXPLORING YOUNG PEOPLE'S KNOWLEDGE, ATTITUDES AND PERCEPTIONS OF ORGAN DONATION IN AUSTRALIA

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Aims: Young people are one of the most underrepresented groups on the Australian Organ Donor Register. Using a qualitative study design, this project aimed to explore the factors, informational needs and messaging preferences that may influence young people's motivations to register as an organ donor.

Methods: Data were collected in eight online focus groups with 44 young people aged 18-33, to explore their views towards organ and tissue donation and registration. Study invitations were promoted across the authors university and data collected via zoom software in September 2022. Transcripts were thematically analysed.

Results: Participants were mostly women (72.7%), current students (88.6%) and studying a health or science-related degree (97.7%). Half had registered to be an organ donor. Five themes were identified. Findings indicate that young people lack an awareness and understanding of organ donation and were unaware of the importance of having conversations. Young people expressed a strong desire to make an informed decision yet felt there was a lack of information available to them which was the main barrier to them signing up to be an organ donor. Motivators including altruism, knowing how simple the registration process is and media representation of young people's role in organ donation. Participants suggested a range of locations (online and physical spaces) to increase public visibility of organ donation and registration and actively disseminate information to young people.

Conclusions: Findings can inform the development and dissemination of educational resources to better capture the attention of young people and encourage them to take action.

Abstract No. 45

USING TOTAL LYMPHOID IRRADIATION TO TREAT REFRACTORY ACUTE RENAL ALLOGRAFT REJECTION PRECIPITATING THROMBOTIC MICROANGIOPATHY

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Introduction: Total lymphoid irradiation (TLI) is rarely used to treat acute renal and cardiac allograft rejection refractory to immunosuppressive medications. Refinements in TLI delivery have improved its safety and efficacy. We report TLI to treat acute antibody mediated rejection (ABMR) of renal allograft precipitating thrombotic microangiopathy (TMA).

Case: A 27-year-old female practising Jehovah's Witness with end stage renal disease secondary to SLE underwent a deceased donor renal transplant with 4/6 HLA mismatch with standard induction and triple therapy. Six-weeks post-transplant, she developed acute antibody and T cell mediated rejection with multiple strong class II de-novo DSAs due to medication non-adherence. She received anti-thymocyte globulin, intravenous methylprednisolone, plasma exchange (PEX) and IVIG but developed life-threatening TMA with profound anaemia and thrombocytopaenia associated with persistent ABMR. Neither graft nephrectomy nor PEX was possible in view of severe anaemia and thrombocytopenia (haemoglobin nadir of 36 g/L and platelets 65 x 109/L) and Jehovah Witness status. She commenced eculizumab with only partial haematological response and TLI was used as last line intervention (4.5 Gy in 4 fractions) without adverse effect. Recovery of cell counts and improved graft function were observed within four weeks following TLI with no evidence of ongoing haemolysis (haemoglobin 98 g/L and platelet count 400 x 109/L). Recurrent medication non-adherence resulted in worsening graft dysfunction. Subsequently, graft nephrectomy was performed without complication with histological evidence of renal-limited TMA and ongoing ABMR

Conclusion: A challenging case of refractory ABMR precipitating life-threatening TMA in a Jehovah's witness patient treated with TLI.

Abstract No. 46

A CASE SERIES OF SUCCESSFUL KIDNEY TRANSPLANTATION FROM SNAKE ENVENOMATION DONOR KIDNEYS

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Case Presentation: Here we report successful transplantation of two kidneys from a donor who died following Eastern brown snake (Pseudonaja textilis) envenomation. The 55-year-old female donor (Table 1) presented to hospital following a snake bite and received polyvalent antivenom but deteriorated with cardiac arrest and within 48 hours progressed to brain death. Investigations demonstrated features of disseminated intravascular coagulation, which were improving at the time of donation, peak creatinine kinase 7370u/L and lactate dehydrogenase of 1186u/L, with KDIGO stage 3 acute kidney injury. Preimplantation kidney biopsy showed no evidence of thrombotic microangiopathy or cortical necrosis. Both recipients A and B (Table 1) received thymoglobulin induction to minimise early tacrolimus exposure and mitigate the anticipated high risk of delayed graft function. One recipient required dialysis post-transplant for fluid management. Both recipients had otherwise uncomplicated post-operative courses and achieved good allograft function.

Discussion: Eastern brown snake envenomation is a unique cause of death in Australia, with an average of 2.2 deaths per year. In an Australian coronial case series of 35 cases of snake bite deaths with a median age of 46.5 years, 23 patients died from Brown Snake envenomation with collapse (10) and cardiac arrest (7) being the most common causes of death. Case series from India report successful kidney transplantation following neurotoxic snake envenomation. Given the relatively young age group affected, these individuals may be considered for organ donation.

Conclusion: This is the first report of successful kidney donation in Australia following endotoxic donor death from Eastern brown Snake envenomation.

Table 1. Details of donor and recipients

Donor		
Age	55	
KDPI	67	
Snake type	'Brown snake'	
Envenomation	yes	
Anti-venom	yes	
DIC/coagulopathy	yes	
Baseline creatinine	72 µmol/L	
Terminal creatinine	302 µmol/L	
Urine protein	Negative	
Cause of death	Brain death post cardiac arrest	
Recipients	A	B
Age	65	58
Dialysis modality	HD	HD
Time on dialysis (months)	31	40
Donor-specific antibodies	0	0
Panel reactive antibodies	nil	24.6%
HLA mismatch	5	6
Estimated post-transplant survival	86	
Warm ischaemic time	27	27
Kidney disease	Diabetic nephropathy/ hypertension	Recurrent pyelonephritis
Induction	Thymoglobulin, methylprednisone	Thymoglobulin, methylprednisone
Maintenance	Prednisolone, tacrolimus, mycophenolate	Prednisolone, tacrolimus, mycophenolate
Post-Transplant dialysis	no	yes
Delayed graft function	yes	yes
Rejection episodes	nil	nil
One month creatinine	165 µmol/L	131 µmol/L
Three month creatinine	122 µmol/L	112 µmol/L
Other complications	nil	nil

Abstract No. 47

EVALUATING THE STRENGTH OF AUSTRALIAN DONATION AND TRANSPLANTATION LAW AGAINST INTERNATIONAL LEGAL NORMS

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AIMS: While legal scholarship on organ and tissue donation and transplantation (OTDT) has considered a range of legal issues, scholarship studying OTDT legal frameworks through a systematic lens is lacking. This study therefore evaluates the level of uniformity and strength of Australian OTDT laws on a macro level. **METHODS:** Australian State and Territory OTDT legislation was evaluated against new international legal guidelines1 containing recommendations on foundational OTDT issues. Using a leximetric approach (a legal methodology for jurisdictional comparison), a Legal Compliance Index was created to measure compliance of Australian law with the Guideline recommendations. Legislation was evaluated against 10 metrics. Each metric was scored on a scale of 0 to 1 (with sub-increments of 0.25), providing a score out of 10 for each State and Territory.

RESULTS: Total scores ranged from 5.5 (NT) to 7.25 (Victoria), with an average of 6.56. Areas of strength across jurisdictions include protection for the dead donor rule, consent requirements for competent adult living donors, and prohibitions on organ commercialism. Areas for potential reform include clarifying consent requirements for premortem interventions and implementing mandatory referral for deceased donation. The remaining five metrics revealed variation between jurisdictions (Table 1).

CONCLUSIONS: Australian OTDT legislation lacks uniformity on fundamental legal issues. Jurisdictions can learn from each other on the metrics reflecting legal variation and coordinate on the metrics showing uniformly poor compliance, mainly pertaining to deceased donation. 1 'Legislation and Policy Recommendations on Organ and Tissue Donation and Transplantation from an International Consensus Forum' Transplantation Direct (in press)

Table 1: The OTDT Legal Compliance Index Applied across Australian Jurisdictions

Metrics (International Legal Norms)	WA	NT	QLD	NSW	ACT	VIC	SA	TAS
Existence of a Clear Definition of Death of General Application	0.75	0.5	0.5	0.5	0.5	0.5	0.75	0.5
Protection for Dead Donor Rule	1	1	1	1	1	1	1	1
Clear Legislative Definitions and Scope of Application	0.25	0.75	0.75	0.5	0.75	0.75	0.75	0.75
Robust Consent Requirements for Living Donation (Adults with Capacity)	1	1	1	1	1	1	1	1
Legal Clarity on Living Donation for those without Capacity	0.5	0.25	0.75	0.5	0.75	0.5	0.5	0.5
Source of Legal Authority for Deceased Donation	1	0.5	0.5	1	1	1	1	1
Role of SDMs for Deceased Donation	1	0.5	0.5	1	1	1	1	1
Clear Consent Requirements for Pre-mortem Interventions	0	0	0	0	0	0.5	0	0
Mandatory Referral Requirements	0	0	0	0	0	0	0	0
Prohibition of Organ Commercialism	1	1	1	1	1	1	1	1
Total Score (out of 10)	6.5	5.5	6	6.5	7	7.25	7	6.75

Abstract No. 48

MANAGEMENT AND OUTCOMES OF EARLY ACUTE ANTIBODY-MEDIATED REJECTION FOLLOWING KIDNEY TRANSPLANTATION

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Background: Antibody-mediated rejection (ABMR) affects up to 10% of kidney transplant recipients and increases the risk of graft loss. This study aimed to describe outcomes among patients with ABMR and treatment practice changes in a large Australian kidney transplant unit.

Methods: Data were obtained from medical records of adults with early (within 30 days of transplant) ABMR at the Princess Alexandra Hospital. Patients were grouped according to transplant date (Era 1: January 1st 2011- 31st June 2016; Era 2: 1st July 2016- December 31st 2021). The primary outcome was change in serum creatinine concentration from plasma exchange (PLEX) initiation to 12 months. Secondary outcomes included graft loss, further rejection, and death. Linear trends of change in graft function were analysed by fitting a multilevel linear regression model.

Results: The study included 52 patients with ABMR treated with PLEX (Table 1). Serum creatinine fell significantly by 12 months (<0.0001) but was not associated with number (p=0.64) or duration of PLEX treatments (p=0.56), use of high-dose intravenous immunoglobulin (IVIG; p=0.21) or era (p=0.67). There was no difference in secondary outcomes between groups. Compared with patients in Era 1, those in Era 2 received more high-dose IVIG (63% vs. 16%, p=0.001) and less PLEX (duration: 43 vs. 28 days, p=0.0004; number: 16 vs. 13, p=0.02).

Conclusions: Patients with early ABMR responded well to PLEX, but eventual graft function was not associated with PLEX intensity or use of high-dose IVIG. Recent practice changes were observed, comprising shorter PLEX courses and more high-dose IVIG utilization.

Table 1. Demographic and transplant-related characteristics.

	All (n=52)	Era 1 (n=25)	Era 2 (n=27)	p value
Age in years (mean ± SD)	51 ± 12	51 ± 13	52 ± 13	0.60
Male	26 (50%)	14 (56%)	12 (44%)	0.41
Ethnicity				0.36
• White	39 (76%)	21 (88%)	18 (67%)	
• Indigenous	7 (14%)	2 (8%)	5 (19%)	
• Asian	2 (4%)	0 (0%)	2 (7%)	
• Other	3 (6%)	1 (4%)	2 (7%)	
Primary kidney disease				0.04
• Glomerulonephritis	14 (27%)	5 (20%)	9 (33%)	
• Polycystic kidney disease	10 (19%)	6 (24%)	4 (15%)	
• Diabetic nephropathy	7 (13%)	1 (4%)	6 (22%)	
• Other	21 (41%)	13 (52%)	7(30%)	
History of previous kidney graft	7 (13%)	2 (8%)	5 (19%)	0.42
Unsensitised (PRA = 0%)	37 (76%)*	19 (79%)*	18 (72%)*	0.74
Pre-formed DSA at time of transplant	8 (15%)	5 (20%)	3 (11%)	0.46
Total HLA mismatch (median; IQR)	4; 2-5	5; 4-5	4; 2-5	0.41
Transplant type				0.02
• Deceased	47 (90%)	20 (80%)	27 (100%)	
• Live	5 (10%)	5 (20%)	0 (0%)	
Delayed graft function				
• Requiring dialysis	30 (58%)	15 (60%)	15 (56%)	0.75
Standard induction therapy	50 (98%)**	24 (100%)**	26 (96%)**	1.00
Rejection category				0.37
• ABMR alone	13 (25%)	8 (32%)	5 (19%)	
• ABMR and TCMR	14 (27%)	4 (16%)	10 (37%)	
• ABMR, TCMR, vascular rejection	19 (37%)	10 (40%)	9 (33%)	
• ABMR and vascular rejection	6 (11%)	3 (12%)	3 (11%)	

Unless otherwise specified, values expressed as n (%)
PRA = panel reactive antibodies; DBD = donation after brain death; DCD = donation after circulatory death; ABMR = antibody-mediated rejection; TCMR = T cell-mediated rejection
Standard induction therapy: basiliximab, methylprednisolone, mycophenolate, tacrolimus
* Due to missing data, n=49 (All); n=24 (Era 1); n=25 (Era 2)
** Due to missing data, n=51 (All); n=24 (Era 1); n=27 (Era 2)

Abstract No. 49

NORMOTHERMIC MACHINE PERFUSION OF PAIRED DCD KIDNEYS PRIOR TO TRANSPLANTATION – FIRST AUSTRALASIAN TRIAL

HAMEED A[1], YOON P[1], BOROUMAND F[2], WANG Z[1], SINGLA A[1], ROBERTSON P[1], GASPI R[1], ZHANG C[1], ROGERS N[1], LAURENCE J[1], YUEN L[1], LEE T[1], TEIXEIRA-PINTO A[2], HAWTHORNE W[1], WONG G[1], PLEASS H[1]

[1]Renal Transplant Unit, Westmead Hospital, Sydney, [2]School of Public Health, University of Sydney

Aims: To investigate the feasibility and early efficacy of normothermic machine perfusion (NMP) of DCD kidneys prior to transplantation.

Methods: This trial was registered with the ANZCTR (ACTRN12620000036910). 18 DCD kidneys prospectively underwent one hour of NMP prior to transplantation. The primary outcome was feasibility, and secondary outcome measures were delayed graft function (DGF), duration of DGF, and graft function and survival up to 12 months. Outcomes from the NMP kidneys were compared to their respective pairs that did not undergo NMP through linkage to ANZDATA.

Results: Seventeen of 18 kidneys underwent at least one hour of NMP, whilst NMP was abandoned in one kidney after 10 minutes due to leakage during perfusion; all 18 kidneys were successfully transplanted. No patients had post-operative arterial or venous thromboses. Paired data was available for n = 16 kidneys. The DGF rate was 25% for NMP compared to 68.8% in non-NMP kidneys (p = 0.020). Mean duration of dialysis was 0.8 days in NMP compared to 10.7 days in non-NMP kidneys (p = 0.024). There were no cases of primary non-function in either group. Creatinine at 1 month was lower in NMP kidneys (120.5 vs 182.5, p = 0.014), however there were no differences in mean creatinine, eGFR, or graft survival at 12 months.

Conclusions: NMP is certainly feasible in the Australasian setting. In this study we demonstrated excellent early outcomes for kidneys that received NMP in comparison to their non-NMP pairs. The next step is a multi-centre Australasian RCT.

Abstract No. 50

AN EXPERIMENTAL RODENT MODEL FOR LONG-TERM EX-VIVO NORMOTHERMIC MACHINE PERFUSION OF LIVERS

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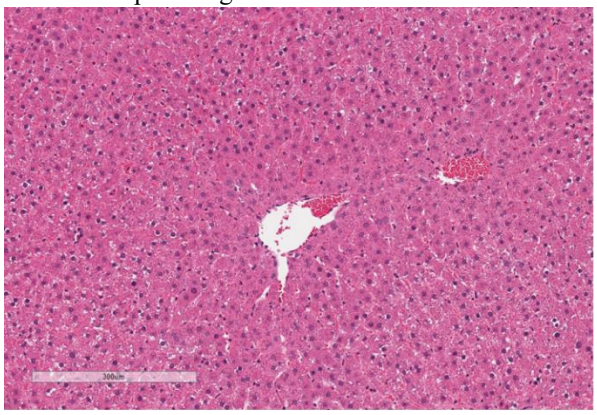
[1]Australian National Liver Transplantation Unit, Royal Prince Alfred Hospital, Sydney, [2]University of Sydney

Introduction: Long-term-Normothermic Machine Perfusion (LT-NMP) enables the assessment and optimisation of livers for days and, potentially, weeks. However, LT-NMP on porcine or human grafts is resource intensive. Small-animal models for LT-NMP are needed for future research. This study aimed to develop a rodent model for LT-NMP of livers beyond 24 hours.

Methods: Twenty rodent livers were used to develop the model for LT-NMP. Our LT-NMP system included an organ reservoir, heat exchanger, long-term oxygenator, peristaltic pump and dialysis filter. The LT-NMP protocol was then validated by performing five consecutive perfusions for 72 hours. Grafts were evaluated for viability at 72 hours based on systemic vascular resistance (SVR), bile production, lactate metabolism, glucose production and oxygen consumption. Perfusate and bile were collected for blood gas and biochemical analysis. Tissue ATP was also quantified as an additional marker of viability.

Results: Our LT-NMP protocol was able to support rodent livers up to 7 days post-reperfusion. All grafts (n=5/5) remained viable at 72 hours. The SVR was maintained below 0.25mmHg/ml/min throughout LT-NMP. The median oxygen consumption and bile production at 72 hours was 0.079 mlO2/ml/min/g-liver and 8.6uL/hour/g-liver respectively. Glucose production and lactate metabolism was preserved in 80% (n=4). The median tissue ATP increased during perfusion and reached 25.7 nmol ATP/g protein at 72 hours of perfusion.

Conclusions:. Using our LT-NMP protocol, rat livers were viable up to 7 days. When compared to short-term models (andlt;4 hours), LT-NMP provides a greater opportunity to research novel therapeutics or techniques to assess and optimise grafts.



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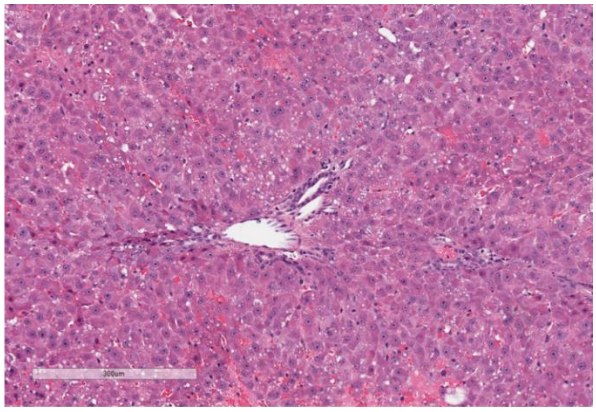
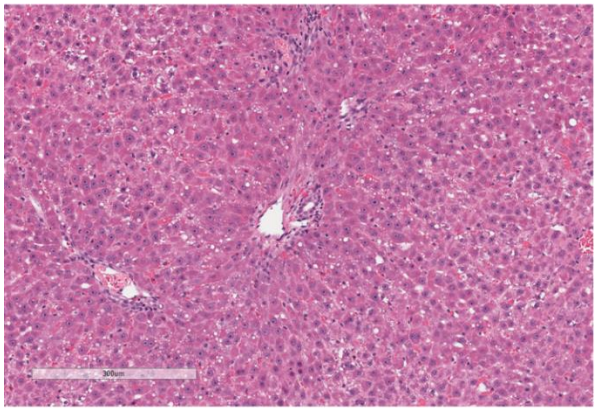
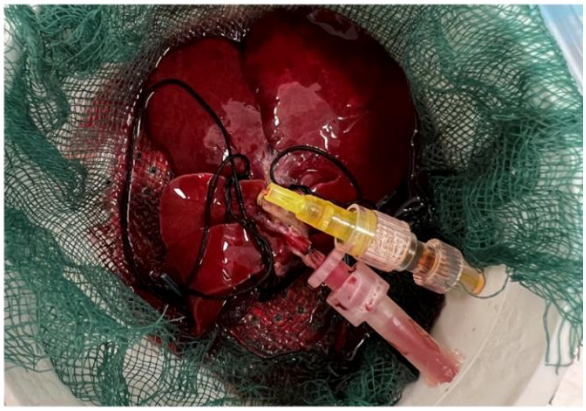


48 Hours Perfusion



72 Hours Perfusion



Graft During LT-NMP

Abstract No. 51

SPLIT-LIVER TRANSPLANTATION FOR PSC IS ASSOCIATED WITH REDUCED GRAFT SURVIVAL DUE TO HEPATIC ARTERY THROMBOSIS

COX D[1], HUANG D[2], FURTADO R[2], LEE E[2], WANG B[2], STARKEY G[2], PERINI MV[2], JONES R[2], FINK M[1]

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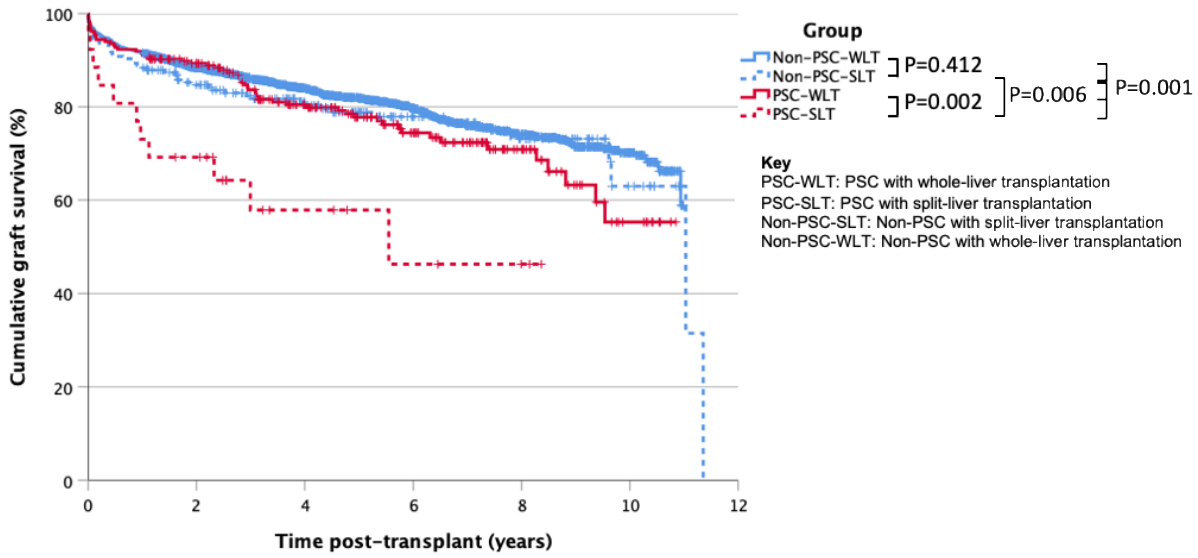
Aims: Liver transplantation (LT) for primary sclerosing cholangitis (PSC) and split-liver transplantation (SLT) are both associated with increased risks of biliary complications. This study aimed to compare graft survival following SLT and whole-liver transplantation (WLT) in patients with PSC.

Methods: 2656 adult LT recipients' outcomes were analysed from the ANZ Liver and Intestinal Transplant Registry (2011-2020). Kaplan-Meier graphs with log-rank tests were used to analyse graft/patient survival. Univariate, followed by multivariate proportional hazards testing were used to identify significant variables independently associated with graft loss. Re-transplantation rates were compared using chi-square.

Results: 261 PSC patients were included (PSC-SLT n=26). 5-year graft survival was significantly reduced following PSC-SLT (57.9%), compared to the other groups (graph). Reduced graft survival following PSC-SLT was significant compared with PSC-WLT (p=0.002) and non-PSC-SLT (p=0.006). On multivariate analysis, PSC-SLT was the strongest, independent risk factor for graft loss (HR 3.24, 95%CI 1.77-5.92, p<0.001). There were no significant differences in patient survival (p=0.62) or biliary complications leading to graft loss (p=0.061) between groups. Graft loss following PSC-SLT was strongly linked to an increased incidence of hepatic artery thrombosis [HAT] (PSC-SLT 15.4%; non-PSC-SLT 2.4%; PSC-WLT 0.4%; non-PSC-WLT 0.7%; p<0.001).

Conclusions: PSC-SLT is associated with significantly reduced graft survival compared with PSC-WLT and non-PSC-SLT and should be avoided where possible. SLT is associated with an increased risk of HAT, but this may be further compounded by a hypercoagulable state in PSC. Patients undergoing PSC-SLT may benefit from perioperative anticoagulation and enhanced vascular monitoring to mitigate increased risks of graft loss.



Abstract No. 52

TARGETING CD47 IMPROVES ISLET FUNCTION AND SURVIVAL

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Aims: Islet transplantation is a promising treatment for type 1 diabetes, but long-term success is limited by reduced islet function. We have previously shown that targeting the cell surface receptor CD47 improves islet transplant outcomes by increasing insulin secretion. CD47 is also known to regulate cell-death responses, and we investigated whether manipulating CD47 signalling could improve other aspects of islet function.

Methods: Human islets provided by the National Islet Transplant Consortium, MIN6 beta cell line or primary islets from C57BL/6 or CD47KO mice were subjected to hypoxia or endoplasmic reticulum (ER)-stress using thapsigargin. Cell viability was assessed and metabolic changes were determined using a SeaHorse assay. Manipulation of CD47 signalling was achieved using siRNA (knockdown) or targeting antibody (blockade).

Results: Hypoxia increased the expression of CD47, and this was associated with reduced insulin expression. Inhibition of CD47 in the presence of hypoxia enhanced insulin secretion and expression of pro-survival proteins, including Bcl-2 and Bcl-XL. CD47KO islets demonstrated enhanced proliferation and upregulation of crucial self-renewal proteins, including cMyc and Oct3/4, which was maintained under hypoxic conditions. Thapsigargin led to upregulation of ER stress markers BIP, eIF2, and IRE in MIN6 cells, which was abrogated at both protein and transcriptional levels if CD47 was depleted (siRNA) or blocked (antibody). Glucose stimulation increased both extracellular acidification rates and oxygen consumption rates, which was significantly mitigated following CD47 knockdown.

Conclusions: CD47 expression is increased in isolated islets following hypoxic stress. Reducing CD47 signalling in islets may improve function and survival of transplanted islets.

Abstract No. 53

PAN-ORGAN ALLOGRAFT DYSFUNCTION

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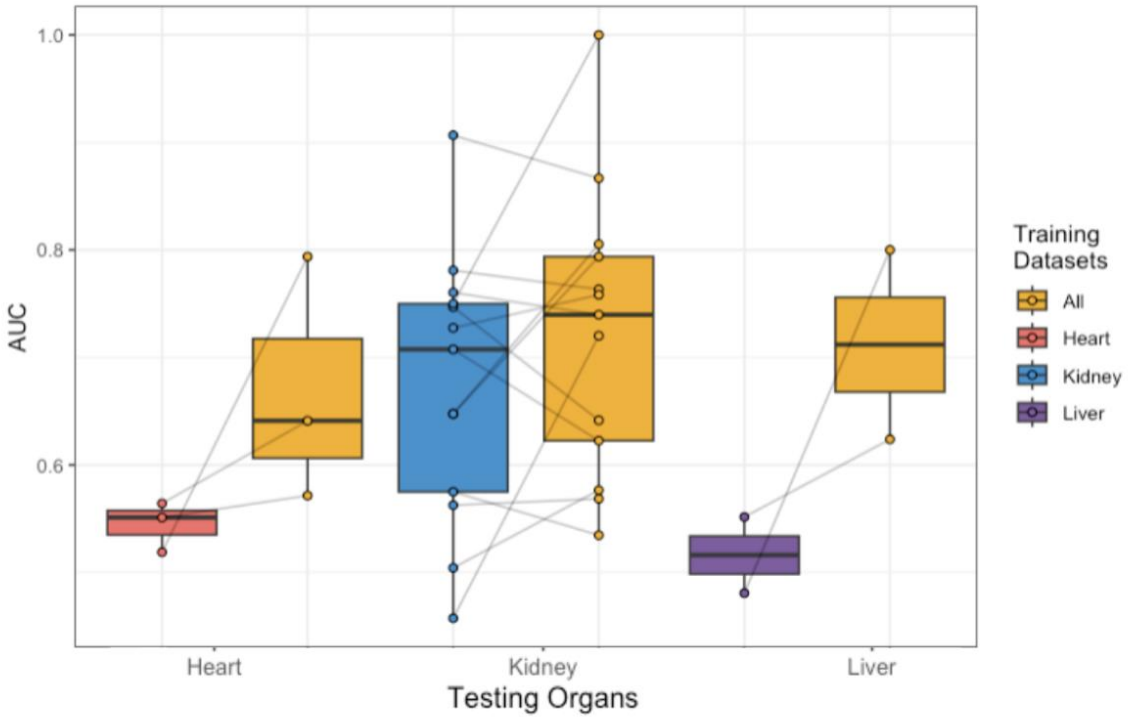
Introduction: Advances in next-generation sequencing technology have unlocked new insights into molecular markers of disease. Despite extensive research into mechanisms, a universal biopsy and blood-based biomarker of allograft rejection remains elusive. Further, it is unclear whether this biomarker could be consistent across organs, or whether each organ requires individualised markers to identify dysfunction..

Methods: We analysed 233 datasets, including andgt;14,000 biopsy samples and >;2,000 blood samples from liver, lung, heart, and kidney transplants with different phenotypes of biopsy-proven rejection. Using a novel machine-learning model that integrates information from all organs, we compared it to classical models that use gene expression from one organ. We utilized single-cell RNAseq to identify common changes across cell types during allograft rejection.

Results: Our results demonstrate that a machine-learning model integrating information from multiple organs outperforms models trained solely on individual organs. Specifically, the pan-organ model achieved a mean area under the curve of 0.84 in predicting rejection across 2,000 peripheral blood samples, providing a 24% improvement in performance compared to individual organ models (Figure 1). Using 46 biopsy datasets spanning four organs, we identified a consistent set of differentially expressed genes, including CXCL9, CXCL10, and GZMA, in biopsy-proven rejection. We then interrogated andgt;40 single-cell RNA datasets and confirmed that this signal is derived from a common graft-resident monocyte population.

Conclusion: Our study underscores the value of utilizing pan-organ information to predict allograft dysfunction following transplantation. Our novel machine learning framework has been integrated into a publicly accessible platform for clinical use, offering a powerful resource for the field.



Abstract No. 54

SINGLE CELL TRANSCRIPTOME OF ALLOREACTIVE CD8 T CELLS SUPPORTS ROLES FOR BOTH DELETION AND EXHAUSTION IN TOLERANCE INDUCTION

PAUL-HENG M[1], DENKOVA M[1], SON ET[1], LEONG M[1], ASHHURST T[2], WANG C[1], BOWEN D[3], BERTOLINO P[3], PURCELL, A[4], LA GRUTA NL[4], MIFSUD N[4], SHARLAND A[1]

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Background: Expression of donor MHC class I in recipient hepatocytes using adeno-associated viral (AAV) vectors induces tolerance to subsequent skin grafts bearing the same mismatched MHC, even in the presence of pre-existing immune memory against the donor strain. The mechanisms underpinning tolerance induction are incompletely understood.

Methods: B10.BR (H-2^k) mice were primed with an H-2K^b-bearing skin graft. 30 days after rejection of the primary graft, they were inoculated with AAV-K^b, followed by secondary skin grafting. Liver leucocytes were isolated between d5 and d100 post-inoculation – paired TCR sequence, specificity and gene expression were determined for single alloreactive and bystander CD8 T cells.

Results: Alloreactive T cells exposed to their cognate antigens in the liver segregate into clusters based on gene expression. One major cluster recapitulates a deletional tolerance signature, while the other expresses liver-residency markers and receptors associated with gamma-delta, NK, and innate lymphoid cells (Figure 1a). Projection of timecourse data onto a mouse CD8 T cell atlas shows that early during tolerance induction, cells align with activation, proliferation and deletional tolerance transcriptional profiles whereas the signature of terminal exhaustion predominates later (Figure 1b). The proportion and number of cells bearing the public K^b-reactive TCR clonotype TRAV16D/AJ49 TRBV13-2/BJ2-4 decline rapidly between d7 and d21 post-inoculation, consistent with deletion. Upregulation of polyamine catabolism, lipid peroxidation and ferroptosis pathways is observed in the deletional tolerance cluster.

Conclusions: Taken together, these data support roles for both deletion and immune exhaustion in tolerance mediated by liver-specific expression of donor MHC I in skin graft recipients.

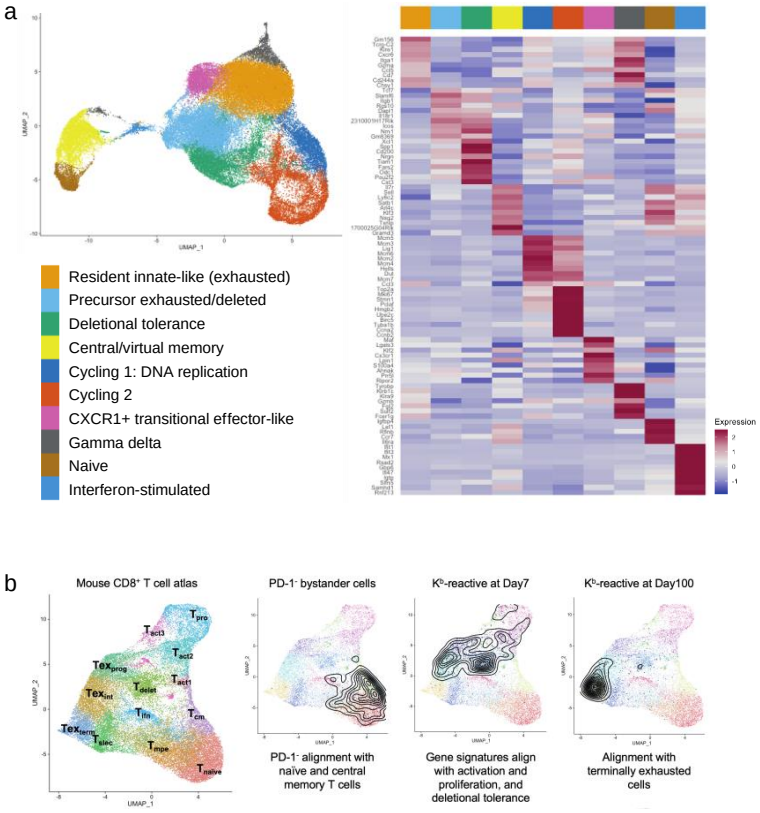

Figure 1

Abstract No. 55

THE EARLY EFFECT OF COVID-19 INFECTION ON SPIROMETRY IN LUNG TRANSPLANT RECIPIENTS

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[1]Department of Respiratory Medicine and Lung Transplantation, Alfred Health Melbourne, [2]Central Clinical School, Monash University, Melbourne, [3]Department of Infectious Disease, Alfred Health, Melbourne

Purpose: Respiratory viral infections are known to contribute to the development of chronic lung allograft dysfunction (CLAD) in lung transplant recipients (LTR). Limited data is available regarding allograft function following COVID-19 infection. The aim of this study was to evaluate the effect of COVID-19 on the clinical course and lung function trajectory in LTR.

Methods: Data was retrospectively collected from a single lung transplant (LTx) center in Melbourne, Australia. All unilateral or bilateral LTx recipients with confirmed COVID-19 infection between September 2021and August 2022 were included. Spirometry results were compared pre and post infection. Risk factors for a decline in FEV1 ≥10% were explored with logistic regression.

Results: A total of 224 LTR with confirmed COVID-19 infection were included. Median age was 60 years, 121 (54%) were male and the majority were bilateral recipients (89%). Median time from transplant to COVID-19 diagnosis was 5.17 years (IQR 2.69-10). At baseline, the cohort were well protected, with 193 patients (86%) having received ≥ 3 vaccines and 38 (17%) administered tixagevimab/cilgavimab. Anti-viral therapy was given in 204/224 (91%) cases, most commonly remdesevir 96/224 (43%). Forty-three patients (20%) required hospitalisation, with 8 (4%) admitted to intensive care. The median time from baseline spirometry to COVID-19 diagnosis was 2.2 months (IQR 1.09-4.6). Post COVID-19 lung function was completed at a median of 2.17 months (IQR 1.60-3.23). There was a small but statistically significant decline in forced expiratory volume in 1 second (FEV_1) post COVID-19, with a relative difference in FEV_1 of -2% (IQR -5.6-1.8%, $p<0.001$). A ≥10% decline in FEV_1 occurred in 24 patients (16%). Baseline demographics and lung function, disease severity, vaccination status and treatment type were not associated with a ≥10% decline in lung function.

Conclusion: In our cohort of LTx recipients with COVID-19 infection, the majority of cases were mild, with low hospitalisations and high treatment rates, which evolved over time in parallel with strain evolution. The majority of patients had lung function that was similar to baseline 2 months post infection. A small number of patients had a decline in FEV1 of >10%, but there were no discernible risk factors to predict the decline.

Abstract No. 56

POST-TRANSPLANT CYCLOPHOSPHAMIDE WITH TOCILIZUMAB LIMITS GRAFT-VERSUS-HOST DISEASE AND PRESERVES GRAFT-VERSUS-LEUKAEMIA IMMUNITY

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School of Chemistry and Molecular Bioscience, University of Wollongong

Background: Allogeneic haematopoietic stem cell transplantation is a curative therapy for leukaemia by inducing graft-versus-leukaemia (GVL) immunity. However, this benefit is often mitigated by graft-versus-host disease (GVHD), which can be reduced by post-transplant cyclophosphamide (PTCy) combined with the clinically-approved anti-interleukin-6 receptor tocilizumab (TOC) in humanised mice.

Aims: To determine whether PTCy combined with TOC (PTCy+TOC) impacts GVL immunity in a humanised mouse model.

Methods: NSG mice were injected i.p. with 2 x 107 human peripheral blood mononuclear cells (hPBMCs) and PTCy (33 mg/kg) or saline on days 3 and 4, and with TOC or a control antibody (0.5 mg/mouse) twice weekly for 4 weeks. On day 14, mice were injected i.v. with 1 x 10^6 THP-1 acute myeloid leukaemia cells or saline. Mice were monitored for clinical signs of disease for up to 42 days. Engraftment of human (h) leukocyte subsets and hCD33+ leukaemia cells were analysed at endpoint by flow cytometry.

Results: PTCy+TOC treated mice demonstrated prolonged survival (MST = 34 days, n = 7) compared to control (saline+control antibody) mice (MST = 25 days, n = 8). Both PTCy+TOC and control mice with hPBMCs showed minimal hCD33+ leukaemia cells in the liver, indicating GVL immunity. The proportion of hCD45+ leukocytes (55-67%) and hCD3+ T cells (58-67%) were similar between both groups, as were hCD4+ and hCD8+ T cell proportions. PTCy+TOC reduced histological damage in the lung and liver compared to control mice.

Conclusion: Collectively, our research demonstrates that PTCy+TOC impairs GVHD without compromising GVL immunity.

Abstract No. 57

TRANSPLANT PROFESSIONALS' PERSPECTIVES ON REPORTING OF TRAVEL FOR ORGAN TRANSPLANTATION: AN INTERNATIONAL CROSS SECTIONAL STUDY

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[1]ANZDATA, ANZDATA, [2]Department of Surgery, Hamad Medical Corporation/Affiliated to Weill-Cornell College of Medicine-Q, [3]Department of Medicine, Sorbonne Université and APHP, Paris, France, [4]Department of Renal Surgery, Jaslok Hospital and Research Centre, Mumbai, [5]School of Medicine, Faculty of Health Sciences, University of Adelaide, [6]School of Medicine, Deakin University

Aims: International travel for organ transplantation (ITOT) may involve ethically legitimate activities or organ trafficking or "transplant tourism". Little information about ITOT is available, limiting efforts to investigate and respond to trends. Longstanding calls to address this data-gap include recommendations for a clinician reporting international registry. However, transplant professionals' willingness to report is unknown. This study aimed to assess the feasibility of an ITOT registry exploring attitudes towards reporting of ITOT.

Methods: With the support of the Declaration of Istanbul Custodian Group, the Transplantation Society and International Society of Nephrology, an online anonymous survey was conducted [Oct-Dec 2022]. Questionnaire items addressed: respondent demographics, recent ITOT experiences, and attitudes towards reporting of ITOT cases to national/international. Data were analysed descriptively.

Results: 335 transplant professionals from 73 countries (19.5% Australia/New Zealand) completed the survey. Of respondents, 210 (84%) had cared for people who had donated/received an organ transplant since 2017. Most recent case experiences involved ITOT to/from 109 countries. 54% of respondents indicated they were likely/very likely to submit ITOT cases to an international registry (30.7% unsure;15.5% unlikely/very unlikely), compared with 76.3% to a national registry (14.8% unsure; 9% unlikely/very unlikely). Several factors influenced willingness to report, with privacy concerns and risk of harm paramount (Table1); 53.1% preferred to report anonymously.

Conclusions: Data collection of ITOT is a concern for all countries. An ITOT registry may complement national registries and support ethical practice. Effective collection of ITOT data will depend on international collaboration and systems addressing ethical reporting concerns.

Table 1: Transplant professionals' attitudes on ITOT registry reporting

Top 3 factors encouraging reporting of ITOT	**n, %**
Confidence that the data would be securely stored and protected	170, 69.4%
Confidence that data will be used for the benefit of patients	167, 68.2%
Ability to preserve patient anonymity	162, 66.1%
Top 3 factors discouraging reporting of ITOT	
Risk of data being used in ways that may cause harm to patients	164, 69.5%
Risk of the patient being identified	157, 66.5%
Risk of data being used in ways that may cause harm to you or professional colleagues or institutions	138, 58.5%

Abstract No. 58

KIDNEY TRANSPLANT OUTCOMES FOR PEOPLE OF MĀORI AND PASIFIKA ETHNICITY TRANSPLANTED IN AUSTRALIA

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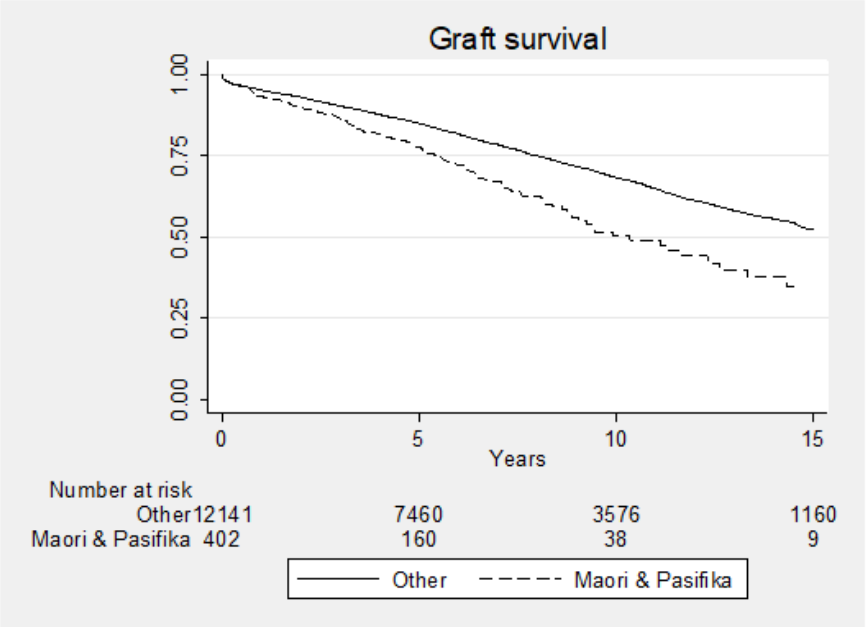
Aims: Migration of Māori and Pasifika people to Australia over recent decades has seen significant numbers with kidney failure on dialysis. However, there is very little culture-specific support for those who proceed to transplantation. This study describes outcomes relating to graft and patient survival post-transplant for people of Māori and Pasifika ethnicity transplanted in Australia.

Methods: A retrospective review of all kidney transplant recipients aged >18 years receiving their first graft between 2002-2021 as recorded in the Australia and New Zealand Dialysis and Transplant (ANZDATA) registry. The primary outcome was graft survival. Cox proportional hazards model was used to analyse time to graft loss and death.

Results: Of 12,544 transplant recipients, 89 identified as Māori and 313 as Pasifika. These patients were analysed as a single group due to the small numbers. Age and gender demographics between the groups were comparable (mean age 42 and 49 years; 49 and 51% males, for Māori & Pasifika versus other ethnicities respectively). Compared with other ethnicities, time to graft loss was shorter (hazard ratio (HR) 1.64, 95% confidence interval (CI) 1.36-1.96, p <0.05; Figure 1). Chronic allograft nephropathy was the most common cause of graft loss (>35% for both groups). Overall patient survival between the two groups was not significantly different (HR 1.00, 95% CI 0.73-1.39).

Conclusions: Further study of factors contributing to the differences in outcomes between Māori & Pasifika compared with other ethnicities, including rejection incidence, would be important to most appropriately support individuals undergoing kidney transplantation.

Figure 1. Kaplan-Meier plot of kidney transplant graft survival



Abstract No. 59

NIRMATRELVIR-RITONAVIR IN RENAL TRANSPLANT RECIPIENTS FOR THE TREATMENT OF COVID-19

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Aims To evaluate the use of Nirmatrelvir-Ritonavir (NR; Paxlovid) in renal transplant recipients with COVID-19 infection, using a standard local protocol of calcineurin inhibitor (CNI) dose modification and laboratory monitoring.

Methods A single-centre retrospective analysis of renal transplant recipients who received NR for COVID-19 infection from March-December 2022. Tacrolimus was discontinued on commencement of NR (day 0). Serum tacrolimus concentrations and serum creatinine (sCr) were evaluated on serial blood tests. Tacrolimus was reintroduced day 6 or 9 with gradual dose increase until pre-NR dose was achieved. Patient and graft outcomes were assessed.

Results A total of 137 treatment episodes in 130 patients were included. In 121 treatment episodes with tacrolimus-based immunosuppression regimens, 104 (86%) had tacrolimus levels within the range of 2-15ng/mL. There was no significant difference in median tacrolimus levels on day 30 vs pre-NR (5.6ng/mL vs 6ng/mL, *P*=0.118).12 (9%) had a rise in sCr >25% above baseline, but only one patient had a sustained rise at last follow-up. There was no significant difference in median sCr at last follow-up vs. pre-NR (113umol/L vs. 116 umol/L, *P*=0.282). 10 patients required hospitalisation, of these, only one required supplemental oxygen. There were no deaths from COVID-19 and no acute rejection episodes during the 30 day follow up period.

Conclusion The use of NR in the renal transplant population can be feasible and safe with a standardised protocol and close monitoring.

Abstract No. 60

THE ADSORPTION CROSSMATCH CELLS AND ELUTION (AXE) TECHNIQUE TO IDENTIFY TRUE HLA SPECIFIC ANTIBODIES

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Aims: To define HLA specific antibodies with biological activity from dubious Luminex HLA antibody reactivities using an adsorption crossmatch with elution (AXE) protocol.

Methods: The AXE protocol selects lymphocytes expressing HLA antigens of interest and crossmatching them with serum of interest containing HLA donor specific antibodies (DSA). Only HLA DSA will adsorb to the HLA antigen of interest. The cells are washed and the bound antibodies are then eluted from the cells. Antibodies are then identified using the single antigen bead (SAB) Luminex assay. The results from the SAB assay are then compared to SAB results from unadsorbed sera.

Results: Sera (n=30) containing dubious HLA antibody profiles were selected and crossmatched with selected cells using the AXE protocol. The resulting eluates were tested with the SAB assay and compared to previous untreated SAB results. These results were also compared to Halifaster flow crossmatch results.

Suspected false positive antibodies identified by Luminex were not adsorbed to the HLA of donor cells and agreed with Halifaster flow cytometry crossmatch results.

Conclusions: The AXE protocol allows labs to determine if anti-HLA antibodies seen in Luminex bind to native HLA on donor material, indicating biological activity. AXE can therefore define whether Luminex profiles reflect in vivo binding to HLA antigens. Given the concordance with flow crossmatch the AXE could improve interpretation of the flow cytometry crossmatch, although future studies are needed.

Abstract No. 61

TRANSMISSION AND NON-TRANSMISSION OF MELANOMA FROM DECEASED ORGAN DONORS TO TRANSPLANT RECIPIENTS: AN UPDATE USING RE-INKED DATA

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Background: Biovigilance concerns are in tension with the need to increase deceased organ donation. Risk of melanoma transmission from donor to recipient may be overestimated as non-transmission events are rarely reported. Misclassification of melanoma in potential deceased donors may lead to missed opportunities for donation.

Aims: To identify melanoma transmissions and non-transmissions from deceased donors and identify missed opportunities for donation.

Methods: We re-linked NSW deceased donors and their recipients, 2000-2018, and potential donors forgone, 2010-2018, with the NSW Central Cancer Registry (CCR), 1976-2018. We identified melanomas using ICD-O-3 classification and compared known melanomas prior to donation decisions with verified melanoma notifications in CCR and transmission outcomes.

Results: Nine of 1,083 deceased donors had melanoma, including four unknowns prior to donation. Of these 9 melanomas, 5 (56%) were in-situ, 3 (33%) were invasive andlt;0.8mm, and 1 was invasive andgt;0.8mm. There were 18 recipients; 16 (89%) with transmission excluded (non-transmission) and 2 (11%) with insufficient follow-up (andlt;6months). Recipients of donors with melanoma were older than those without (median age 62 vs. 52). Of 3,588 potential donors forgone, 30 were declined due to melanoma alone: 6 had no verified melanoma record, 2 had in-situ melanoma, and 9 were invasive melanomas <0.8mm. These 17 were otherwise suitable for donation.

Conclusion: Melanomas at low risk of metastasis have low-to-negligible transmission risk in deceased organ donation, however clinical risk aversion persists. Donors with these melanomas are within clinical guidelines and can safely increase opportunities for kidney donation.

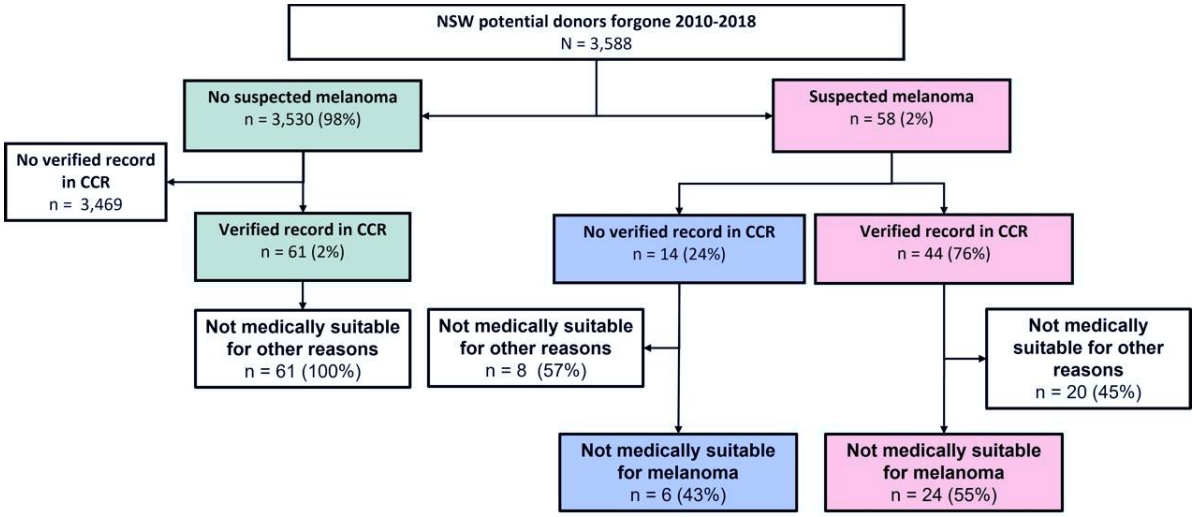

Figure 1. Reasons not medically suitable in potential donors forgone with suspected and verified melanomas after medical assessment for deceased organ donation 2010-2018. Abbreviations: CCR, Central Cancer Registry; NSW, New South Wales.

Abstract No. 62

DECISION SUPPORT TOOL FOR ASSESSING ABSOLUTE RISK OF CANCER TRANSMISSION FROM DECEASED KIDNEY DONORS

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Background: Kidneys from deceased donors with cancer history are often declined for donation due to perceived cancer transmission risk, despite being acceptable under clinical guidelines. They are often optimal donation candidates apart from cancer history, and the absolute risk of graft failure for recipients of their organs may be similar to organs from other donors without cancer history.

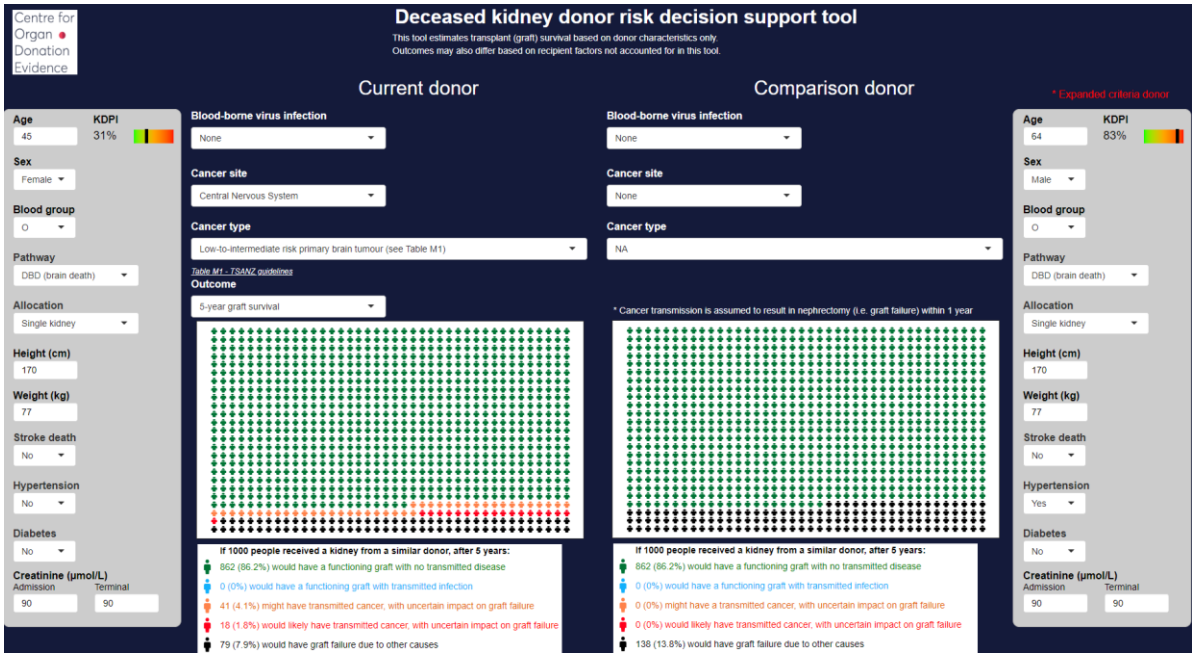
Aim: To develop an evidence-based decision support tool to assist donation specialists in accepting or declining kidneys from deceased donors with cancer history.

Method: We used data from ANZDATA and ANZOD to model absolute rates of kidney graft survival based on donor age, sex, blood group, height, weight, pathway, dual allocation, hypertension, diabetes, stroke, and creatinine. We did not consider recipient characteristics as these would not be known at the time of initial donation decisions. Time to graft failure was modelled using a spline with knots at 1 day and median log survival time. The decision support tool was developed using the R package 'shiny'.

Results: Users can input characteristics and cancer details of a potential deceased donor being considered for kidney donation, as well as for a hypothetical comparison donor (e.g., a previously accepted donor). Outcomes are presented in terms of absolute risk of graft survival and cancer transmission after 1 or 5 years (Figure 1).

Conclusion: Highlighting the evidenced-based absolute risk of transmission may support increased donation from donors with a cancer history, in line with existing clinical guidelines, and improve donation specialists' confidence in their decisions.

Figure 1: Screenshot of the decision support tool showing equivalent 5-year graft survival for a typical donor with glioblastoma vs. an expanded criteria donor without cancer



Abstract No. 63

THE USE OF BRIDGE DONORS IN THE AUSTRALIAN AND NEW ZEALAND KIDNEY EXCHANGE PROGRAM (ANZKX)

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A bridge donor is a patient who donates their kidney one or more days after their intended but incompatible recipient has received a kidney. ANZKX has used bridge donors rarely but in 2022 due to logistic issues created by COVID-19 bridge donation was utilised. Bridge donors were only considered in non-directed altruistic donor (NDAD) chains.

Aim: Review the outcomes of bridge donation in ANZKX.

Methods: A retrospective review was performed on the impact of bridge donation on transplants in ANZKX during 2022.

Results: In 2022, 60 transplants were facilitated by ANZKX: 43 of which were in a NDAD chain. Nine of the 10 NDAD chains included a bridge donor with 23 bridge donors being used. The median time of bridge donation was 5 days and 67% bridged for less than 2 weeks. 26% donors bridged for more than one month and the reasons for extension were transplant unit or donor request. 32 recipients were matched in chains distal to a bridge donor. 12.2% of those recipients had PRA>90% and 5%> 95%. Bridge donors helped facilitate longer NDAD chain length which had been reduced in 2021. 8 recipients from the transplant wait list received their kidney from a bridge donor. 1 bridge donor withdrew following a chain that had been delayed by COVID-19 infection.

Conclusions: In 2022 with COVID-19 impacts on staffing, bridge donation helped participating transplant units facilitate transplants. Hence an increase in kidney transplant numbers was seen counterbalanced by the impact of one bridge donor withdrawal.

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Abstract No. 64

NORMOTHERMIC MACHINE PERFUSION INCREASES OVERALL DCD LIVER UTILISATION

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Utilisation of donation after circulatory death (DCD) livers in Australia remains below equivalent healthcare systems elsewhere, mainly due to historically unacceptable rates of early hepatocellular dysfunction/non-function and ischaemic cholangiopathy. To address this, the Queensland Liver Transplant Service (QLTS) introduced Organox *Metra* normothermic machine perfusion (NMP) in 2018 and has since reported satisfactory outcomes for 10 livers (five DCD) deemed otherwise unsuitable for utilisation using static cold storage (SCS).

Aims: In this retrospective historical-control study we sought to determine whether NMP availability improved overall DCD graft utilisation.

Methods: For the "NMP-era" cohort we included all DCD grafts, irrespective of preservation technique, from June 2018 to June 2021. We compared the NMP-era cohort to a historical control derived from the three-year period preceding introduction of NMP, June 2015 to June 2018, designated the "SCS-era" cohort. All data were obtained from a prospective database maintained by DonateLife Queensland. There were 133 DCD liver offers during the NMP-era and 112 during the SCS-era. Twelve-month follow-up data were obtained for each case.

Results: NMP availability correlated with increased acceptance rate of DCD offers, increased DCD retrieval rate and increased DCD implantation rate as a proportion of all DCD offers. More potentially viable DCD grafts were rejected during the NMP-era due to lack of suitable recipient (30 vs 5, $p<00001$), suggesting a surplus of livers. We found no increase in early allograft dysfunction, primary non-function, ischemic cholangiopathy or re-transplantation despite increased mean modified UK DCD donor risk score in the NMP-era cohort (1.5 vs 0, $p=0.05$).

	NMP-era (n=133)	**SCS-era (n=112)**	***p*-value**
Acceptance rate	90.5%	65.3%	<0.00001
Retrieval rate	63.2%	36.4%	0.0004
Overall implantation rate	18%	6.25%	0.0065

Table 1: Comparison of DCD liver utilisation between NMP-era and SCS-era

Abstract No. 65

RAPAMYCIN AS A VACCINE ADJUVANT TO IMPROVE CELLULAR MEDITATED-T CELL RESPONSE FOLLOWING COVID-19 VACCINATION

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Introduction: Immunosuppressive modification of the mammalian target of rapamycin inhibitor (mTORi) has been suggested to improve vaccine efficacy in kidney transplant recipients

Methods: Balb/c mice (n=42) were randomly assigned to 6 experimental treatment groups of 7 animals in each; **r**apamycin untreated control; baseline rapamycin treatment; post-exposure of rapamycin during booster phase and continued throughout the entire course concomitantly with three homologous of BNT162b2 vaccination; or mice were primed with two doses of BNT162b2 and further boosted 6 weeks apart with heterogeneous (pVax-Omicron RBD) DNA vaccine in the absence or presence of rapamycin treatment. Unvaccinated groups included as a control. Vaccine-induced cellular T-cell response was measured by IFN-γ ELISpot. Phenotype and function of antigen-specific memory T cells were analysed by flow cytometry.

Result: Co-administration rapamycin was associated with an increased mean frequency of spike reactive IFN-g secreting cells 1.58-fold higher than controls. Priming mice with two doses of BNT162b2 and boosted with heterogeneous DNA vaccine in the presence of rapamycin treatment intrinsically augmented IFN-g secreting cell response towards omicron peptide. Early rapamycin exposure significantly heightened the central and effector memory T cell pool in mice following BNT162b2 vaccination, evident in the CD8+ T cell compartment. Elevation of antigen-reactive naïve-like T cell with highly SCA-1 expression were observed in mice group that received rapamycin treatment. Both CD4 and CD8 T cells exhibited robust and polyfunctional in rapamycin-treated groups.

Conclusion: Peri-vaccination exposure to rapamycin enhancing cellular T cell response to vaccine epitopes.

Abstract No. 66

A NOVEL SUBSET OF MEMORY-LIKE CD127HIGHCD4+FOXP3+TREG MAINTAINS ISLET-XENOTRANSPLANT TOLERANCE

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Background: We demonstrated CD4+Foxp3+regulatory T-cells (Tregs) are essential for tolerance and identified a novel memory-like CD127^{high}Treg subset in islet-xenograft tolerant mice induced by short-term CTLA4-Fc/MR-1.

Aims: To characterise CD127^{high}Tregs and investigate cytokine profiles in tolerant mice.

Methods: Bulk RNA-Seq/flow-cytometry compared transcriptome and phenotypes of Treg subsets (CD127^{high}Treg, CD127-/^{lo}Treg, and Treg) from spleens, draining-lymph-nodes (DLN) and grafts of tolerant-mice (day-100) to non-transplant-mice. RT-PCR was performed for expression of IL10/TGFβ1/IFNγ/IL2/IL7//IL18//IL33/CTLA4 on spleen, ALN, DLN and/or grafts of transplant-mice (CTLA4-Fc/MR-1-treatment), rejection-mice(no-treatment) at day-8/100 and non-transplant-mice. IL10/TGFβ /Ebi3/Blimp-1 expressions were assessed on Treg subsets. Imaging-mass-cytometry (15 antibodies) was used to evaluate the graft- infiltrating immune-cells in tolerant-(day-8, 20, 100) and rejection-groups (day-8, 20).

Results: EBI3 (reflecting IL-35), IL-10 and Blimp-1 expressions upregulated in splenic CD127^{high}Tregs of day-100 transplant-mice compared to naïve-Tregs. A high proportion of CD127^{high}Tregs within the tolerant-grafts [25.6±3.1%(graft-Tregs) vs 14.8±0.4%(splenic-Tregs)] was observed. Transcriptomic and phenotypic heterogeneity exist between Treg populations of transplant-tolerant-mice. CD127+Tregs in both spleen and DLN of the tolerant mice showed an effector/memory Treg profile. Moreover, graft- and DLN-CD127^{high}Tregs shared transcriptional trajectory with tissue-Tregs. IFN-γ expression increased in DLN, Il-10 expression increased in ALN of day-100-tolerant-mice and CTLA4, IL10, TGFβ1 and IFNγ expression increased in tolerant-grafts compared to naïve-group. IL2, IL7, IL18 and IL33 expressions were upregulated in spleen of day-100 mice compared to naïve-group. Increased IL7 expression and decreased IL2 expression in day-100-tolerant-graft compared to day-8 may suggest Tregs activation may preferentially utilise IL-7 or IL-35 over IL-2 (more broadly acting).

Conclusion: Memory-like CD127^{high}Tregs are critical for maintaining tolerance and could be further investigated for clinical studies.

Abstract No. 67

MULTIPLEX BARCODED DEXTRAMER STAINING REVEALS PMHC SPECIFICITY AND CROSS-REACTIVITY WITHIN ALLOREACTIVE T CELL REPERTOIRES

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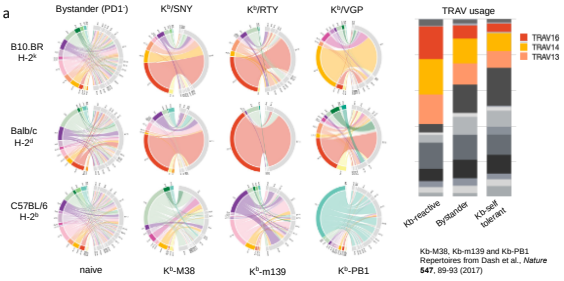
Background: Directly-alloreactive CD8 T cells recognise epitopes formed by donor MHC I loaded with endogenous peptides. We have identified >40 immunogenic peptides presented by H-2K^b. We are now profiling the T cell receptor (TCR) repertoire of CD8 T cells responding to twelve epitopes to deepen our understanding of the molecular basis of alloreactivity.

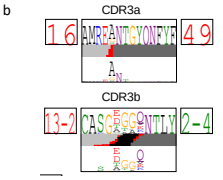
Methods: Alloreactive CD8 T cells were isolated from B10.BR (H-2^k) or Balb/c (H-2^d) mouse liver following a prime-boost against H-2K^b. B10.BR samples were stained with a panel of 12 oligonucleotide-barcoded K^b-peptide dextramers, single cells were captured for parallel analysis of paired TCR sequences, specificity and gene expression (BD Rhapsody). Results were integrated with TCR repertoires obtained from populations sorted using single pMHC dextramers.

Results: TCR alpha variable (TRAV) segments 14 and 16 were over-represented among T cells recognising three prominent epitopes (K^b-SNYLFTKL, K^b-RTYTYEKL and K^b-VGPRYTNL) from both recipient strains (Figure 1a). This differs markedly from segment usage by self-restricted CD8 T cells recognising K^b with viral epitopes, suggesting preferential binding of these TRAV to allogeneic H-2K^b. A family of related clonotypes (metaclonotype) recognising K^b-SNYLFTKL has been detected in 12/12 B10.BR mice examined (Figure 1b). Within this public metaclonotype, the sequence of the beta chain complementarity-determining region 3 (CDR3b) confers fine specificity in peptide recognition; TCRs with threonine at CDR3b position 5 bind SVYVYKVL>SNYLFTKL, whereas TCRs with aspartate at this position bind SNYLFTKL exclusively (Figure 1c-d).

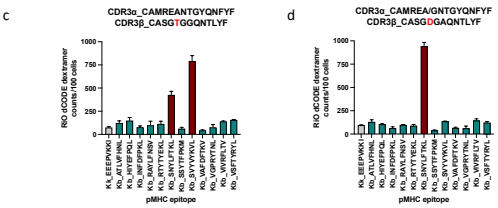
Conclusions: Recognition of H-2K^b by alloreactive TCR is linked to particular TRAV segments, while specificity for the peptide is conferred by CDR3b.



a: CIRCOS plots of paired TCR a- b segment usage showing strong bias towards TRAV13/14/16 among pMHC-restricted alloreactive TCRs. This bias is also evident in the global Kb-reactive population. For each group n = 3 mice.



b. TCR motif for a public metaclonotype corresponding to recognition of Kb-SNYLFTKL. c-d. Within this metaclonotype, TCRs with T at position 5 of CDR3b bind SVYVYKVL in addition to SNYLFTKL, while TCRs with an acidic residue at this position bind only SNYLFTKL. c. n=3 expanded clones (50-89 cells each) isolated from three individual mice. d. n=2 clones (49-75 cells each) isolated from two different mice.



Abstract No. 68

DONOR-DERIVED LYMPHOCYTE HOMEOSTASIS AND CORRELATION WITH CHRONIC LUNG ALLOGRAFT DYSFUNCTION AFTER LTX

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The major driver of allograft loss is the immune system driving chronic lung allograft dysfunction (CLAD). Embedded within the lung tissue are populations of lymphocytes that are also transferred during the procedure and are correlated with favorable clinical outcomes. Our study aimed to characterise the fate of these donor-derived lymphocytes (with a focus on T and NK cells), by utilizing LTx patient clinical blood and bronchoalveolar lavage (BAL) samples. Their proportion is also correlated with CLAD.

Method: Flow cytometric analysis was performed on blood and BAL samples from LTx recipients (n=29) during the first 18 months post-LTx utilizing: 1) a phenotype characterisation antibody panel 2) HLA antibodies to distinguish donor and recipient cells.

Results: The donor-derived lymphocytes could be isolated from BAL samples post-LTx period as far as 18mo post-LTx, with few in the blood beyond 6 weeks. Donor BAL lymphocytes were largely CD69+ and were initially dominant in the CD103+ compartment, undergoing minimal proliferation compared to the recipient-derived cells. Recipient cells acquired CD103 over time, eventually replacing donor-derived cells in this compartment. The percentage of donor-derived cells in the lymphocyte (CD3+/CD56+) compartment correlated with protection from CLAD.

Conclusion: Lung donor-derived lymphocytes persist locally long-term, eventually being replaced by recipient-derived cells with unknown specificity. The persistence of donor-derived lymphocytes in the lung compartment can be used to predict future allograft health. Further work is required to determine if this represents a measure of graft tolerance.

Abstract No. 69

A STUDY PROTOCOL FOR LIVE AND DECEASED DONOR UTERUS TRANSPLANTATION AS A TREATMENT FOR ABSOLUTE UTERINE FACTOR INFERTILITY

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Introduction: Uterus transplantation (UTx) is an emerging treatment for absolute uterine factor infertility (AUFI) or absence of a functional uterus. Live births resulting from live or deceased uterine transplantation confirm the option of UTx as a treatment option for women with AUFI. This is the study protocol for the first human UTx in Australia.

Methods: This protocol outlines the approved training program used to plan, diagnose, screen, and treat patients that may be eligible for UTx using living and deceased donors. This multi-site clinical research study includes three tertiary hospital sites within New South Wales (NSW), Australia - Prince of Wales, Royal Hospital for Women and Westmead Hospitals. Our UTx protocol is based on that used by our long-term international collaborator, and inaugural UTx team in Gothenburg Sweden. The Swedish UTx team provides ongoing preceptorship for the Australian UTx team.

Conclusion: Results from surgeries and live births will be published. Data will be prospectively entered into the registry of the International Society of Uterus Transplantation (ISUTx), a sub-section of The Transplantation Society (TTS).

Abstract No. 70

OUTCOMES OF COMPATIBLE PAIRS IN AUSTRALIAN AND NEW ZEALAND KIDNEY EXCHANGE PROGRAM (ANZKX) 2018-2022

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Compatible living kidney donor recipient pairs have the option of proceeding directly to transplantation or entering ANZKX to achieve better matching. Continuous matching allows for immediate matching, removing the wait for match runs and making this option more accessible to pairs.

Aim: Review the outcomes of compatible pairs registered in ANZKX

Methods: A retrospective review using ANZKX database and OrganMatch was performed on compatible pairs (CPs) enrolled in ANZKX (2018-2022).

Results: An increase in compatible pairs entering the program is noted in 2022 (14.2% of all enrolments). 37 compatible pairs were enrolled with 70% being transplanted through the program, 5.4% through the transplant wait list and the remainder proceeded to direct donation. Mean time from enrolment to matching was 35+/-25 days, time from matching to transplant was 70.5 +/- 35 days. Of those CPs that were transplanted, 80% brought blood group O donors to the pool. Improved allelic matching was noted on at least 3 alleles (range -2 to 9), the mean total eplet mismatch score(epMM) improved by 34.3 +/-18, Class II epMM by 29.5+/- 18. Each CP transplanted resulted in an average of 1.9 additional incompatible transplants. 18% of those incompatible pairs had a cPRA of >90%.

Conclusions: The majority of compatible pairs enrolled in ANZKX were transplanted in the program with improved matching. The mean time from enrolment to matching was 35 days. An additional 1.9 incompatible transplants occurred for each compatible pair transplanted. Transplant Units are encouraged to consider enrolling compatible pairs.

Abstract No. 71

SIMULTANEOUS PANCREAS KIDNEY TRANSPLANTATION IN AN ASYLUM SEEKER

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Introduction/Aim: We describe a case of simultaneous pancreas kidney transplantation (SPKT) in a refugee. Ethical challenges are discussed.

Case report: A 31-year-old male with type 1 diabetes and chronic kidney disease arrived in Australia from Iran in 2013. He was immediately hospitalised with severe diabetic ketoacidosis. Eighteen months of detention followed. He received temporary Medicare access.

Listing for SPKT was needed in 2019, but not possible as he was not an Australian citizen. He received a Safe Haven Enterprise Visa (SHEV) in 2022 which meant he would eventually become a permanent resident. Transplant unit advocacy led to approval for transplantation by national governance committees and updates to TSANZ Clinical Guidelines regarding transplant eligibility of non-citizens.

SPKT occurred Jan 2023 with both organs functioning immediately. Day 8 he experienced acute quadriparesis. Magnetic resonance imaging (MRI) revealed a central cord lesion (C4-C7). The significance of a motor vehicle accident (MVA) and whiplash injury two weeks prior to SPKT was unclear. Acute spinal infarction from fibrocartilaginous embolism was diagnosed.

His incompletely resolved citizenship status made eligibility for state- and commonwealth-based disability support uncertain. A Transport Accident Commission (TAC) claim was not possible as the role of the MVA remained unclear. His SHEV entitled him to rehabilitation and disability support, however he was not eligible for support through the National Disability Insurance Scheme (NDIS).

Conclusion: Providing healthcare for patients with unresolved citizenship raises many potential ethical and humanitarian concerns. This case highlights unique challenges faced by both the patient and his healthcare professionals

Abstract No. 72

IDENTIFYING THE BARRIERS TO KIDNEY TRANSPLANTATION FOR PATIENTS IN RURAL AND REMOTES AREAS – A SCOPING REVIEW

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Introduction: Populations in rural and remote areas have much higher rates of chronic kidney disease (CKD) and kidney failure than those in urban or metropolitan areas, and mortality rates for CKD are almost twice as high in remote areas compared to major cities. Despite this, patients residing in regional, rural, or remote areas are far less likely to be wait-listed for or receive a kidney transplant. This scoping review aimed to identify specific barriers to kidney transplantation for adult patients residing in rural and remote areas from the perspectives of health professional and patient/carer populations.

Methods: Studies were identified through database (MEDLINE, CINAHL, Emcare, Scopus) searches and assessed against inclusion criteria to determine eligibility. A descriptive content analysis was undertaken to identify and describe barriers as key themes.

Results: The 24 selected studies included both quantitative (n = 5) and qualitative (n = 19) methodologies. In studies conducted in health professional populations (n = 10) the most prevalent themes identified were perceived social and cultural issues (80%), burden of travel and distance from treatment (60%), and system-level factors as barriers (60%). In patient/carer populations (n = 14), the most prevalent themes were limited understanding of illness and treatment options (71%), dislocation from family and support network (71%), and physical and psychosocial effects of treatment (71%).

Conclusions: Patients in regional, rural, and remote areas face many additional barriers to kidney transplantation, which are predominantly associated with the need to travel or relocate to access required medical testing and transplantation facilities.

Abstract No. 73

CHARACTERISATION OF PRE- AND POST- TRANSPLANT URINE MICROBIOME IN KIDNEY TRANSPLANT RECIPIENTS

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Introduction: Complex or recurrent urinary tract infection (UTI) is difficult to manage in an immunosuppressed population such as kidney transplant recipients and can lead to organ or life-threatening complications. In this study, we aimed to establish the baseline microbiome of urine in patients awaiting renal transplantation to identify whether pre-transplant bacterial colonisation predisposed to UTI in the 30 days post-transplant. **Methods:** Retrospective review of a single-centre cohort of 30 patients who underwent renal transplantation between March and June 2022, selected based on date of transplant. Chart review was performed to identify urine microscopy, culture and sensitivity (MCS) performed in the 2 years prior to transplant, for screening or for UTI. Urine MCS performed in the first 30 days after transplant was used to identify patients with culture-proven UTI. Statistical analysis was performed with SPSS.

Results: Within this cohort, 23 patients produced urine in the 2 years prior to transplant, and 7 were anuric. Of the 23 urine-producing patients, bacteriuria was identified in 35%. Microbiology of positive urine specimens was diverse. Following renal transplant, culture-proven UTI within 30 days occurred in 37% of patients and the most common organism was Escherichia coli. Anuria or pre-operative bacteriuria were not statistically significant predictors of UTI in the post-transplant period in this sample.

Conclusion: It is important to establish baseline pre-transplant characteristics in this highly vulnerable group. This preliminary data suggests that risk of UTI post-transplant may not be easily predicted by pre-transplant bacterial colonisation.

Abstract No. 74

THE ROLE OF ORGANMATCH MATCHING ALGORITHMS IN THE IMPLEMENTATION OF THE VIRTUAL CROSSMATCH (VXM) IN AUSTRALIA

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Aims: For over 40 years, the complement dependent cytotoxicity (CDC) assay was used as the final physical crossmatch prior to transplant for recipients receiving an organ from a deceased organ donor. In February 2023, CDC was ceased in Australia in the final phase of the national transition to the VXM. In addition to increased recipient HLA antibody screening, the development of OrganMatch as the platform of the national system has played a pivotal role in the implementation of the VXM. The development of new matching algorithms for Lung, Heart and Kidney/Pancreas aimed to improve the process of matching recipients with potential organ donors to allow the Tissue Typing laboratories to perform VXM in a timelier manner. The algorithms include the use of basic clinical parameters, donor antigens for exclusion or Unacceptable Antigens, and blood group compatibility to produce an initial list of potential recipients for the transplant units to evaluate.

Method: Matches using the Lung Algorithm (LAv1) were reviewed from December 2022 to February 2023 and included 78 deceased donors consented for Lung Donation. Match event assessments were performed to assess the presence of donor specific antibodies and offers and progress to transplantation were reviewed. The time from the Tissue Typing donor workup to issuing results was compared using the algorithm to a previous period prior to the algorithm implementation.

Results

Donor State	Number of donors	Number of patients matched	Patients matched and transplanted	Patients transplanted but not matched *	Donors that did not proceed to donation	Donors offered on rotation
NSW	20	116	9	1	11	7
VIC	29	155	14	2	13	5
SA	9	139	2	1	6	N/A
QLD	11	92	2	2	7	3
WA	9	58	5	0	5	4

*Patients excluded due to unacceptable antigens, requiring a combined organ transplant, donor outside acceptable height range and not ready for matching due to HLA antibody expiry

Conclusion: The lung matching algorithm replaced a manual process of the transplant units providing a list of patient names for the Tissue Typing Laboratory to assess compatibility. The algorithm is working as expected with an overall efficiency identified.

Abstract No. 75

HOSPITAL ADMISSIONS ASSOCIATED WITH DEHYDRATION IN CHILDHOOD

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Background & Aims: The kidney transplant population may be at particular risk of dehydration due to poor kidney concentrating capacity and illness associated with poor fluid intake or losses. A creatinine rise may be more likely in this population with relatively mild dehydration, and this may trigger a hospital admission. This study aimed to describe hospital admissions in our institutions in the first 12 months after transplantation with a final diagnosis of graft dysfunction associated with dehydration or poor fluid intake. We further sought to assess risk factors for these admissions.

Methods: Data was extracted from the medical records of patients transplanted in the two tertiary children's hospitals in Melbourne, Australia. A descriptive analysis of the cohort was undertaken, and multiple failure regression analyses were used to identify factors associated with admission for acute kidney allograft dysfunction associated with dehydration.

Results: In the final cohort of 92 transplant episodes, there was at least 1 dehydration admission in 42%. Poor fluid intake admissions unrelated to other illness accounted for almost half of dehydration admissions, and 1 in 5 of all unplanned admissions. The dehydration risk factors identified were higher target fluid intake at first discharge and teen age, with higher number of poor fluid intake admissions in mid-summer.

Conclusions: Dehydration admissions in the first 12 months following childhood kidney transplantation are common. We have highlighted admission risk factors that should prompt further study into optimal fluid intake prescription and hydration advice given to children and their carers following kidney transplantation.

Abstract No. 76

A METHOD OF RAPID DIAGNOSIS OF MICROSPORIDIA INFECTION IN A KIDNEY TRANSPLANT RECIPIENT

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Anncaliia algerae is a species of microsporidia seen to cause disease in the immunocompromised. This is the first published case of A. algerae infection in Australia to occur in a kidney transplant recipient, with only five published cases involving solid organ transplant recipients internationally. There is growing interest in the diagnostic methods and treatment of this infection as it typically presents with non-specific symptoms and is associated with significant morbidity and mortality. Infection by this organism is often considered only after other more common opportunistic infections have been ruled out, contributing to a delay in initiating targeted investigations. Magnetic Resonance Imaging (MRI) followed by targeted biopsy of an affected muscle studied using light microscopy and nucleic acid-based diagnostic methods have increased diagnostic sensitivity compared to earlier diagnostic techniques, although a delay in diagnosis remains common in reported cases. We report a case of a 74-year-old male cattle farmer from rural New South Wales, Australia, who presented with severe generalised myalgias, most pronounced in his back, shoulders, and buttock regions, five month following kidney transplantation. He underwent a fine needle aspirate (FNA) and core biopsy of his left vastus lateralis muscle after an MRI identified diffuse enhancement and a same-day diagnosis of microsporidial infection was made after analysis of the FNA revealed presence of microsporidial spores. Treatment with albendazole was instituted prior to receiving confirmatory results from histopathological and molecular tests. Increased awareness and access to rapid diagnostic techniques may improve outcomes in *A. algerae* infections.

Abstract No. 77

PREVALENCE OF MULTIDRUG RESISTANCE IN URINE CULTURE INCREASES IN THE EARLY POST-TRANSPLANT PERIOD

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Introduction: Post-transplant urinary-tract infection (UTI) is a cause of significant morbidity in the immunocompromised kidney transplant recipient population, with sequalae that include sepsis, bacteraemia and allograft dysfunction or loss. Antimicrobial-resistant UTI, particularly resulting from multidrug-resistant Gram-negative pathogens, is an emerging challenge in this group. The aim of the study was to establish baseline rates of antimicrobial-resistant organisms in an Australian sample prior to transplantation and compare this to rates of antimicrobial resistance in the first 30 days post-transplant.

Method: Retrospective review of a single-centre cohort of 30 patients who underwent renal transplantation between March and June 2022, selected based on date of transplant. Chart review was performed to identify urine microscopy, culture and sensitivity performed in the 2 years prior to transplant and the first 30 days post-transplant, and reported antimicrobial resistances and sensitivities were documented. Samples contaminated with epithelial cells were excluded from further analysis.

Results: 84 samples were identified from 23 patients pre-transplant and 92 samples from all 30 patients were identified post-transplant. Bacterial growth was identified in 11 clean-catch pre-transplant samples, and 16 clean-catch post-transplant samples. The most common organisms isolated pre-transplant were Pseudomonas aeruginosa and Enterococcus faecalis. No organisms were resistant to more than one reported antimicrobial. In contrast, Escherichia coli was the most prevalent organism post-transplant, and multidrug resistance was more common, occurring in 6 of 16 positive samples (38%).

Conclusion: Prevalence of multidrug antimicrobial resistance in this cohort was negligible prior to transplant and increased immediately post-transplant. Further characterisation is required, but this could reflect exposure to antimicrobial-resistant pathogens in the peri-operative period.

Abstract No. 78

REGISTRATION PROCESS AND COVID RISK ASSESSMENT FOR WORLD TRANSPLANT GAMES FEDERATION (WTGF) IN PERTH, APRIL 2023

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Transplant Australia (TA) and Perth, Western Australia, was the only bidder in late 2020 to stage the biennial 2023 WTGF Games. Dallas 2021 was cancelled.

The aim was to organise successful and safe staging of WTGF Games in April 2023 to promote the results and benefits of organ donation in Australia and elsewhere.

Methods: Organisation was overseen by WTGF Board with seed funding from Federal and WA Governments, Lotteries West, and Pharma. Local organisation (LOC) was undertaken by TA and a professional events company to facilitate multiple graded sports over 6 days. Completion of a comprehensive medical questionnaire (MQ) reviewed by participant's clinician is required before April 15. High intensity sports participants were advised to have a cardiac stress test.

Results: As of March 3, >1,500 registrations from 56 countries were received with 1,078 competing participants, aged 4 to 84 years. Australia and UK have the largest representation. 824 MQ have been submitted to date and reviewed. Organs transplanted include kidney 55%, liver 24%, heart 9%, BM/stem cells 8% and lungs 5%. 4.7% are unvaccinated and 42% have not received booster since end of 2021. 78% reported at least one Covid infection. Only 7% of participants were receiving treatment for diabetes.

Conclusions: Progressive modification of Australian Covid-19 testing and vaccination policies challenged LOC medical team to accept unvaccinated participants. Multiple Rapid Antigen Test kits will be provided to all on arrival with request to self-test prior to registration. The unvaccinated will undergo LOC clinic supervised testing. Let the games begin!

Abstract No. 79

ACUTE KIDNEY INJURY (AKI) IN A KIDNEY TRANSPLANT RECIPIENT FOLLOWING PAXLOVID

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Background: We report a case of tacrolimus toxicity in a kidney transplant recipient with SARS-CoV-2 infection following a drug-drug interaction with nirmatrelvir/ritonavir (Paxlovid).

Case Report: A 57-year-old man presented to the Emergency Department with 48 hours of nausea, vomiting, headaches, and lethargy. Five days earlier, he was diagnosed with a mild SARS-CoV-2 infection by his General Practitioner, who commenced treatment with Paxlovid 300mg/100mg twice daily. Past medical history included kidney transplantation in 2018 for end-stage kidney secondary to hypertensive nephrosclerosis, currently on prednisone, tacrolimus and mycophenolate. Vaccination status was up-to-date and prophylactic tixagevimab/cilgavimab (Evusheld) had been given >6 months prior due to lack of seroconversion. Examination showed a BP of 174/96 and normal respiratory parameters. Investigations demonstrated a serum creatinine of 213 µmol/L (baseline 130 µmol/L) and tacrolimus trough level of 103.3 µg/L (baseline 6.9-8.7 µg/L). Treatment included intravenous rehydration, Evusheld and tacrolimus was withheld for 7 days, with regular therapeutic drug monitoring until recommencement (Figure 1).

Conclusion: This AKI was attributed to tacrolimus toxicity and improved with temporary drug cessation. Paxlovid is an effective oral disease-modifying therapy that should be considered for patients who do not require oxygen and have risk factors for disease progression. Ritonavir strongly inhibits the cytochrome P450 (CYP) 3A4 enzyme, resulting in potentially serious drug-drug interactions, as illustrated by our case. Whilst transplant recipients have an increased risk of severe disease, current Australian guidelines recommend against Paxlovid use in patients taking medications that are heavily dependent on CYP3A4 for clearance, including calcineurin and mTOR inhibitors.

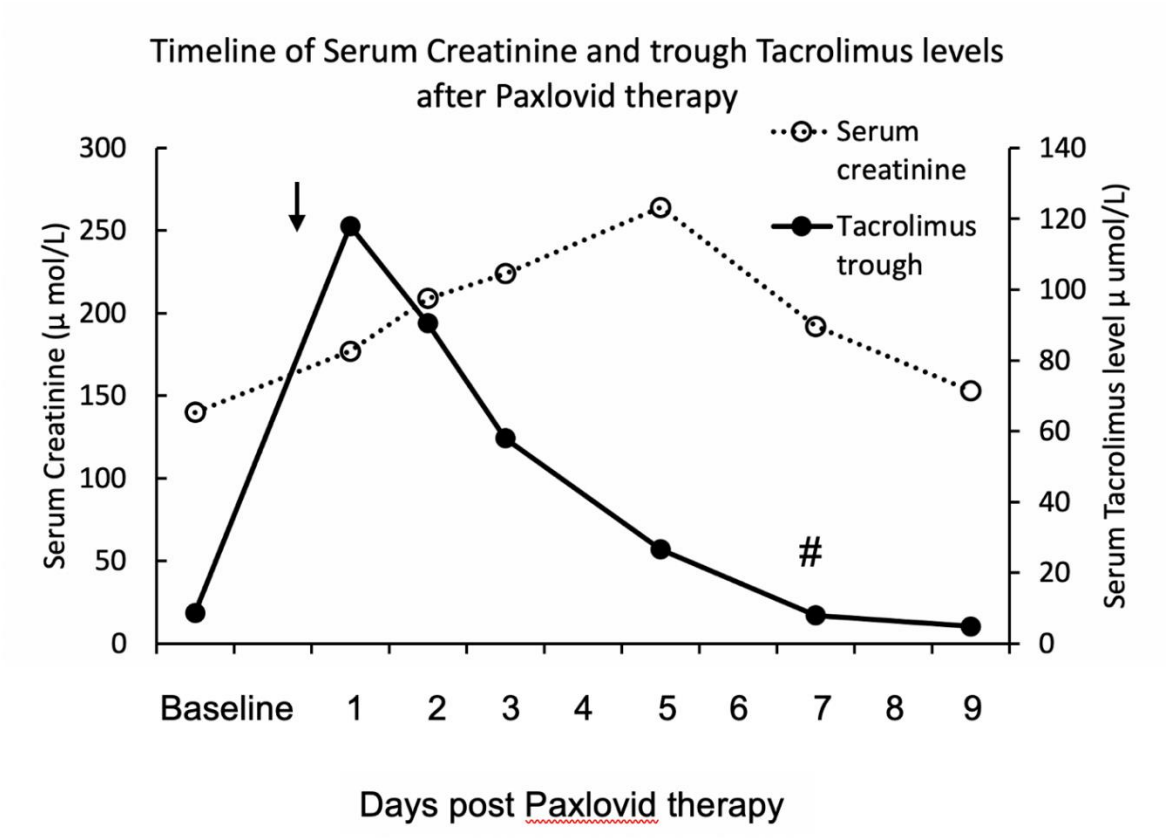

Figure 1: Timeline of serum creatinine and trough tacrolimus levels after Paxlovid therapy in a kidney transplant patient.

Abstract No. 80

DULAGLUTIDE USE IN RENAL TRANSPLANT RECIPIENTS IN AUCKLAND

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Background: GLP-1 receptor antagonists (GLP1-RA) or SGLT-2 inhibitors are recommended second line behind Metformin for patients with type 2 diabetes mellitus (T2DM). Dulaglutide, a GLP1-RA, became funded for select patients in Aotearoa New Zealand (AoNZ) in September 2021. GLP1-RAs have been shown to result in weight loss, a reduction in insulin doses, and cardiovascular and renal benefits in non-transplant populations. We report our experience with Dulaglutide in obese diabetic patients after kidney transplantation.

Methods: Renal transplant recipients with T2DM were identified within the Auckland district opportunistically and patients from Auckland district transplanted between 1/1/2020-31/12/2022 were reviewed for Dulaglutide prescribing. Data was collected retrospectively from electronic records.

Results: Fourteen patients were prescribed Dulaglutide after kidney transplant. All patients had End Stage Kidney Disease (ESKD) secondary to T2DM. Mean (SD) age was 54 (9) years with half Pasifika patients. Most patients were on Tacrolimus (85.7%) and Prednisone 7.5mg daily (100%). Baseline mean (SD) T2DM duration was 20.4 (6.6) years with mean (SD) time post-transplant 101 (116) weeks. Baseline mean (SD) HbA1c was 83.3 (16.6) mmol/mol with mean (SD) daily insulin dose 71.1 (50.6) units. Mean (SD) reduction in HbA1c was 14 (10) mmol/mol and mean (SD) weight loss was 4.3 (4.8) kilograms at six months. Hypoglycaemic event rates at six months were similar to baseline. One patient stopped Dulaglutide due to gastrointestinal side effects.

Table 1: Results

	Baseline	*3 months*	*Reduction at 3 months*	*6 months / most recent*	*Reduction at 6 months / most recent*
eGFR ml/min/1.73m^2, mean (SD)	56.4 (17.7)	56.8 (19.3)	0.5 (9.8)	56 (18.8)	0.4 (11.9), -1% (22%)
HbA1c mmol/mol, mean (SD)	83.3 (16.6)	66.7 (16.7)	18 (9)	70 (20)	14 (10), 17% (13%)
Weight kg, mean (SD)	106.3 (13.4)	102.3 (15.3)	3.1 (2.9)	100.4 (12.9)	4.3 (4.8), 4% (4%)
BMI kg/m^2, mean (SD)	34.9 (3.1)	33.5 (3.6)	1.1 (1)	33.3 (3)	1.4 (1.5)
LA insulin units, mean (SD)	56.9 (35.6)	54.3 (44.8)	3.6 (17.8)	66.3 (46.2)	4.2 (17.7), 17% (34%)
SA insulin units, mean (SD)	14.3 (23.2)	14.7 (19.7)	3.5 (10.7)	20.1 (22)	2.1 (12), 2% (48%)
Hypoglycaemic events, number of patients (%)	1 (9%)	4 (36%)	-3 (-27%)	1 (11%)	0 (-2%)

Conclusion: Dulaglutide can be an effective adjunct to T2DM management in renal transplant recipients with modest reduction in HbA1c and weight without significantly increased hypoglycaemic events.

Abstract No. 81

WHY OUR KIDNEY TRANSPLANTS RECIPIENTS (KTR) WERE NOT FULLY VACCINATED AGAINST COVID19. HOW CAN WE DO BETTER?

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Aim: To study COVID-19 vaccination status in KTR, reasons for incomplete vaccination and the clinical impact of vaccination on COVID-19 infection and patient outcomes.

Methods: Single centre retrospective study of KTR transplanted between 1970 and January 2023. Collected baseline demographics, number of vaccinations, reason for incomplete vaccination and patient outcomes following COVID-19 infection. A completed course of COVID-19 vaccination was defined as 4 or more vaccine doses. Exclusion criteria: those deceased prior December 2019, managed by another health service, failed graft, and deceased secondary to non-COVID cause.

Results: 273 of 543 patients met inclusion criteria. Mean age was 58 12 years, 66% male. 65% of patients were fully vaccinated, 89% received at least one dose, 1% unvaccinated, and 10% incomplete records. The most common reason for incomplete vaccination was COVID-19 infection, concern for side effects, and patient unawareness of booster recommendations (figure 1). Vaccination uptake was greater in Australian born patients compared to those born overseas, odds ratio 0.40 (95% CI 0.23 – 0.69). KTR with incomplete vaccination had poorer outcomes (figure 1), higher rate of AKI, long COVID, and hospitalisation. There were 5 COVID-related deaths, but no difference in those with incomplete compared to complete vaccination.

Conclusions: The majority of KTR were fully vaccinated. KTR with incomplete vaccination status have poorer outcomes with COVID-19 infection. Patient education is a major area for improvement targeting patients born overseas and better information regarding side effects. Potential interventions need to address improved communication, cultural relevancy, and language.

Reasons for incomplete vaccination	
COVID-19 infection delayed vaccination	21%
Concern for side effects	17%
Patient not aware additional booster recommended	9%
Poor health literacy	7%
Patient believes they are up to date, and disagrees that additional booster is required	6%
Vaccine scepticism	2%
Only consents to specific vaccine	1%
Side effects experienced by patient following first vaccine	1%
Poor communication	1%
Not documented	35%
Outcomes for patients with incomplete vaccination status and COVID-19 infection compared to completely vaccinated	
Rate of AKI	Relative Risk Ratio 2.50 (95% CI 1.21 - 5.16)
Development of Long COVID	Relative Risk Ratio 2.67 (95% CI 1.08 - 6.61)
Hospitalisation (all cause)	Relative Risk Ratio 3.26 (95% CI 1.45 - 7.34)
Hospitalisation (COVID-19 related)	Relative Risk Ratio 3.36 (95% CI 1.45 - 7.78)
Duration of hospital admission (days)	Incomplete vaccination 14 days, complete vaccination 6.6 days (p-value 0.05)
Mortality data	
Mortality	Relative Risk Ratio 1.22 (95% CI 0.20 – 7.47)
Total number mortality (patients)	5

Figure 1: Table demonstrating reasons for Kidney Transplant Recipients having incomplete vaccination, reporting percentage of patients for specified reason. Outcome data for Kidney Transplant Recipients with incomplete compared to complete vaccination status following COVID-19 infection.

Abstract No. 82

HIGH PREVALENCE OF THROMBOTIC EVENTS (TES) IN AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE (ADPKD) POST-NEPHRECTOMY

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Aims: To investigate the prevalence of TEs among ADPKD patients following nephrectomy.
Methods: A retrospective review was conducted for all patients who underwent nephrectomy between 1 January 1995 and 31 December 2021 and had ongoing follow up at CNARTS. TEs were defined as unprovoked DVT/PE or arteriovenous fistula thromboses (AVFT). The prevalence of TEs among ADPKD patients was compared against the control group using Fisher's exact test.
Results: 115 nephrectomies were undertaken for 84 patients during the specified timeframe. 3 patients were followed up elsewhere and excluded. Of the remaining 81 patients, 54 patients were male and 49 had ADPKD. Mean age at first nephrectomy was 50.0±12.1 years, and median stage of chronic kidney disease at time of first nephrectomy was 5 (IQR 4,5). Mean follow up length from first nephrectomy was 126.8±80.1 months.
Excluding 6 patients with provoking factors, 19 patients had TEs (17 had ADPKD compared to 2 from the control group; p=0.006). 11 ADPKD patients had DVT/PE (1 in control; p=0.02) and 10 had AVFT (1 in control; p=0.04). TEs were recurrent in 4 ADPKD patients[1]. 5 patients had complicated bleeding and clotting events and/or management (recurrence of TE despite therapeutic anticoagulation, severe or recurrent bleeding despite reduced anticoagulation dosage and concurrent clotting and bleeding events with labile INR).
Conclusion: ADPKD patients are at significantly higher risk for TEs following nephrectomy compared to patients with other primary nephrological diagnoses.

[1]Chan JEZ, Kuah Z, Bhattacharjya S, Olakkengil SA. Recurrent thromboses and major vessel compressions in ADPKD. J Surg Case Rep. 2022Feb13;2022(2):rjac012. doi:10.1093/jscr/rjac012

Abstract No. 83

CORRECTION OF HYPEROXALURIA IN PRIMARY HYPEROXALURIA AFTER LIVER TRANSPLANTATION PRESERVES KIDNEY FUNCTION IN TWO CHILDREN

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Aims: To evaluate renal function in children with Primary Hyperoxaluria Type 1 after liver transplantation.
Methods: We reviewed the clinical course of 2 children with AGXT mutations who presented with renal impairment and received haemodialysis (HD) prior to receiving a liver transplant.
Results: Both children had AGXT mutations, Case 1 was due to a compound heterozygous mutation and Case 2 was due to a homozygous mutation resulting in a premature stop codon in exon 3. Case 1 presented at 3 months with renal failure and kidney stones and was on daily HD until a liver transplant at 1.5 years of age. His renal function stabilised and he was off dialysis for 3 years with kidney biopsy showing clearance of crystals. However due to thrombotic micro-angiopathy, possibly secondary to his tacrolimus, he went into renal failure and received a kidney transplant at 4.5 years of age. The second patient presented at almost 4 years of age with nephrocalcinosis and renal failure and received haemodialysis for 2 months before receiving a liver transplant. Her renal function has been stable for 5 years post- liver transplant but she has had recurrent urinary tract infections.
Conclusions: These cases demonstrate that early treatment for hyperoxaluria can prevent kidney failure but that liver transplantation still has associated morbidity. Therefore, early identification through newborn screening and commencement of new agents to block oxalate formation would be beneficial for future patients.

Abstract No. 84

INFLUENCE OF PERIOPERATIVE MANAGEMENT ON EARLY POSTOPERATIVE OUTCOMES OF PAEDIATRIC LIVING DONOR KIDNEY TRANSPLANTATION

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Background: Paediatric kidney transplantation has an increased risk of surgical and vascular complications, with intensive care monitoring required postoperatively.

Aim: To determine how perioperative management influences early graft function in paediatric living donor kidney transplantation.

Methods: Clinical data was extracted from the electronic medical record for living donor kidney transplants performed at The Children's Hospital Westmead from 2009 to 2020. We used estimated glomerular filtration rate (eGFR) on day 7 post-transplant, to measure early graft function.

Results: Twenty-eight participants [female n(%) 10 (36%)] with a mean age of 6 years (s.d. 4) were included in the study. Mean operation and warm ischaemic times were 270(60) and 39(6) minutes, respectively. The mean total volume of fluid administered intraoperatively was 85(44) mL/kg and ranged from 25-193 mL/kg, with 22 (79%) receiving both crystalloid and colloid. Mean central venous pressure (CVP) before and after vascularization was similar, at 11(5) and 11(4) mmHg, respectively. Mean systolic blood pressure on admission to PICU was 119(12) mm Hg. Volume of fluid administered in the first 24 hours in the PICU was 266(126) mL/kg, ranging from 112-637 mL/kg. On day 7 post-transplant, mean eGFR was 114(4) mL/min/1.73m2. Linear regression analyses demonstrated no association between warm ischaemic time, CVP, fluid administration and blood pressure with day 7 eGFR.

Conclusions: These data demonstrate a high variability in fluid administered intraoperatively and postoperatively in children who received kidney transplants, but no associations were identified with early graft function.

Abstract No. 85

THE CHANGING INCIDENCE AND RISK OF RENAL ALLOGRAFT THROMBOSIS IN AUSTRALIA AND NEW ZEALAND: A REGISTRY ANALYSIS

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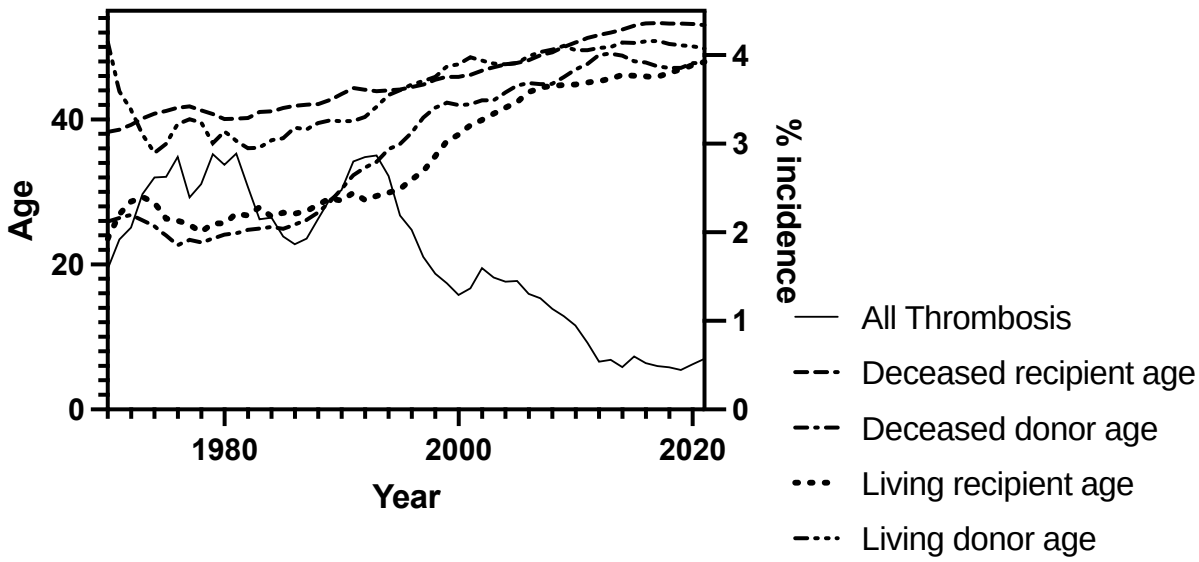
Aims: We examined the incidence of renal allograft thrombosis (RAT) in Australia and New Zealand and identified donor and recipient risk factors.

Methods: Recipient characteristics from 1963 were obtained from ANZDATA. Characteristics of deceased donors from 1989, and living donors from 2004, were obtained from ANZOD and ANZLKD respectively. **Results:** 35,595 renal transplants were performed between 1963 to 2021. 9430 deceased, 7967 living donors, and 25712 recipients' data were available. 510 cases of thrombosis (271 arterial, 239 venous) were recorded, and 81% occurred within the first 30 days. From 1989-2021, the incidence has declined from 2.4% to 0.5% despite increasing volume of transplants, introduction of DCDD, and an increase in donor and recipient median age by >10 years (Fig.1). On multivariable analysis, recipient age (age ≥35 vs <35; OR0.73, p=0.03), donor age (age <5 OR3.6, p=0.04; age≥ 35 OR1.77, p=0.001), right kidney (OR1.57, p=0.002), ischaemic time (OR1.04 per hour, p=0.001), peritoneal dialysis (OR1.5, p=0.005), and transplant centre activity (<2000 vs ≥2000 transplants; OR2.27, p=<0.001) were associated with an increased risk of any RAT, whilst later transplant era (2013-21 vs 1989-96; OR0.24, p<0.001) showed progressive risk reduction. Type of calcineurin inhibitor or T-cell depleting induction agents, diabetes, recipient vascular disease and DCDD donation were not associated with an increased risk of RAT.

Conclusion: Incidence of RAT has steadily decreased despite an increase in transplant activity, donor, and recipient age. Risk factors include donor and recipient age, peritoneal dialysis, right kidney or double transplant, and transplant centre activity. Factors associated with this continuous improvement require further study.

Fig.1 Incidence of RAT decreasing despite increasing donor and recipient median age



Abstract No. 86

ACUTE POST-OPERATIVE QUADRIPARESIS IN A SIMULTANEOUS PANCREAS KIDNEY TRANSPLANT RECIPIENT

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Introduction/Aim: We describe the development of acute quadriparesis in a patient 8 days after receiving a simultaneous pancreas and kidney transplantation (SPKT) and the diagnostic challenge this posed.

Case report: A 31-year-old male with type 1 diabetes and chronic kidney disease underwent SPKT. Surgery and the early post-operative period were uneventful. Both organs had immediate function. Aspirin and Enoxaparin were given daily throughout the admission. Upon sitting up on day 8, the patient had sudden onset of upper-back, chest, and shoulder pain, with acute paralysis in all 4 limbs. Magnetic resonance imaging (MRI) revealed a central cord lesion at the C4-C7 level. Repeat MRI 3 days later, demonstrated progressive grey matter involvement with extension to T1. Transverse myelitis and opportunistic infection were considered in the differential diagnosis. Lumbar puncture was unremarkable. Methylprednisolone (1g/day x3) and 2g/kg IVIg were given. The patient recalled a motor vehicle accident (struck from behind) two weeks prior to SPKT. He suffered no injury but experienced "whiplash" like sudden movement associated with brief mild upper back pain. Computerised tomography showed no evidence of arterial dissection or atherosclerosis, and the location was atypical of a vascular cause. Therefore, neurology and Radiology teams favoured a diagnosis of acute spinal infarction consistent with fibrocartilaginous embolism, a well described but uncommon clinical entity often occurring with minor or no trauma. The patient's clinical picture remains unchanged 3 weeks post onset.

Conclusion: In this case after excluding other diagnoses, spinal infarction due to fibrocartilaginous embolism was the presumed diagnosis.

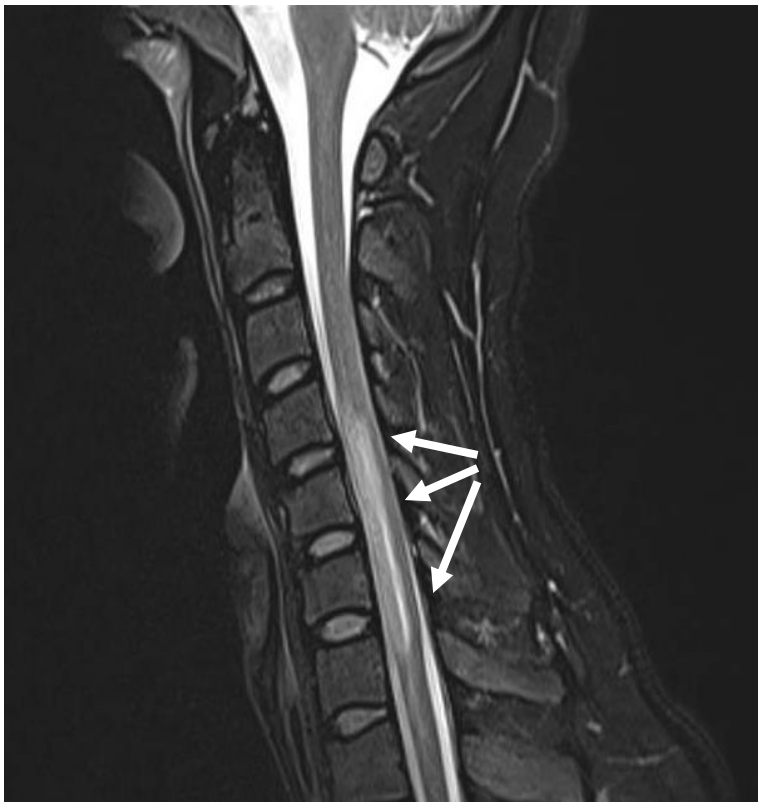

Figure 1: Day 3, cervical/thoracic spinal MRI with contrast Dixon T2 enhancement on sagittal view: demonstrating central grey matter lesion at the level of C4 – T1.

Abstract No. 88

CAT-SCRATCH DISEASE MASQUERADING AS POST-TRANSPLANT LYMPHOPROLIFERATIVE DISORDER - A CASE REPORT AND LITERATURE REVIEW

NG HUNG SHIN PB, TAN S, GRIFFIN A, TAN A, KANAGARAJAH V

Renal and Transplantation Unit, Princess Alexandra Hospital, Brisbane

Aims: Both Cat-scratch disease [CSD] and Post-transplant lymphoproliferative disorder [PTLD] present with lymphadenopathy and a non-specific inflammatory syndrome. We explore the patient's investigations with emphasis on how to resolve this diagnostic quandary.

Methods: We conducted a systematic review investigating key diagnostic factors followed by a case report which illustrates a feasible management pathway.

Results: Serum B-henselae IgG and EBV PCR are the first-line screening tests for CSD and PTLD respectively. B-henselae IgG has greater sensitivity that IgM but as a plasma product will struggle to identify an acute disease and a repeat assay in 2-4 weeks is indicated to improve detection. EBV-DNAemia can support a differential of PTLD but 30% of the population will incidentally test positive hence, quantification of viral load is key. FDG-PET scan is sensitive for PTLD however CSD-associated lymphadenopathy can also be highly-FDG avid. The gold standard for delineating CSD from PTLD is histological examination. B-Henselae PCR and EBER-ISH should be conducted on tissue specimen. Of note, both conditions can present with a lymphoid infiltrate and necrosis. Key differentiator is the presence of nodal effacement in PTLD in contrast to CSD which would show preserved nodal architecture. Additionally, necrotising granulomas offer a further histologic clue as an indicator of impaired pathogen clearance which is a common feature in CSD but absent in PTLD.

Conclusions: CSD and PTLD are diagnostic mimics and understanding nuances in investigations assist in honing the diagnosis.

Abstract No. 89

INCIDENTAL DIAGNOSES OF INTRACRANIAL ANEURYSMS IN AUTOSOMAL DOMINANT POLYCYSTIC KIDNEY DISEASE: A SINGLE-CENTRE EXPERIENCE

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Aims: To estimate the prevalence of, and to characterise patients with ICA among ADPKD patients at CNARTS.

Methods: A retrospective review was conducted for all patients who underwent nephrectomy from January 1995 to December 2021.

Results: 115 nephrectomies were undertaken for 84 patients during this time, 3 were followed up elsewhere. The remaining 81 patients include 54 male patients, 49 with ADPKD and 45 with neuroimaging (30 in ADPKD, 15 in control group).

6 ADPKD patients had ICA (12% all patients, 20% patients with neuroimaging), compared to 2 in the control group (6.25% all patients, 13% patients with neuroimaging). The patients in the control group were diagnosed following a subarachnoid haemorrhage (SAH) and screening due to family history. All 6 ADPKD patients were incidentally diagnosed: 2 following SAH, 1 during pre-transplantation screening and 3 after imaging for an alternate indication. 3 of these patients were diagnosed before nephrectomy and/or transplantation, the other 3 were diagnosed afterwards. 2 patients were retrospectively found to have a family history of ICA (4 index cases). 1 patient had a flow-diverting stent insertion before nephrectomy and transplantation, but later had stent failure and recurrence of ICA. He unfortunately died of SAH.

Conclusion: ICA carries high morbidity and mortality risk if ruptured and ADPKD patients are at higher risk for ICA. Adoption of current ICA screening guidelines at CNARTS may have led to underdiagnosis. Further studies are required in a larger sample population to aid in risk stratification for screening and surveillance of ICA in ADPKD.

Abstract No. 90

IN ADULT RENAL TRANSPLANT SURGERY, IS THERE AN ASSOCIATION BETWEEN INTRAOPERATIVE HYPOTENSION AND DELAYED GRAFT FUNCTION?

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Background: Delayed graft function (DGF) is a common complication in renal transplantation. However, there are no existing systematic reviews which have identified ideal intraoperative haemodynamic targets for minimising risk of DGF.

Aim: This narrative review aims to identify existing evidence regarding the impact of intraoperative arterial blood pressure on postoperative graft function and to identify optimal blood pressure targets for reducing risk of DGF.

Methods: Databases MEDLINE, Embase and Cochrane database of systematic reviews were searched on 28/05/2022 using keywords "kidney transplantation", "delayed graft function", "intraoperative period" and "blood pressure parameters"/"arterial pressure". Abstracts, animal studies and other organ transplantation surgeries, either in isolation or in addition to renal transplantation were excluded.

Results: 15 cohort studies (13 retrospective, 2 prospective) met the inclusion criteria. There was substantial heterogeneity between studies in terms of design and outcome reporting such intraoperative blood pressure measurement methods. However, results were suggestive of a correlation between intraoperative hypotension and DGF in deceased donor transplants. For living donor transplants, no such association was found.

Conclusion: This review suggests a differential impact of hypotension on DGF depending on the source of kidney transplant (living or deceased). Overall data were insufficient to guide clinical practice for optimal intraoperative blood pressure thresholds and to determine the extent of its impact on DGF outcomes as there was considerable variability in the definitions, measurements, and analysis used by studies within the current literature. High quality randomised control trials are needed to further elucidate the role of intraoperative blood pressure on DGF.

Abstract No. 91

THE MANAGEMENT OF RENAL STONE DISEASE IN TRANSPLANT KIDNEYS, A SINGLE AUSTRALIAN CENTRE EXPERIENCE

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Aims: Renal stone disease is an infrequent complication affecting donor kidneys in transplant recipients. The characteristics of transplant kidneys - single kidney, immunosuppression, and ureteroneocystostomic anastomosis - pose additional challenges to treatment of this disease. This study aimed to review the experience of a single transplant centres management of these patients.

Methods: Retrospective cohort study of all patients undergoing surgery for renal stone disease (percutaneous nephrolithotomy (PCNL), external shockwave lithotripsy (ESWL), or ureteroscopic lithotripsy) at Princess Alexandra Hospital between 2016 and 2022, who previously received a renal transplant at the same institution since 2000. Descriptive and inferential statistical analysis of demographic and treatment data.

Results: Six patients (3 male, 3 female) underwent surgical management between 2016 and 2022. Median time from transplant to stone diagnosis was 2.99 years (Range 0 days to 10 years). Stones were most frequently found in the renal pelvis (n=3) or with renal pelvis and ureteric stones (n=2). Patients commonly presented with haematuria (n=3), or acute elevation in serum creatinine (n=2). The most common treatment was ESWL (n=4), followed by PCNL (n=2). One patient had an unsuccessful attempt at ureteroscopic treatment. Patients undergoing PCNL required more procedures than ESWL for stone clearance (median 2.5 vs 1.0), this wasn't statistically significant ($H(1)=3.06$, $df=1$, $p=0.08$).

Conclusions: Renal stone disease involving a transplant kidney is uncommon. Anatomic difference between transplant and native kidneys may make ureteroscopic treatment more challenging. ESWL and PCNL can both be successfully used to treat stone disease; however more than one procedure may be required.

Abstract No. 92

SYMPTOMATIC SCROTAL-INGUINO-RETROPERITONEAL LYMPHOCELE IN A KIDNEY TRANSPLANT PATIENT - TO DRAIN BUT HOW TO DRAIN?

NG HUNG SHIN PB, GRIFFIN A, KANAGARAJAH V, TAN A

[1]Renal and Transplantation Unit, Princess Alexandra Hospital, Brisbane

Aim: We aim to present the management of a unique case of a 60 year old male with a functioning kidney transplant, who developed a delayed large symptomatic scrotal-inguino-retroperitoneal lymphocele.

Methods: We conducted a systematic review of studies reporting on incidence and management of this condition from Pubmed, Cochrane and Embase from inception and with no language restriction.

Results: The incidence of pelvic lymphocele development following kidney transplantation varies between 3.8% and 32%. Scrotal-inguino-retroperitoneal lymphocele is rarer with only 5 cases reported in the literature with open fenestration of the sac into the peritoneum as treatment. Unlike the reported cases, we drained the collection to dry percutaneously with ultrasound guidance. However, after 3 weeks, it recurred again with CT scan showing multiloculated collections. Intra-operatively, there was a fistula tract within the inguinal canal on opening of the external oblique and a separate small indirect fluid containing inguinal hernia. Both sacs were dissected, excised and the ends were ligated. A 10 Fr Bellovac drain was placed post-operatively and removed 48 hours after. The patient was advised to wear a a hernia belt for 6 weeks. The patient had no recurrence of his lymphocele following regular reviews over 9 months.

Conclusion: Ultrasound guided percutaneous drainage of scrotal-inguino-retroperitoneal lymphocele is effective short term. Definitive management involve surgical correction with excision of the encapsulated fluid track.

PRESIDENT'S REPORT

Opening Statement

It's a pleasure to give the President's report for 2023. The past year has been extremely busy and productive for TSANZ with several key changes and initiatives. Many thanks to all of you for your support.

TSANZ Structure:

Since 1982, TSANZ have operated as an NSW Association however it has become clear that an organisation that:

- has members from all over Australia and New Zealand,
- runs meetings throughout Australia and, in the future, New Zealand, and
- has Clinical Guidelines for both countries

needs to operate under a different structure. Therefore, we are now in the process of changing to become a Company Limited by Guarantee (CLG) and additionally will become a registered not for profit Charity.

Many thanks to all of you for the support with this structural change. I know it's been challenging but I am so grateful to you all, in particular the TSANZ executive team and council for supporting this initiative.

At the special general meeting on May 11, a vote for the structural changes was passed unanimously by a quorum of members and we are now in the process of making these changes official. I am grateful for Sarah Johnson of Macpherson Kelley who has helped us enormously from the legal perspective.

Annual TSANZ Meeting:

We are coming up to our 41st Annual Scientific meeting which being held at the Brisbane Exhibition and Convention Centre from Sunday 18th June 2023. This is our first non-hybrid meeting since Covid and promises to be an excellent meeting convened by Dr Chandima Divithotawela and A/Prof Antiopi Varelias**.** The meeting will be preceded by a fabulous HLA Day on June 16 convened by Dr Lucy Sullivan and Rhonda Holdsworth, the Post Graduate Course on June 17 convened by Dr Jennifer Li and Dr Handoo Rhee and the Masterclass on June 18 convened by Stephen Hiho and Dr Georgina Irish. I'm so grateful for the huge amount of work and expertise that all our conveners and SPEC have put into organising these meetings.

The meeting has several highlights including five inspiring international speakers: Prof Geoffrey Hill, Dr Cynthia Kramer, Prof Robert Montgomery, Prof Elaine Reed and Prof Lianne Singer. We have outstanding plenaries Xenotransplantation, Transplant options for highly sensitised patients, Cellular therapies in Transplantation, DCD Transplantation, and HLA and solid organ transplantation. Once again, a highlight will be the President's Prize Symposium in which our best young investigators will present their findings in the areas of basic and clinical science. The meeting includes a TTS Women in Transplantation Session and a variety of concurrent state of the art sessions aimed to give all attendees talks of interest in their area while the final session "The Great Debate" will enlighten us on the topic "Cannabis use should be a contraindication for transplantation eligibility".

The post graduate course and the masterclass cover the breadth of current transplantation and will provide outstanding training for all involved in transplantation while the HLA Day is an extremely welcome addition to this year's programme and I'm sure will be enjoyed by many.

We have a great social programme including the Welcome Reception and the Annual Awards dinner to be held at Brisbane City Hall.

We have a most exciting program, and the Society is extremely grateful to its sponsors:

- Platinum - Astellas and Hansa Biopharma,
- Gold -Thermo Fisher (One Lambda)
- Silver - Organ and Tissue Authority (OTA) – DonateLife; Novartis; GSK; Pharmacor; Takeda
- Bronze – Paragon Care Group (trading as Immulab), AstraZeneca, XVIVO, AbacusDX, Roche, Bio-Strategy, Alexion, Aurora Bioscience, Sanofi, and Pfizer.

We are also grateful to our conference sponsors – CSL, Royal College of Surgeons (RACS) and TTS - Women in Transplantation and of course thank Transplant Australia and Kidney Health Australia for sponsoring awards.

TSANZ Projects

Virtual Cross Match*:* The virtual cross match working group led by A/Prof Ross Francis, Rhonda Holdsworth and Narelle Watson continues to work hard as virtual cross-matching is phased into clinical transplantation. Phase 3 commenced in 2022, with VXM processes now be introduced for all transplant recipients. CDC has ceased for all organs since February 2023 and been replaced by VXM. Histocompatability guidelines have been drafted and will be circulated to key stakeholders for review in the near future, in the interim version, 1.11 TSANZ Clinical Guidelines will feature updated histocompatibility assessment details. I am so grateful to this group for their extremely hard work and great success at making this important change in transplantation in Australia.

Enhancing Clinical Best Practice Guidelines and Procedures*:* This project focusing on enhancing current processes for managing the *TSANZ Clinical Guidelines for Organ Transplantation from Deceased Donors* and supporting practical implementation is continuing to make great progress. Many thanks to our Clinical Project Manager Emily Larkins, who is in the process of finalising Version 1.11 of the Guidelines. This version will include important updates into international eligibility for transplantation in addition to important updates of a number of chapters, OrganMatch inclusion as well as increased interactivity and hyperlinks to additional resources. I would like to thank Emily for her hard work as well as the Guidelines Advisory Panel, and to OTA for providing funds to this important piece of work aiming to establish robust processes for the ongoing oversight, provision, maintenance, and promulgation of the Clinical Guidelines.

Additional projects include The Deceased Donor Kidney Allocation Algorithm Review aiming to further evolve the deceased donor kidney allocation algorithm in Australia in order to optimise allocation and thereby transplantation outcomes and ensure equity and utility. The workplan will provide strategies for the Kidney Allocation Review Committee to review organ

allocation processes in Australia. This project is led by Prof Kate Wyburn with the welcome addition of Sarah White as Project Manager.

The TSANZ and ANZSN are collaborating in a project aiming to optimise access and outcomes in Living Donor Transplantation with the formation of the Living Donation Working Group. This group will facilitate a consultative forum aiming to develop a living donation workstream with work commencing in the second half of 2023. Chairs of the Working Group are Dr Christine Russell and Dr Melanie Wyld.

I would like to thank the Organ and Tissue Authority for the significant support and funding contributing to these important projects.

National Indigenous Kidney Transplantation Taskforce (NIKTT)

The NIKTT project chaired by Prof Stephen McDonald and A/Prof Jaqui Hughes has again made great progress aiming to understand and resolve the inequities affecting Aboriginal and Torres Strait Islander kidney patients through their progression to wait listing and kidney transplantation. The NIKTT team have met with the Assistant Minister for Indigenous Australians, The Honorable Malarndirri McCarthy, and the Assistant Minister for Health and Aged Care, the Honorable Ged Kearney and have reported on the outcomes of the NIKTT project. These include the provision of outreach assessment clinics, Indigenous reference groups and increasing Aboriginal and Torres Strait Islander renal health workers. These initiatives have resulted in a clear increase in the numbers of First Nations People onto the renal transplant waitlist. This is a fantastic result and has shown the benefits of the programmes initiated by the NIKTT project.

An extremely successful gathering in Adelaide was held in December 2022. The gathering included many Aboriginal and First Nations representatives many of whom were undergoing dialysis or had been transplanted in addition to caregivers, support workers and health care workers. Hearing the stories of people who were undergoing renal replacement often under very difficult circumstances and far from home was extremely humbling. It was clear from this meeting that there is still a lot of work to do to break down barriers to kidney transplantation for Aboriginal and Torres Strait Islanders with kidney disease. The gathering finished with a position statement on Transplantation Equity for Aboriginal and Torres Strait Islander Peoples with Kidney Disease supporting the continued strategic efforts by Aboriginal and Torres Strait Islander peoples to advance First Nation's peoples' rights to optimal health and wellbeing through equitable and accessible kidney transplantation.

A final report from the NIKTT group is awaited however they are hopeful for additional funding to continue this important work with potential for ongoing improvements to access transplant services for Aboriginal and Torres Strait Island people with renal failure, monitoring of access to the wait list and further investigation into drivers of inequity and additional barriers to transplantation access.

I am so grateful for the support of the Commonwealth to fund the work and the exceptional input of many people who have supported this important work with special mention of Katie Cundale who is the Senior Project Officer and Kelli Owen who is the National Community Engagement Coordinator, in addition to the two wonderful chairs Prof Stephen McDonald and A/Prof Jaqui Hughes.

Rapid Response Taskforce

The Transplantation Society of Australia and New Zealand (TSANZ) /OTA COVID-19 National Transplantation and Donation Rapid Response Taskforce has met regularly since 18 March 2020 and provide communique to the sector on key issues pertaining to the Covid pandemic. This taskforce has been key in forming guidelines for the transplant sector in terms of management of Covid infection as well as assessment of donors and recipients for transplantation. The regular meetings of this group have resulted in a nimble way of updating our response to the pandemic allowing for the quick development of guidelines and advice as information came to hand. I think this has resulted in fantastic management of complex donor and recipient issues at this difficult time. The taskforce has now stopped regular meetings however met over 60 times over a three year period and can be convened again should the need arise. I would particularly like to thank Prof Steve Chadban, Dr Helen Opdam, Dr Peter Boan and Dr Tina Marinelli for their invaluable input into the Taskforce in addition to Lucinda Barry and the OTA team.

Council and TSANZ

I would like to thank the people who have worked so hard for the society in the last year. Many thanks to Dr Lucy Sullivan and A/Prof Wai Lim, the chairs of the Scientific Program and Education Committee (SPEC), who have worked tirelessly to put together all of the educational programmes we have. They have done a great job with the regular Grand Round webinars sponsored by Astellas that have been initiated in the last year in addition to pulling together all the elements of the meeting. Many thanks to the members of SPEC; Dr Jeanette Villanueva, Dr Karen Keung, Dr Siah Kim and Dr Sandra Stankovic. I would also like to thank the chairs of the advisory committees that serve the TSANZ; Dr Angeline Leet (Cardiac), Dr Mark Connellan (Co-Chair, DSDC), Nigel Palk (Co-Chair DSDC), Prof Robert Jones (Liver & Intestinal), Dr David Darley (Lung), Dr Nicholas Larkins (Paediatric), A/Prof Natasha Rogers (Pancreas & Islet) and Prof Kate Wyburn (Renal) and Dr Sharon Ford (Vascular Composite Allograft).

I would like to thank the TSANZ council who have worked so hard over the last year. My eternal thanks to the TSANZ Executive: Prof Kate Wyburn (President Elect), A/Prof Fiona Mackie (Secretary) and A/Prof Nikky Isbel (Treasurer) who are all members of the executive group of council. I am grateful for all the extra work and meetings you have all given up time for to make the many decisions necessary to make TSANZ work well. Honestly, without the hours of input from the Executive team making the changes from an NSW Association to a CLG would have not been possible.

Many thanks also to the council members; Dr Tanya McWilliams, Mr Paul Robertson, A/Prof Phil Clayton, Dr Handoo Ree, A/Prof Kavitha Muthiah, Dr Lucy Sullivan and Prof Angela Webster. It has been great having face to face council meetings again – I'm grateful for all the wise and thoughtful input you have all given to TSANZ.

Particular thanks to A/Prof Fiona Mackie and A/Prof Phil Clayton who are finishing up their terms on council. It's been wonderful working with you, and I look forward to ongoing projects in the future.

I am delighted to announce that A/Prof Nikky Isbel has been voted President-Elect in the recent election. Nikky has been an exceptional treasurer and I am sure she will do an equally fantastic job over the next 2 years as President-Elect (or Deputy Chair of the Board) and then as President (Chair) in 2025.

I would like to especially thank Prof Kate Wyburn who has been a fantastic President Elect for the past 2 years. Thank you, Kate, for your support, sage advice, progressive ideas and

friendship. I think you'll be a wonderful President and TSANZ is lucky to have you leading the society for the next two years.

Finally, I would like to thank our outstanding administrative support. Nieves Piaggio, our Executive Officer has been tireless in her work for the society. She has once again sorted other government subsidies to help keep us afloat. Her organisation of the daily workings of TSANZ are crucial to us being a functioning society. In particular she has worked tirelessly to make the change in structure happen – it's been a huge amount of work and without her organisation abilities I think we would have really struggled. I would also like to thank Roslyn Davies for her amazing work in particular with running the Grand Rounds and organising the membership details so well. Kim Rawson is our wonderful project officer. Once again, she has done an outstanding job managing a number of complex tasks including projects with OTA, NIKTT, the Rapid Response Taskforce and the Advisory Committees. Many thanks to Emily Larkins who is our wonderful Guidelines Project Manager – Emily not only has made great progress with the guidelines but also has supported the ongoing workings of the society including working with the advisory committees. I am truly grateful for the huge amount of work by our admin team. The society would not be able to run without you all.

Many thanks to you all for having me as the President of TSANZ for the past 2 years. It's been a real honour – I have learned more than I could have imagined, rekindled old friendships, and made many new ones and have been so grateful for the experience. I know that TSANZ will be left in the amazing hands of Kate Wyburn and Nikky Isbel as your President (Chair) and President Elect (Deputy Chair). I can't think of two people who will do a better job.

Ngā manaakitanga (with best wishes)

Professor Helen Pilmore

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The Annual General Meeting *of the Transplantation Society of Australia and New Zealand held on Monday June 20, 2022, at the Adelaide Convention Centre, Adelaide in Hall N at 5.00pm.*

Present: 64 members of the Society (including 2 via Zoom) establishing a quorum (ten per cent of members entitled to vote) were present at the meeting, which was chaired by the President, Professor Helen Pilmore.

1. **Apologies**
   Jeremy Chapman and Steve Alexander who cast their vote by email. Kate Wyburn on zoom

2. **Confirmation of the minutes** of the Annual General Meeting held on *March 15, 2021*
   Proposer: Toby Coates
   Seconder: Bill Mulley

3. **Business arising from the minutes**
   There was no business arising from the minutes

4. **President's Report** – Professor Helen Pilmore
   Professor Helen Pilmore declared TSANZ to be in good financial standing. Commented on the success of the PGC, Masterclass and ASM together with the associated meetings (Machine Perfusion Workshop and the TSANZ/Astellas Liver Meeting). She expressed her gratitude for the generous sponsorship received and thanked the Organ and Tissue Authority (OTA) for their support throughout the year. Confirmed that TTS 2026 will be held in Australia or New Zealand (the sites being reviewed by the organising committee of TTS). She also expressed gratitude to the Council for their efforts on behalf of the society and thanked the administration team of Nieves Piaggio, Kim Rawson, and Roslyn Davies. She then went on to make special mention of the new role being filled by Emily Larkins to manage the clinical guidelines project and welcomed input from membership to communicate with Emily or council in reference to the clinical guidelines.

5. **Treasurer's Report** – A/Professor Nicole Isbel
   A/Professor Nikky Isbel takes the Treasurer's report as read and welcomes questions; none were fielded. Gives Nieves Piaggio commendation for her initiative in securing financial stimulus and grants. Notes appreciation for sponsorship that has been maintained and notes that a small profit may be realized this year. She then goes on to relay the TSANZ financial strategy to membership. Notes the plan to move funds (AUD1 million) from 4 term deposits currently sitting in a Cash Reserve Account to a managed investment fund. She states that financial advice has been sought from an investment manager and will transition into managed investment in a conservative manner. A/Professor Isbel outlines the review and reporting strategy to membership in reference to the investment. The goal is to use investment returns to support goals and activities in harmony with the society's ideals.

A vote was then undertaken to accept the 2021 Audited financial report and was carried.

Financial Report of 31st December 2021
Proposer: Ross Francis

Seconder: Rob Carroll

6. **Secretary's Report** – A/Professor Fiona Mackie

6.1 **Proposed revisions to the TSANZ Constitution**

After stating that membership is stable at 600 members, the honorary secretary A/Professor Fiona Mackie spoke of the revisions proposed to the TSANZ Constitution. She states that these revisions were mainly to allow electronic voting at Council Elections and Annual General Meetings. In addition, a few minor changes were suggested, and these were listed on tabled document – *Annexure 1*. She then runs through the summary of revisions highlighting the creation of a new position on Council which will now permanently include the President of the Transplant Nurses Association (TNA) or their nominee (much like it now includes the President of ATCA). Council will therefore increase from eleven members to twelve but continue to be made up of four office bearers and now eight rather than 7 members. Geoff McCaughan raised a question as to the legal requirement of advising membership in advance of the proposed changes to the constitution. Fiona gave assurance that all legal requirements were met. She confirmed that the proposed changes were provided to membership in the form of a motion and that these had been voted on and passed by at least 5% of the total number of Full Members. She next reminded the members in attendance that the *Official Notification to all members of the proposed revisions to the TSANZ Constitution* had been provided to membership 21 days before the annual general meeting. There being no other questions, **the vote to accept the proposed revisions to the Constitution** was put to members and was carried by a majority of at least three-quarters (3/4) of those voting in person or by proxy.

Proposer: Toby Coates
Seconder: Phil Clayton

6.2 **New Honorary Member** – A/Professor Charmaine Simeonovic

A/Professor Charmaine Simeonovic was welcomed as an Honorary Member. Fiona acknowledged her vast contribution to the field of transplantation as attested to by her extensive CV.

7. **Report on Advisory Committees/Working Groups** –
Professor Helen Pilmore for Professor Kate Wyburn

Professor Helen Pilmore speaks to the Advisory Committee Report and comments on ongoing activity of various committees.

8. **Scientific Program & Education Committee Report (SPEC)**
Dr Lucy Sullivan and Dr Wai Lim

Dr Wai Lim informs of changes on SPEC with 3 new members – Dr Siah Kim, Dr Karen Keung and Dr Sanda Stankovic replacing outgoing SPEC members – Professor Henry Pleass, Dr Darren Lee, and A/Professor Bill Mulley. He then outlines the ongoing activities of SPEC and the innovation of the Early Career Researchers Committee (ECRC). He speaks to the success of setting up of Grand Rounds and commends Rob Carroll for winning the highest number of registrants for his Grand Round.

Advises that SPEC are contemplating introducing a Mentee/Mentor program and invites members to reach out to SPEC chairs if they have ideas on education program.

9. **General Business**

David Goodman asks if there were limited dinner seats. Professor Pilmore notes that seats are limited which is the usual practice. All who had registered for the dinner but are not able to make it are asked to advise TSANZ admin staff.

There being no further business the meeting concludes at 5:36pm

Helen Pilmore
TSANZ President

Fiona Mackie
TSANZ Honorary Secretary