MALAYSIAN SOCIETY OF TRANSPLANTATION

27th ANNUAL SCIENTIFIC MEETING

"Turning the Tide"

PRE-CONGRESS
09.05.2024
LOTUS HALL 1 & LOTUS HALL 2
SUNMED CONVENTION CENTRE
SUNWAY MEDICAL CENTRE
SUNWAY CITY

MAIN CONGRESS
10.05.2024
11.05.2024
MILLENNIUM BALLROOMS
LE MERIDIEN PUTRAJAYA
IOI RESORT CITY, PUTRAJAYA

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CONTENT

FROM THE DESK OF THE

President

Greetings and a warm welcome to all,

It gives me great pleasure in welcoming everyone to our 27th edition of the Malaysian Society of Transplantation's (MST) Annual Scientific Meeting that is being held at Le Meridien Putrajaya. This annual meeting gives all transplant professionals in the country an opportunity to meet and exchange ideas and learn from each other. It is the showpiece event for the MST that represents all transplant professionals in the country and thus gives us the opportunity to invite and listen to the latest updates and changes in transplant care from experts all around the world.

In tune with this year's theme, 'Turning the Tide', Malaysia's transplant scene has seen some positive change, more so after the impact of the COVID pandemic years. From increase in deceased donor detections to increased conversions as well as a general increase in living transplants, to increasing activity in the fledgling of tissue organ donation, 2023 has marked an uptrend in transplant activity.

As countries globally continue to struggle with economic recession and fallout from the Covid pandemic, Malaysia is not an exception to this phenomenon. Yet, with limited financial and human resources, these improvements that were achieved is a testament to the human spirit, to rise above adversity, to face every challenge and find ways to do better, to be better.

Thus, looking into the crystal ball of 2024, we can only strive to work harder and smarter to improve on all that we have achieved in the past few years. I hope that this event encourages more interest in the field of transplantation in the country, regionally and internationally. It is also my hope that new friendships are formed, old friendships are renewed, and bonds strengthened.

To all our foreign delegates, please do enjoy the world-renowned Malaysian hospitality, the culture, the sights and of course the great food that we are so famous for in the midst of all the scientific discussion.

Last, but not least, I wish to thank each and every one of you for taking the time to participate and contribute in this meeting. Well done to the organiser and a great shout out of appreciation to the sponsors.

Thank you.

Dr. Haniza Omar
President of the Malaysian Society of Transplantation

A NOTE FROM THE

Chairperson

Dear colleagues, ladies and gentlemen,

On behalf of the Organising Committee, I am honored to invite surgeons, consultants, medical professionals, speakers and industry partners to our 27th Annual Scientific Meeting of the Malaysian Society of Transplantation.

Interestingly, this year our pre-congress will be held on 9 May 2024 at SunMed Convention Centre, Sunway Medical Centre in Sunway City, while the main congress will take place from 10 to 11 May 2024 at the Le Meridien Putrajaya, IOI Resort City, Putrajaya.

Despite over a decade of hard works and efforts in promoting organ transplant as a life-saving measure for chronic illnesses, our country remains among the lowest worldwide. However, in 2023 we witnessed the highest number of transplant cases in Malaysia since 1975. With this in mind, we opted “Turning the Tide” to be the theme to reflect this exciting development.

Following the delivery of the successful meeting last year, the organizing committee is working harder and more determined to continue delivering a much better, interesting and innovative program in 2024. Our Annual Scientific Meeting is the best platform to learn from carefully chosen local and overseas speakers - each of them highly proficient in their own transplant discipline. And of course, we aim to foster greater network with colleagues, peers, and not forgetting our industry partners.

As we move closer to the event date, all relevant information regarding 27th ASMMST 2024 will be made available on www.asmmst.com.my. Please do check it out regularly for latest updates. We hope you will enjoy the meeting and find the sessions benefitting.

We look forward to seeing you soon!

With warm wishes,
Dr. Ho Kim Wah
Organizing Chairperson

MST COUNCIL MEMBERS 2022 - 2024

President	:	Dr Haniza Omar
Vice President	:	Dr Mohamad Zaimi Abdul Wahab
Treasurer	:	Dr Chandramalar Santhirathelagan
Secretary	:	Dr Muhammad Iqbal Abdul Hafidz
Assistant Secretary	:	Associate Prof Dr Maisarah Jalalonmuhali
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ORGANISING COMMITTEE

Organising Chairman	:	Dr Ho Kim Wah
Secretary	:	Dr Hasdy Haron
Treasurer	:	Dr Chandramalar Santhirathelagan
Industry Relation	:	Dr Mohamad Zaimi Abdul Wahab
Scientific Program	:	Dr Koong Jun Kit
Committee	:	Dr Muhammad Iqbal Abdul Hafidz Associate Prof Dr Maisarah Jalalonmuhali Dr Vijayan Manogran Dr Teoh Chee Kiang Dr Haslinda Abdul Hashim Dr Premela Naidu Sitaram Dr Leong Swee Wei Datuk Dr Alzamani Mohammad Idrose Associate Prof Dr Azura Mansor

27th ANNUAL SCIENTIFIC MEETING
MALAYSIAN SOCIETY OF TRANSPLANTATION

Scientific Program

PRE-CONGRESS

Thursday, 9 May 2024

SunMed Convention Centre

0830-0900	**REGISTRATION & WELCOME REFRESHMENT**	
	LOTUS HALL 1	**LOTUS HALL 2**
	HAEMATOLOGY WORKSHOP Post HSCT Complications: A Focus On GVHD, Infection, Organ Injury Moderator: Dr Ho Kim Wah	**DONATION & PROCUREMENT WORKSHOP** Selection of Deceased Donor: What To Look For and Optimize? Moderator: Dr.Hasdy Haron
09.00-0925	**Optimization of GVHD Prophylaxis** Dr Jason Butler	**Renal** Dr. Rosnawati Yahya
0925-0950	**Novel Therapies for GVHD Treatment** Dr Jason Butler	**Liver** Mr. Mohanasundram Pillai
0950-1015	**Infectious Complications Post HSCT** Dr. Tan Sui Keat	**Heart/Lung** Dato' Dr Mohamed Ezani Md Taib
1015-1030	Q&A	Q&A
1030-1100	**COFFEE BREAK**	
1100-1125	**Pulmonary Complications Post HSCT** Dr. Hon Siong Leng	**Cornea** Dr. Chandramalar T.Santhirathelagan
1125-1150	**Gastrointestinal and Hepatic Complications Post HSCT** Dr. Wong Tien Gen	**Cardiac Homograft** Ms (Dr) Siti Laura Mazalan
1150-1215	**GVHD of Unusual Sites** Dr Jason Butler	**Musculoskeletal** Ms (Dr) Suryasmi Duski
1215-1230	Q&A	Q&A
1230-1330	**LUNCH**	

*** Subject to change*

MEETING DAY 1

Friday, 10 May 2024
Le Meridien Putrajaya

0730-0800	**REGISTRATION**		
0800-0830	**PLENARY 1: Turning the Tide** Dr Haniza Omar		
0830-0900	**PLENARY 2: Cellular Immunotherapy (HSCT and CART) in Malaysia: Current Status and Future Perspective** Dr Tan Sen Mui		
0900-0930	**OPENING CEREMONY** YB Datuk Seri Dr Dzulkefly Ahmad		
0930-1000	**COFFEE BREAK**		
	Millennium 1 Ballroom **HAEMATO** Chair: Dr Tan Sen Mui	**Millennium 2 Ballroom** **KIDNEY** Chair: Assoc Prof Dr Maisarah Jalalonmuhali	**Millennium 3 Room** **FREE PAPER** Chair: Dr Koong Jun Kit
1000-1025	**Allogeneic HSCT in Lymphoma - Still an Indication?** Dr Michelle Poon	**Kidney Allocation Program: What are the Consensus and Merits? – Australian Model** Associate Professor Dr. Wai Lim	**FREE PAPER**
1025-1050	**Mechanism and Treatment for Graft Failure** Professor Dr. Bee Ping Chong	**Immunological Assessment While the Patient is on the Waiting List: What is the Optimum?** Associate Professor Dr. Robert Caroll	
1050-1115	**Strategies to Tackle TA-TMA** Dr. Sharifah Shahnaz Syed Abd Kadir	**Is the CDC Still Relevant in the Era of Virtual XM?** Associate Professor Dr Wai Lim	
1115-1140	**Integrating CAR T-Cell Therapy and Transplantation** Dato Dr. Chang Kian Meng	**Non-Immunological Risk Assessment Among the ESRD on the Waiting List** Dr. Bee Boon Cheak	
1140-1155	**Q&A**	**Q&A**	**Q&A**
1200-1300	NOVARTIS LUNCH SYMPOSIUM **Steroid Refractory GVHD - Current Management**	NOVARTIS LUNCH SYMPOSIUM **TBA**	
	BREAK & FRIDAY PRAYER		
	Millennium 1 Ballroom **LIVER** Chair: Dr Tan Soek Siam	**Millennium 2 Ballroom** **KIDNEY** Chair: Dr Mohamad Zaimi Abdul Wahab	**Millennium 3 Room** **HEART/ LUNG** Chair: Dr Teoh Chee Kiang (Heart), Dr Leong Swee Wei (Lung)
1430-1455	**ALF When Is It Futile For Transplant?** Dr Hoo Chai Zhen	**Marginal Donor: To Accept or Reject** Dr. Yee Seow Yeing	**Heart Transplant: Update on the Road Less Travelled** Dato' Dr. Mohd Nazeri Nordin
1455-1520	**COVID-19 Following SOT** Dr David Griffin	**Pushing the Envelope in Kidney Transplant Surgically: How Far Can We Go?** Dr. Vijayan Manogran	**Challenges in Managing Ventricular Assist Device Patients** Dr. Koh Hui Beng
1520-1545	**Liver Cancer and Transplant** Mr (Dr) Balraj Singh	**Paediatric Renal Transplant: Where Have All the Patients Gone To?** Dr. Clarence Lei	**The Indication and Outcomes of Heart-Lung Transplant** Dr. Adelyn Henry
1545-1610	**Developing A Transplant Center** Mr (Dr) Mohd Yusof Abdullah	**The Role of Non-HLA Antibodies on Allograft Rejection** Associate Professor Dr Robert Caroll	
1610-1625	**Q&A**	**Q&A**	**Q&A**
1625-1715	**TEA SYMPOSIUM - ROCHE**	**TEA SYMPOSIUM - ASTELLAS**	
1730-1830	**MILLENNIUM BALLROOM 1 - ANNUAL GENERAL MEETING of MST**		
1930-2130	**FACULTY DINNER (BY INVITATION)**		

*** Subject to change*

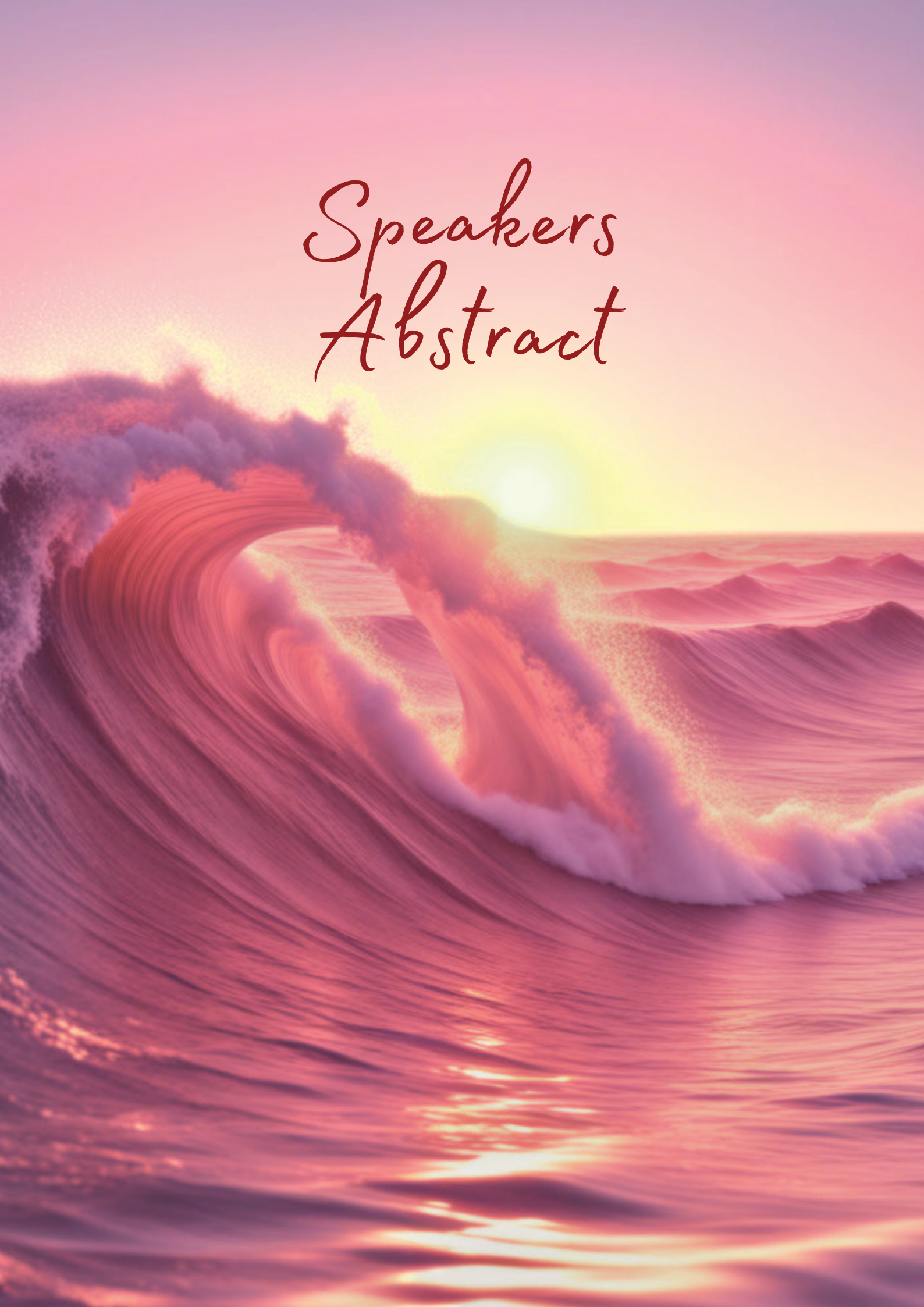
MEETING DAY 2

Saturday, 11 May 2024
Le Meridien Putrajaya

0800-0830	**REGISTRATION**		
0830-0900	**PLENARY 3: HIV IN TRANSPLANT** Dr. David W J Griffin		
0900-0930	**PLENARY 4: CRE POST TRANSPLANT** Dr. Alif Adlan Mohd Thabit		
0930-1000	**MEET THE EXPERT: DONATION AFTER CIRCULATORY DEATH AND THE ROLE OF NRP- NORMOTHERMIC REGIONAL PERFUSION** Mr (Dr) Johan Faizal Khan		
1000-1030	**COFFEE BREAK**		
	Millennium 1 Ballroom **LIVER** Chair: Dr Hoo Chai Zhen	**Millennium 2 Ballroom** **DONATION & PROCUREMENT** Chair: Dr Najwa Mansor	**Millennium 3 Room** **CORNEA** Chair: Dr Chandramalar T Santhirathelagan
1030-1055	**Challenges in LDLT** Dr Lee Yeong Sing	**DCD vs DBD: End of Life or Gift of Life?** Dr Tengku Alini Tengku Lih	**Corneal Transplantation in Keratoconus** Dr. Chandramalar T.Santhirathelagan
1055-1120	**LDLT - Pushing the Boundaries** Dr Ruveena Bhavani Rajaram	**Ethical Challenges for Organ Donor Care** Dr Abdul Jabbar Ismail	**Amniotic Membrane Transplantation** Dr Shamala Retnasabapathy
1120-1145	**ABO Incompatability in Liver Transplant** Mr (Dr) Rajaie Kamarudin	**Management of Brain Dead Donor: Optimizing Numbers of Organ & Tissue per Donor** Dr Haslinda Abdul Hashim	**Understanding Different Types of Corneal Transplantation** Dr. Siti Nor Roha Daman Huri
1145-1210	**Optimizing Nutrition in Sarcopenic Pre and Post Transplant** Dr Tan Soek Siam	**Burnout and Compassion Fatigue: What Can Be Learnt Among Donor Transplant Professionals?** Dr Mohd Faiz Md Tahir	**Surgical Outcomes of Limbal Dermoid Excision** Dr. Che Mahiran Che Daud
1210-1235	**Cholestatic Liver Disease/ Byler** Dr Kam Choy Chen	**Cardiac Homograft Banking in Malaysia** Ms (Dr) Siti Laura Mazalan	**15 Years Experience with Keratoplasty in the Management of Paediatric Cornea Disease: Indication and Outcome** Dr. Rohanah Alias
1235-1250	**Q&A**	**Q&A**	**Q&A**
1250-1350	**ASTELLAS PHARMA'S LUNCH SYMPOSIUM**	**ROCHE'S LUNCH SYMPOSIUM**	
	Millennium 1 Ballroom **HAEMATO** Chair: Dr Muhd Zanapiah Zakaria	**Millennium 2 Ballroom** **KIDNEY** Chair: Dr Muhammad Iqbal Abdul Hafidz	**Millennium 3 Room** **SPECIAL SESSION** Chair: Dr Premela Naidu Sitaram
1400-1425	**Experience Sharing: Setting Up a CART Centre** Dr Vicky Lee	**The New Paradigm of Desensitization Protocol Across the Immunological Barrier** Professor Dr. Lionel Rostaing	**The Economics of Organ Transplantation** Dr Muhammed Anis
1425-1450	**Paediatric Donor for Adult Recipient in HSCT: Determination of Eligibility** Dr Mohamed Najib Mohamed Unni	**Balancing Immunosuppression Post Transplantation: Guiding Tools** Associate Professor Ng Kok Peng	**Leadership & Management of Healthcare: Transforming Transplant Organization** Datuk Dr Heric Corray
1450-1515	**Engraftment Syndrome: Diagnosis and Management** Dr Boo Yang Liang	**T-cell Mediated Rejection Diagnosis and Management** Dr Devamalar a/p Simatherai	**Updating Laws & Ethical Guidelines Related to Organ Transplantation in Malaysia: Key Considerations for Keeping Up-to-Date** Dr Mark Tan Kiak Min
1515-1540	**Donor Lymphocyte Infusion - 5W and 1H** Dr. Ng Soo Chin	**Preventive Strategies and Management of Antibody-Mediated Rejection** Dr Rosnawati Yahya	**Missing Potential Donors in Hospital - What Can Be Learnt in Spanish Model?** Dr Foo Hong Zhi
1540-1605	**Maintenance Therapy After Allogeneic HSCT** Dr. Azizan Sharif	**Vaccination in Kidney Transplant Recipient** Dr Chong Chee Loong	**Good Communication Skills: How To Apply in Donation Conversation?** Dr Charity Lee Chin Ai
1605-1630	**Q&A**	**Q&A**	**Q&A**
1630-1700	**COFFEE BREAK**		
1700-1730	**CLOSING & AWARD PRESENTATION**		

*** Subject to change*

Speakers Abstract



Cellular Immunotherapy (HSCT & CART) in Malaysia: Current Status & Future Perspective

Dr Tan Sen Mui, Senior Consultant Haematologist & Head of Haematology Department, Hospital Ampang

Cellular immunotherapy is a rapidly evolving field, mainly harnesses our immune system to eradicate cancer cells. Haematology has been at the forefront of cellular immunotherapy advancements when Prof Dr E. Donnall Thomas pioneered the use of bone marrow transplantation to cure leukaemia and other haematologic malignancies since 1956. Following that, Prof Hans-Jochem Kolb introduced donor lymphocyte infusion (DLI) as the strategy to overcome leukaemia relapse in chronic myeloid leukaemia (CML) further proof the concept of cellular immunotherapy. Both allogeneic haematopoietic stem cell transplant (allo-HSCT) and DLI are non-specific cellular immunotherapy with the risk of introducing graft versus host disease, until the breakthrough innovation from Prof Carl June and his team in engineering chimeric antigen receptor (CAR) T-cells for their first patient in 2012. CAR is programmed to target specific tumour-associated antigens (TAA), of which can be replicated rapidly and homogeneously. CAR-T-cell with its supraphysiologic activities work as an active medication, interacting with TAA which resulting in both immediate and long-term effects of anti-neoplasm that have been approved for the treatment of distinct haematologic malignancies, producing durable response in otherwise untreatable patients. This lecture will give the overview of the current status and future perspective of cellular immunotherapy in our country.

Strategies to Tackle Transplant Associated Thrombotic Microangiopathy

Dr Sharifah Shahnaz binti Syed Abd Kadir, Clinical Hematologist, Hospital Ampang

The presentation explores strategies for managing thrombotic microangiopathy (TMA) post-stem cell transplant. Beginning with an overview of TMA's definition, occurrence post-transplant, and its clinical significance, the presentation emphasizes the critical need for effective management strategies. Understanding the pathophysiology and diagnostic criteria of TMA sets the stage for discussing its association with various risk factors post-transplant, including conditioning regimens, graft-versus-host disease (GVHD), infections, and immunosuppressive therapies. Current treatment includes supportive care and pharmacological interventions like plasma exchange and eculizumab. Prevention strategies emphasize risk stratification and early detection. Case studies will be discussed, demonstrating challenges in diagnosis, and management. The presentation stresses multidisciplinary collaboration and the need for further research to optimize outcomes in managing TMA post-transplant.

Kidney allocation program: the Australian model (consensus & merits)

Associate Professor Wai Lim, Consultant Nephrologist, Clinical Professor, Sir Charles Gairdner Hospital and University of Western Australia

There continues to be a disparity between the number of organ donors to match the growing demand for donor kidneys. Given the increased utilization of older donor kidneys for transplantation, a deceased donor allocation system aims to maximize utility of the available donor kidneys is essential. Australia has developed a new allocation algorithm, which promotes longevity matching as well as providing prioritization to improve transplant potential for highly sensitized patients on the transplant waitlist.

Is CDC-assay still relevant in the era of virtual crossmatch?

Associate Professor Wai Lim, Consultant Nephrologist, Clinical Professor, Sir Charles Gairdner Hospital and University of Western Australia

The standard triage test for the acceptance of donor kidney for transplantation typically relies on performing a physical crossmatch such as complement-dependent cytotoxic or flow cytometric crossmatch. Virtual crossmatch has replaced the need for physical crossmatch but requires careful interpretation of the anti-HLA antibody profile of potential transplant candidates. The importance of high-resolution HLA typing, combined with the importance in the assignment of unacceptable and acceptable antigens will be discussed.

ALF When Is It Futile for Transplant?

Dr Hoo Chai Zhen, Consultant Hepatology and Gastroenterology, Hospital Selayang

ALF is characterised by a deterioration in liver function tests, and potentially associated with dysfunction in other organs. The use of liver transplant has been the most significant development in the treatment of ALF in 40 years and it has improved survival. The most difficult – and perhaps, most important – decision that a clinician makes for a patient who needs liver transplant is when not to proceed with liver transplant. While an individual may be suitable for transplant surgery at listing, he may become too sick while waiting. There is however little consensus on when not to proceed with liver transplant, and as a result, the threshold for “too sick for transplant” varies according to provider and program. Looking at the characteristics of patients who develop adverse outcomes after transplant can help facilitate the decision regarding whether a patient is “too sick for transplant”.

CRE Post Transplant

Dr Alif Adlan Mohd Thabit, Infectious Diseases Physician, Hospital Selayang

Carbapenem-resistant Enterobacterales (CRE) infection is a serious global threat to immunocompromised hosts, particularly among solid organ (SOT) and stem cell transplant recipients. In endemic areas, carbapenem-resistant Klebsiella pneumoniae infections occur in 1-18% of SOT recipients, and patients with hematologic malignancies represent 16-24% of all patients with CRE bacteremia. Mortality rates approaching 60% have been reported in these patient populations. Early diagnosis and rapid initiation of targeted therapy is critical in the management of immunocompromised hosts with CRE infections, as only limited and costly options are available which are active against CRE. Therapeutic options are limited by antibiotic-associated toxicities, and interactions with immunosuppressive agents. Prevention of CRE infection in these patients requires a multidisciplinary approach involving good infection control and prevention (IPC) in collaboration with optimal antimicrobial stewardship (AMS). Hence, it is emparative that a conjoint multidisciplinary effort be implemented to guide the complex management of these patients.

Ethical Challenges for Organ Donation

Dr Abdul Jabbar bin Ismail, Senior Medical Lecturer, Anaesthesiology & Critical Care Specialist, University Malaysia Sabah

Organ donation, a vital component in saving lives, presents unique ethical challenges, particularly in Malaysia's diverse socio-cultural context. The talk will explore these ethical dilemmas, focusing on donation after brain and cardiac death and living donation. In Malaysia, where organ donation rates are significantly low, understanding these challenges is crucial for ethical policy development and public awareness.

In Malaysia, the acceptance of brain death, defined as the irreversible cessation of all brain functions, is fraught with cultural and religious interpretations. The ethical debate intensifies when considering the consent process, especially in a multi-ethnic society with varying beliefs about death and the afterlife. The talk will discuss how these perspectives influence family consent rates and the ethical implications of presumed consent versus explicit consent policies.

Secondly, the talk will examine donors after cardiac death, where ethical concerns arise from the determination of death and the withdrawal of life support. The timing of death declaration, crucial for organ viability, poses ethical questions about hastening death for donation purposes. This aspect is particularly sensitive in Malaysia, where religious and cultural beliefs often intersect with medical decisions.

Lastly, the talk will delve into the ethics of living donation, highlighting issues such as donor autonomy, informed consent, and the risk-benefit balance. In Malaysia, the ethical concern is amplified by the potential for coercion or commercialization, especially in the context of low deceased donor rates. The talk will also explore how these factors impact the decision-making process of potential living donors and the ethical responsibility of healthcare providers.

In conclusion, there is a need for culturally sensitive and ethically sound policies in organ donation in Malaysia. It calls for a balanced approach that respects diverse beliefs while addressing the critical shortage of organs, ultimately saving lives while upholding ethical standards.

Cholestatic Liver Disease in Children

Dr Kam Choy Chen, Paediatric Gastroenterologist, Hospital Tunku Azizah Kuala Lumpur

Cholestatic liver disease is a significant cause of morbidity and mortality. In children, the causes of cholestatic liver diseases are multiple and varies according to age, it can be congenital or acquired, including biliary duct obstruction, infection, drug-induced, autoimmune and metabolic liver diseases.
Cholestasis is impairment in bile flow resulting in the accumulation of the component of bile (bile acids, bilirubin, cholesterol, phospholipid). Persistent cholestasis will result in clinical symptoms and laboratory abnormalities.

Infection and drug-induced cholestasis usually are self-limiting and required short term support, patients will recover fully without any clinical sequelae most of the time. However diseases such as biliary atresia, metabolic liver diseases (progressive familiar intrahepatic cholestasis disease, bile acid synthetic disorders), primary sclerosing cholangitis will required long term medical support or even liver transplantation ultimately.

Medical management includes supportive care for complications of chronic cholestasis including faltering growth and malnutrition, pruritus, and portal hypertension (gastrointestinal bleeding, ascites). There are limited effective interventions to prevent progressive liver damage, ultimately patient will require liver transplantation.

DCD vs DBD: End of Life or Gift of Life

Dr Tengku Alini Tengku Lih, Consultant Anesthesiologist, Hospital Tuanku Jaafar, Ministry of Health

Donation after cardiac death (DCD) involves donation of organs after irreversible cessation of circulatory and respiratory function. Donation after brain death (DBD) involves donation of organs after the patient meets criteria for death by neurological criteria. Everything has its own pros and cons. However, we should re-evaluate which is the best choices depending on the situation.

End of life care refers to health care provided in the time leading up to a person's death. Gift of life is saving and healing lives through organ and tissue donation. Thus, at every end of each life, there will be an opportunity for a gift of life.

Understanding Different Types of Corneal Transplantation

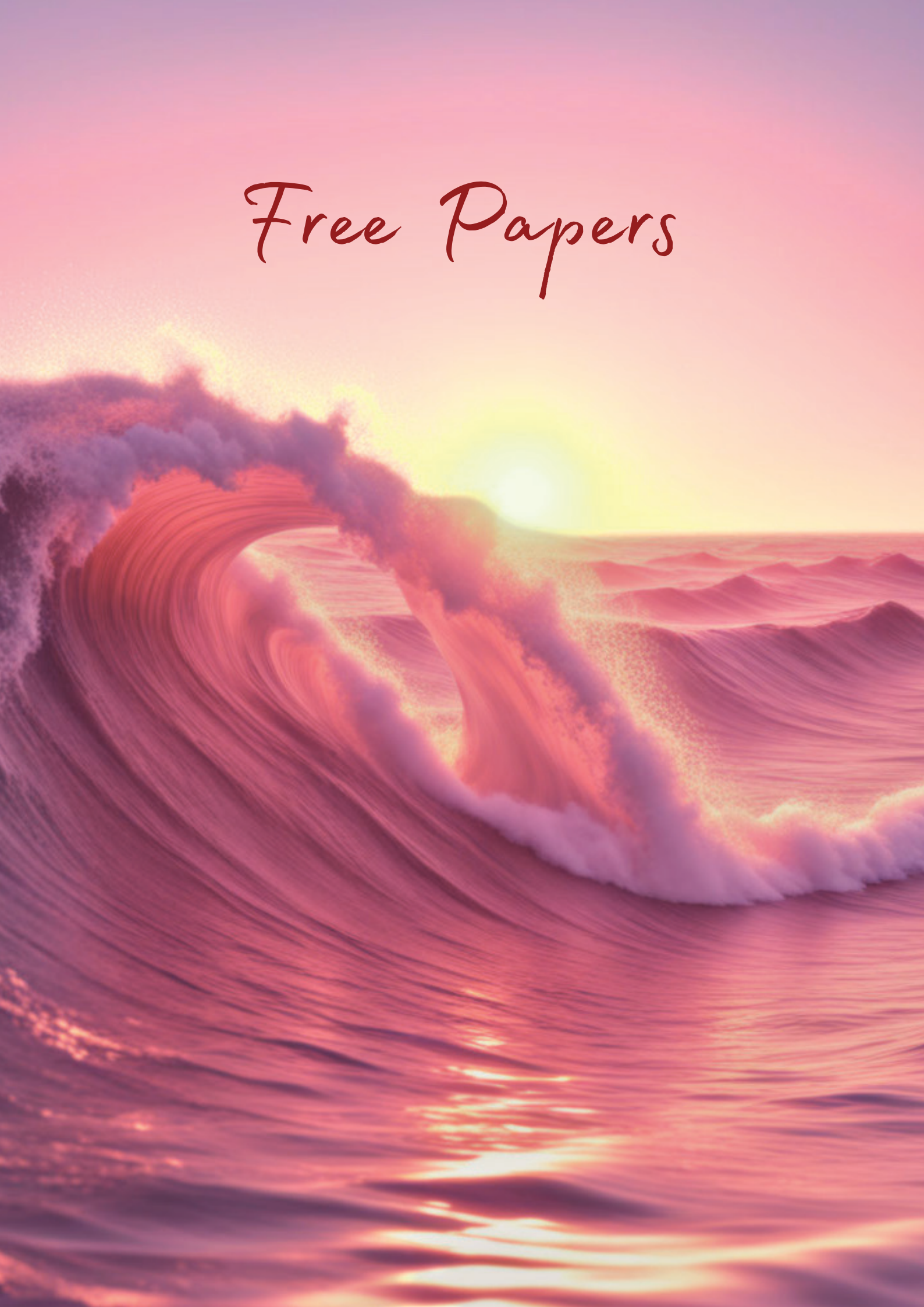
Dr Siti Nor Roha binti Daman Huri, CConsultant ophthalmologist and Cornea Specialist

Corneal blindness is one of the major causes of reversible blindness, which can be managed with transplantation of a healthy donor cornea. It is the most successful organ transplantation in the human body as cornea is devoid of vasculature, minimizing the risk of graft rejection.

Keratoplasty has come a long way since the initial surgeries wherein the whole cornea was replaced to the present day where only the selective diseased layer can be replaced. These newer procedures maintain structural integrity and avoid catastrophic complications associated with open globe surgery.

Corneal transplantation procedures are broadly classified as full-thickness penetrating keratoplasty and partial lamellar corneal surgeries whichinclude anterior lamellar keratoplasty [superficial anterior lamellar keratoplasty (SALK) and deep anterior lamellar keratoplasty (DALK)] and posterior lamellar keratoplasty [Descemet stripping automated endothelial keratoplasty (DSAEK) and Descemet membrane endothelial keratoplasty (DMEK)].

Free Papers



MALAYSIAN SOCIETY OF TRANSPLANTATION
27th ANNUAL SCIENTIFIC MEETING
"Turning the Tide"

Dr. Then Ru Fah
Abstract ID : 118

Impact and Risk Factors for Early Urinary Tract Infection in Post-Kidney Transplant Patient in a Tertiary Hospital in Malaysia

Then RF[1], Kamarudin I[1], Chong CL[1], Abdul Wahab MZ[1], Yee SY[1]
[1]Department of Nephrology, Hospital Kuala Lumpur, Wilayah Persekutuan, Kuala Lumpur

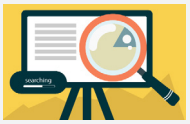
Introduction

Urinary Tract Infection (UTI) affect 30% of patient post kidney transplantation and this accounts up to 45% of overall infectious complication. There is increased risk of T cell-mediated rejection, allograft dysfunction, loss, and mortality. There are multiple predisposing factors that contribute to potential risk of early UTI in post kidney transplantation.

Objective

To determine risk factors of UTI one month post kidney transplantation and its impact on acute graft dysfunction incidence.

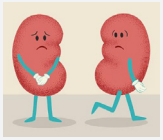
Methodology



Retrospective Study, One Centre

SPSS Statistic 27.0

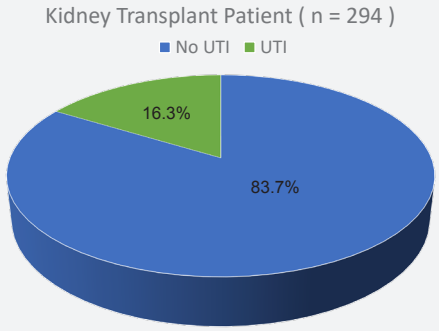
Inclusion :
Successful Kidney Transplant



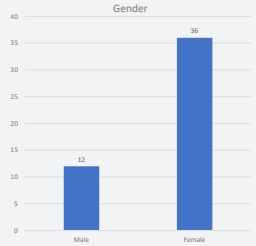
294 patients undergone kidney transplantation in Nephrology Department, Hospital Kuala Lumpur

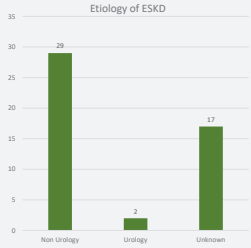
1st January 2020 to 31st December 2023.

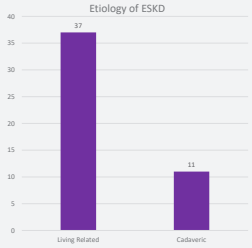
Results

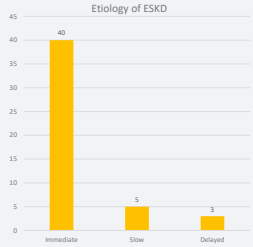


Characteristic of Patient in UTI Cohort		
N = 48		
Gender	Male	12
	Female	36
Etiology of ESKD	Non Urology	29
	Urology	2
	Unknown	17
Type of Transplant	Living Related	37
	Cadaveric	11
Graft Function	Immediate	40
	Slow Graft Function	5
	Delayed Graft Function	3









Conclusion

From our cohort, 16.3% of our patient developed UTI within one month of transplantation which was a much lower rate as compare to the worldwide rate which can be up to 30%. The most significant risk factor was female gender which could be due to shorter urethra and personal hygiene

Impact of Intravenous Immunoglobulin (IVIG) on ABO-i Kidney Transplantation – Case Series

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Introduction

ABO-incompatible (ABOi) was once major obstacle in kidney transplantation. Desensitization protocol has made ABOi kidney transplantation (ABOiKT) possible.

In Hospital Kuala Lumpur, we utilizing Rituximab, therapeutic plasma exchange (TPE), intravenous immunoglobulin (IVIG), and early immunosuppressant (IS) to achieve pre-transplant titer of 1:8.

IVIG, derived from pooled plasma of donors, contains anti-isohemagglutinin antibodies. We explore the impact of IVIG on ABOiKT.

Case Report

Case 1

25yo, female, primary disease of IgA nephropathy. ABOi donor (donor B+/recipient O+). Her initial Anti-B titer was 1:512. She was desensitized as per protocol (Rituximab 200mg on Day -14; early IS on Day -10; with TPE/IVIG sessions). Her Anti-B titer was monitored pre/post TPE (post-TPE titre drawn prior to IVIG). She had TPE with Anti-B immunoadsorption column on Day -1. Anti-B titre rose from 1:32 (pre-TPE) to 1:64 (post-TPE and IVIG infusion). IVIG (Brand: I.V.globulin SN) Anti-B titre measured was 1:16. Additional TPE pre-transplantation in OT was performed to achieve preop titre of 1:8.

Case 2

27yo, female, primary disease of IgA nephropathy. ABOi donor (donor A+/recipient B+).Early IS on Day-10. Her Anti-A titre was constantly stable at 1:4 to 1:8 prior to desensitization. IVIG was given on Day -1 without TPE. Her Anti-A level rose from 1:8 to 1:16 (post-IVIG). IVIG (Brand: I.V.globulin SN) Anti-A titre measured was 1:64. Transplant surgery proceeded without need of additional TPE.

Case 3

40yo, gentleman, unknown primary. ABOi donor (donor A+/recipient B+). His baseline Anti A-titre was 1:16 prior to desensitization. Immunosuppressant (IS) was initiated on Day -3 as he had recent infection. He received TPE/IVIG on Day -2. His Anti-A titre rose from 1:8 (post-TPE) to 1:32 (post-IVIG). IVIG (Brand: I.V.globulin SN) Anti-A titre measured was 1:64. Transplant surgery proceeded without additional TPE.

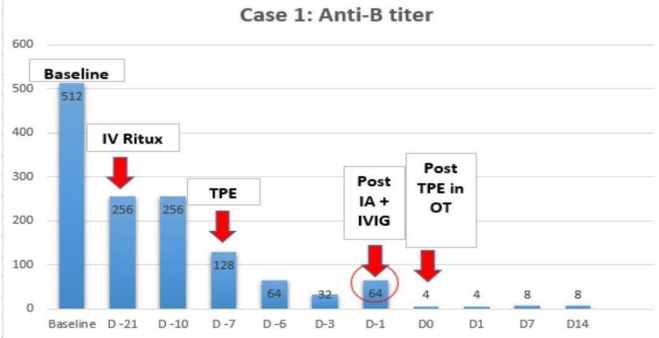
All patients had immediate graft function without acute antibody-mediated rejection episodes.

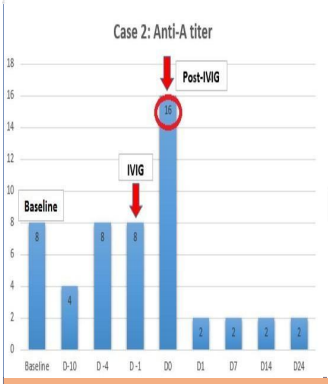
Result

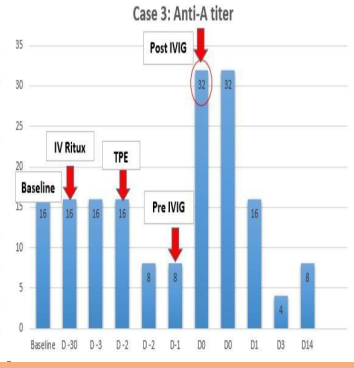
This is case series of 3 patients who received IVIG as part of the desensitization proctocol in ABO-incompatible kidney transplantation. All 3 patients had documented surge of Anti A/B level post IVIG infusion which lead to potential need of additional TPE

	Patient No		
Clinical Data	**Case 1**	**Case 2**	**Case 3**
Age, yr	25yo	27yo	40yo
Gender	F	F	M
Race	A	A	A
Duration of dialysis, years	3	1	5
Primary cause	IgA nephropathy	IgA nephropathy	Unknown
Recipient blood group	O+	B+	B+
Donor blood group	B+	A+	A+
Desensitization proctocol			
IV Rituximab	Yes	No	Yes
Immunosupressants (IS)	Yes	Yes	Yes
Intravenous Immunoglobulin (IVIG)	Yes	Yes	Yes
Therapeutic Plasma exchange (TPE)	Yes	Yes	Yes
Anti A/B (pre-desensitization protocol)	Anti-B 1:512	Anti-A 1:8	Anti-A 1:16
Anti A/B (pre-IVIG infusion)	Anti-B 1:32	Anti-A 1:8	Anti-A 1:8
Anti A/B (post IVIG infusion)	Anti-B 1:64	Anti-A 1:16	Anti-A 1:32
Anti A/B (IVIG - brand I.V.globulin SN)	Anti-B 1:16	Anti-A 1:64	Anti A 1:64
Clinical Outcome			
Need of additional TPE	Yes	No	No
Immediate graft function	Yes	Yes	Yes
Acute Antibody-Mediated Rejection	No	No	No
F= Female; M=Male; A= Asian			

Table 1: Clinical characteristics and outcome







Conclusion

We presented evidence on antibodies in IVIG may increase the recipient's titre, possibly requiring additional TPE and delaying transplantation. However, the significance on surge of Anti-A/B antibody levels following IVIG infusion was unclear, indicating the need for further research to investigate both short and long-term outcomes.

Klebsiella CP-CRE infection outbreak among liver & kidney transplant recipients – a single centre experience

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INTRODUCTION

In Malaysia, the most common carbapenem-resistant enterobacterales (CRE) species is Klebsiella spp. (63.8%), and the NDM gene was most prevalent (83.6%)[1]. We report 11 CP-CRE Klebsiella cases among 11 patients - 8 kidney and 3 liver transplant patients in Selayang Hospital since September till December 2023.

OBJECTIVES

Primary objective was to control the CRE outbreak and secondary objective was to prevent lateral transmission of CRE cases.

METHODS

Urgent ad hoc meeting with the Hospital Infection and Antibiotic Control Committee (HIACC) and heads of department was organized with the infection and prevention control unit (IPC). **Daily audits** by the infectious diseases team followed by CMEs and CNEs with the respective departments, **Pulsed Field Gel Electropharesis (PFGE)** use to identify transmission links for targeted intervention, and patient awareness thru a **pilot educational video & printed handouts** were implemented.

RESULTS

All the CP-CRE Klebsiella cases were tested NDM-1 strain on PCR. Other non-transplant wards also reported isolated cases of CP-CRE ie surgery, HDW, ICU and paediatrics each reported 1 cases respectively. Selected positive CP-CRE isolates on culture during a 1 week period were sent for PFGE testing including 3 kidney and 1 liver transplant recipients. 2 of the 3 kidney transplant recipients shared similar PFGE signatures – patient G and patient H showed 85.7% genetic similarities of Pattern A between them.

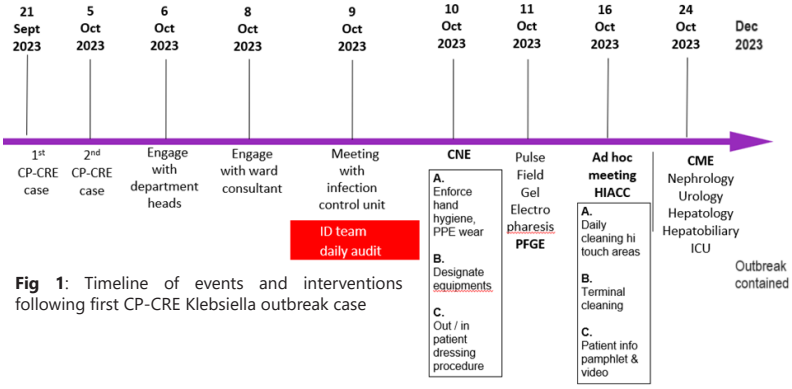

Fig 1: Timeline of events and interventions following first CP-CRE Klebsiella outbreak case

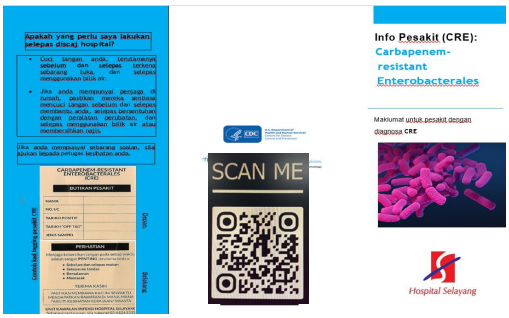

Fig 3: Educational printed handouts for patients diagnosed with CP-CRE infections with QR code for complimentary video.

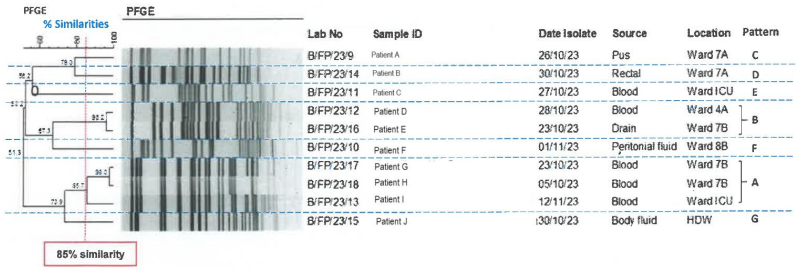

Fig 2: A dendogram of PFGE with pattern A showing 85.7% sgenetic similarities between kidney transplant recipients

OUTCOME

By end of December 2023, CP-CRE Klebsiella infection cases from both nephrology and hepatobiliary departments had ceased after the strict infection control intervention was enforced.

DISCUSSION

Mularoni et al[2] concluded that the application of CDC measures in their Southern Italian Transplant Institute contributed significantly to containing CRE infections. Additionally, we find that PFGE and patient awareness thru printed and visual education are useful tools for evaluating the presence of horizontal transmission in hospital-acquired infection and as part of outbreak control measures respectively.

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2. Mularoni A, Martucci G, et al. Epidemiology and successful containment of a carbapenem-resistant Enterobacteriaceae outbreak in a Southern Italian Transplant Institute. Transpl Infect Dis. 2019 Aug;21(4):e13119. doi: 10.1111/tid.13119. Epub 2019 Jun 11.

CMV - The troll of transplant and its complications among post liver transplant recipients

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INTRODUCTION

Cytomegalovirus (CMV) has been an important immune-modulating virus affecting organ transplant recipients, contributing directly and indirectly to both morbidity and mortality in these patients. We describe 3 cases which developed early and late complications indirectly due to CMV disease.

OBJECTIVES

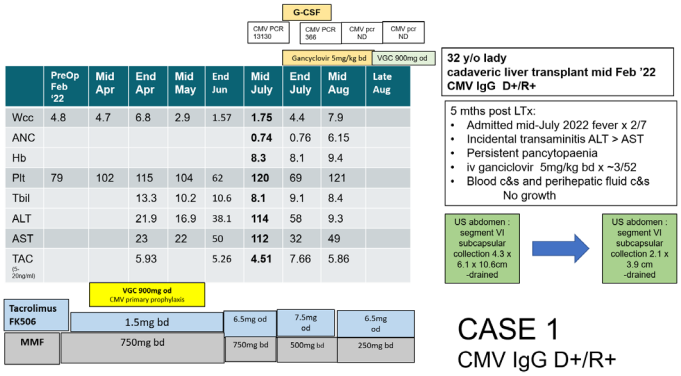
1. To describe various clinical presentations of CMV disease.
2. To describe role of CMV serostatus is an important factor for CMV reactivation that can lead to disease and malignancy, especially among donor seropositive and recipient seronegative CMV.

METHOD

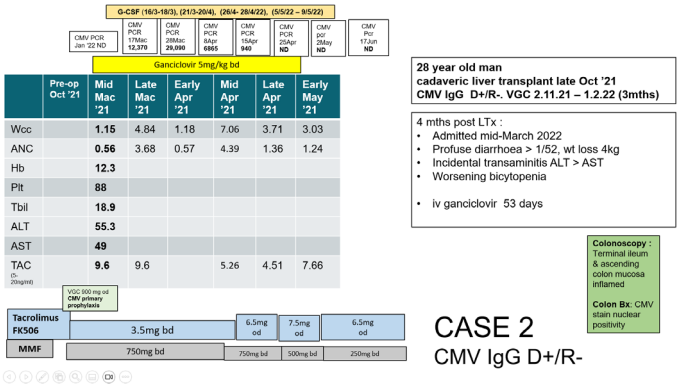
We describe 3 post liver transplant patients of varying periods, consisting of 2 high risk CMV serostatus D+/R- (donor seropositive, recipient seronegative) and 1 intermediate risk CMV serostatus D+/R+ (donor and recipient seropositive). The D+/R- patients had developed diseases - one diagnosed as CMV colitis and the other diagnosed as CMV oesophagitis. The D+/R+ patient had pancytopenia complicated with liver abscess.

RESULTS

Despite given valganciclovir as CMV prophylaxis for 3 months, these liver transplant patients still developed complications of CMV disease. All 3 patients were treated with IV ganciclovir for longer than 2 weeks with at least 2 undetectable CMV quantitative PCR viral load 1 week apart. All had good outcomes apart from a high risk CMV serostatus (D+/R-) patient with CMV oeseophagitis, as she had been diagnosed with squamous cell carcinoma of the head scalp, likely due role of CMV implicated as a potential risk for malignancy.



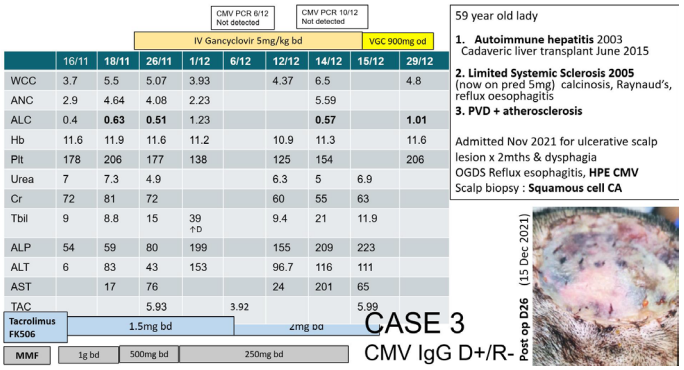
CASE 1
CMV IgG D+/R+



CASE 2
CMV IgG D+/R-

DISCUSSION

Treatment duration of gastrointestinal CMV disease should be patient-specific, and guided by virologic and clinical improvement. If CMV viremia is present, at least two consecutive negative CMV PCR must be taken 1 week apart to ensure viral clearance prior to antiviral discontinuation. Consideration should be made for reduction in immunosuppressive therapy to the lowest possible safe dose, especially in patients with severe CMV disease, non-response to therapy, high viral load, or leukopenia.



CASE 3
CMV IgG D+/R-

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RISK FACTORS OF EXCESSIVE WEIGHT GAIN AFTER RENAL TRANSPLANT : INSIGHTS FROM A SINGLE-CENTER STUDY

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INTRODUCTION

A significant proportion of patients experience weight gain after renal transplant due to factors such as correction of uremia, increased appetite, corticosteroid use, and sedentary state during the postoperative period.[1] Obesity and its adverse metabolic effects may contribute to poorer outcomes following renal transplantation.[2]

OBJECTIVE

This study seeks to identify the risk factors contributing to weight gain following renal transplantation.

METHOD

Data was collected retrospectively from electronic medical records for patients who underwent renal transplant surgery in Hospital Kuala Lumpur over a five-year period (April 2018 to March 2023). Baseline characteristics and parameters including co-morbidities, mode of kidney replacement therapy (KRT) and dialysis vintage before transplant, transplant type, immunosuppressant (IS) regime, and graft function were documented. Additionally, weight changes at three months post-transplant were assessed, defining excessive weight gain (EWG) as an increase of 5% or more from baseline weight before and after transplant.

RESULTS

A total of 254 renal transplant patients with a mean age of 34.5 years, and males predominating (135 males, 119 females) were recorded. The average baseline weight was 57.4kg with a BMI of 21.97kg/m^2. At three months post-transplant, the average weight increased by 2.21kg (4.4%), with 41.7% experiencing EWG. Significant association were observed between female sex and EWG ($p < 0.001$, OR = 1.6). Peritoneal dialysis patients faced a higher risk of EWG compared to those who were on haemodialysis ($p = 0.010$, OR = 2.6). Living related renal transplant recipients were also more susceptible to EWG compared to cadaveric transplant recipients ($p< 0.001$, OR = 1.4). Race analysis revealed varying rates of weight gain, with Indians exhibiting the highest proportion of EWG (46.2%). Age analysis reveals higher weight gain among younger recipients. Other parameters including dialysis vintage, IS regime, primary disease of end stage kidney disease and comorbidities were not significantly correlated with weight gain.

CONCLUSION

Weight gain after renal transplant is influenced by multiple factors including gender, pre-transplant dialysis mode, and transplant type. Personalized management strategies such as optimized medication, raising awareness for self-care, increasing physical activity, and adherence to healthy diet are crucial in mitigating obesity and associated complications among transplant recipients with these risk factors.

Table 1 : Patient's characteristics and association with excessive weight gain.

	Total n (%)	No Weight gain >5% (n = 148) No. (%)	Weight gain >5% (n=106) No. (%)	OR (95% CI)	Chi-Square	P value
Gender	Male, 135 (53.1)	93 (68.9)	42 (31.1)			
	Female, 119 (46.9)	55 (46.2)	64 (53.8)	1.6 (1.2-2.1)	13.36	<0.01
Type of transplant	Living, 202 (79.5)	101 (50.0)	101 (50.0)	1.4 (1.2-1.6)	27.73	<0.01
	Cadaveric, 52 (20.5)	47 (90.4)	5 (24.4)			
Graft function	Immediate graft function, 232 (0.91)	129 (55.6)	103 (44.4)	1.1 (1.0-1.2)	7.81	0.05
	Delayed graft function, 22 (8.7)	19 (86.4)	3 (13.6)			
Mode of KRT before transplant	Haemodialysis, 195 (87.8)	116 (59.4)	79 (40.5)			
	Peritoneal Dialysis, 27 (12.2)	9 (33.3)	18 (66.7)	2.6 (1.2-5.5)	6.59	0.10
Underlying Diabetes	Yes, 14 (5.5)	8 (57.1)	6 (42.9)	1.0 (0.4-2.9)	0.01	0.93
	No, 240 (94.5)	140 (58.3)	100 (41.7)			
Post transplant DM	Yes, 22 (8.7)	14 (63.6)	8 (36.3)			
	No, 232 (91.3)	134 (57.8)	98 (42.2)	1.0 (0.9-1.1)	0.29	0.59
Immunosuppressant	Tac/MMF/Prednisolone, 190 (74.8)	110 (57.9)	80 (42.1)			
	Tac/mTOR/Prednisolone, 64 (25.2)	38 (59.3)	26 (40.6)	1.0 (0.9-1.2)	0.43	0.83

Figure 1: Numbers of patients in BMI categories before and after renal transplant

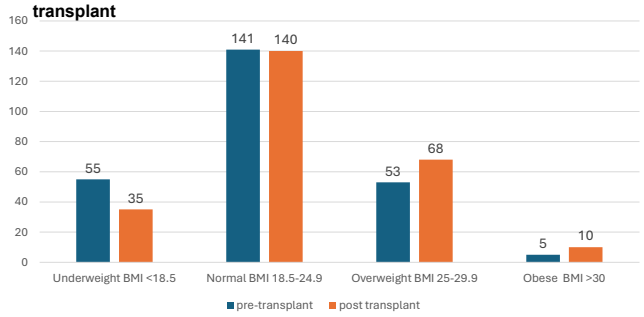
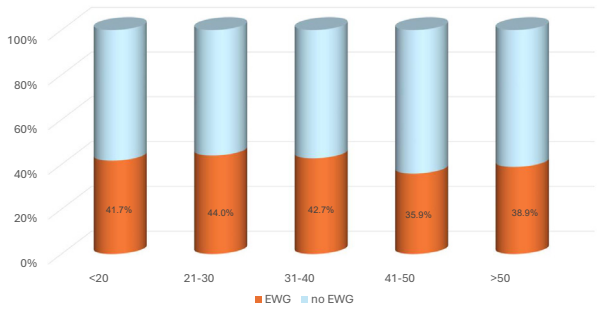


Figure 2 : Age of transplant recipient and EWG



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THE RELATIONSHIP BETWEEN HISTOLOGICAL DIAGNOSIS AND THE SURVIVAL OF BOTH THE GRAFT AND THE PATIENTS AMONG RENAL TRANSPLANT RECIPIENTS IN KKM

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Introduction

A transplant kidney biopsy remains the only definitive diagnostic tool for assessing organ dysfunction and aiding in the treatment and prognosis of kidney transplant patients. [1] The value of biopsy findings can vary over time based on histological findings, classifications, and drug treatments. [2]

Objectives

To comprehensively investigate histological findings from a transplanted kidney biopsy can predict graft and patient's survival

Methodology

Study Design: Retrospective analysis of 144 kidney transplant recipients.

Data Collection: Data from 144 patients were combined from a kidney transplantation registry and a renal biopsy registry spanning from 1st January 2015 to 31st December 2018.

Statistical Analysis: Kaplan-Meier survival analysis and Cox regression were used to determine the impact of various factors on survival rates.

Conclusion

From our study we highlight the significance of promptly identifying and addressing acute tubular necrosis (ATN) and T-cell mediated rejection (TCMR) in kidney transplant recipients, as these conditions are strongly associated with poorer survival outcomes.

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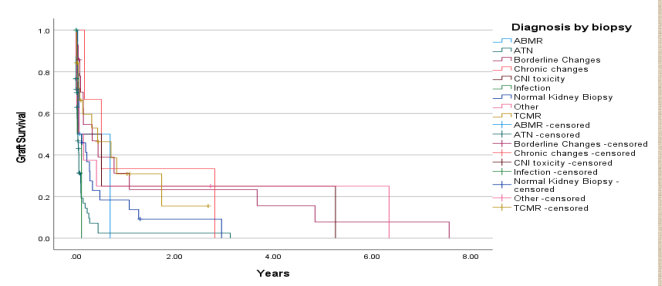
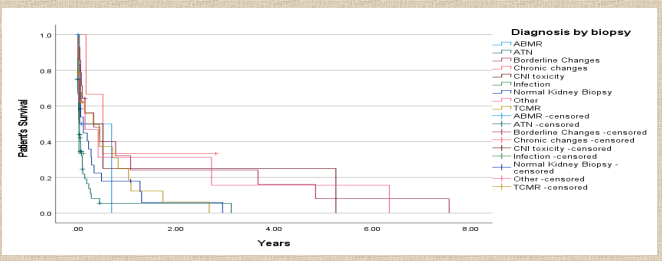
Result

Graft survival after biopsy was shorter for patients with Acute Tubular Necrosis (HR 3.41, CI:1.79-6.51) which is statically significant.

T-Cell Mediated Rejection (HR 3.47,CI:1.24-9.70) and Acute Tubular Necrosis (HR 3.14,CI:1.79-5.51 are critical predictors of patient's survival, showing a statistically significant increase in the risk of adverse outcomes



Graft survival data and Kaplan–Meier curves according to histological diagnosis based on biopsies



Patient survival data and Kaplan–Meier curves according to histological diagnosis based on biopsies

					95.0% CI	
Factors	B	Wald	p	HR	Lower	Upper
ABMR	0.44	0.48	0.486	1.55	0.45	5.30
ATN	1.14	15.84	0.001*	3.14	1.79	5.51
Borderline Changes	-0.22	0.36	0.549	0.80	0.38	1.66
TCMR	1.24	5.63	0.018*	3.47	1.24	9.70
Chronic changes	-0.51	0.47	0.492	0.60	0.14	2.58
CNI toxicity	-0.07	0.02	0.896	0.93	0.31	2.79
Infection	1.08	2.04	0.153	2.95	0.67	12.99
Normal Kidney Biopsy	0.60	3.14	0.077	1.82	0.94	3.54

Cox regression analysis of death-censored graft survival according to the histological diagnosis of biopsy, in univariate and adjusted model

					95.0% CI	
Factors	B	Wald	p	HR	Lower	Upper
ABMR	0.54	0.61	0.436	1.66	0.47	5.90
ATN	1.23	13.89	0.001*	3.41	1.79	6.51
Borderline Changes	-0.11	0.67	0.797	0.90	0.40	2.04
Chronic changes	-0.02	0.01	0.980	1.02	0.29	3.61
CNI toxicity	-0.07	0.01	0.909	1.07	0.33	3.44
Infection	1.12	2.11	0.146	3.1	0.68	13.93
TCMR	0.50	1.90	0.17	1.64	0.810	3.30
Normal Kidney Biopsy	0.12	0.61	0.806	1.13	0.43	2.97

Cox regression analysis of death-censored patient survival according to the histological diagnosis of biopsy, in univariate and adjusted model

27th Annual Scientific Meeting
Malaysian Society of Transplantation

Unravelling the Histopathological Finding Of Allograft Biopsies Within First-Year Post-Renal Transplantation

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Introduction

In End-stage kidney disease (ESKD), kidney transplantation is the best treatment option. Kidney transplant outcomes have improved due to advances in immunological treatments and surgical techniques (1). However, the potential occurrence of renal allograft dysfunction still persists. Despite multiple biomarkers being investigated, histologic evaluation of allograft remains the gold standard for determining the cause of allograft dysfunction (2-4).

Objective

This study described the histopathological finding of allograft biopsies within the first-year post-kidney transplant.

Method

A retrospective study was conducted to include all allograft biopsies of patients who received a kidney transplant between 1st January 2016 and 31st December 2022. Only biopsies performed within the first post-transplant were analysed. Data of patients were extracted from Ministry of Health Transplant Audit. Descriptive statistics was used for demographics and categorical data and statistical significance was analysed using Chi-square test.

Table 1 : General Characteristics of Recipients Who Underwent Renal Biopsy in First-year post-transplant

General Characteristics	Living-donor Transplant Biopsy	Deceased-donor Transplant Biopsy	Total
Number of recipients- n (%)	165 (65.7%)	86 (34.3%)	251 (100%)
Mean Age (years)	36.42±12.61	37.43±8.58	
Gender – No (%)			
Male	68.5% (113)	60.5% (52)	
Female	31.5% (52)	39.5% (34)	
Race – n (%)			
Malay	116 (70.3%)	66 (76.7%)	
Chinese	29 (17.6%)	12 (14.0%)	
Indian	15 (9.1%)	4 (4.7%)	
Others	5 (3.0%)	4 (4.7%)	
Number of Biopsies- n (%)	262 (62.4%)	158 (37.6%)	420 (100%)
Mean numbers of allograft biopsies per patient within the first year post-transplant	1.65±1.23	1.83±1.04	
Mean time to first biopsy within the first year post-transplant (days)	71.80±111.49	57.3±84.61	

Results

Between 1st January 2016 to 31st December 2022, a total of 504 recipients underwent kidney transplantation, with 68.3% being living-donor kidney transplants (LDKT) and 31.7% deceased-donor kidney transplants (DDKT). The general characteristics of recipients (n=251) who underwent allograft biopsy within first year post-transplant are presented in Table 1, while Table 2 displays the histopathologic findings.

Table 2 : Histopathologic findings

Biopsy Diagnosis	Living-donor Transplant	Cadaveric Transplant	*P*
Normal	75 (28.6%)	21 (13.3%)	**<0.05**
Acute Allograft Rejection	73 (27.9%)	38 (24.1%)	0.457
ABMR	15 (5.7%)	3 (1.9%)	0.104
Borderline	36 (13.7%)	20 (12.7%)	0.867
TCMR	17 (6.5%)	12 (7.6%)	0.815
Mixed	5 (1.9%)	3 (1.9%)	1.00
Toxicity results of Calcineurin Inhibitor	13 (5.0%)	5 (3.2%)	0.527
BKVN	11 (4.2%)	5 (3.2%)	0.785
CMV Nephritis	3 (1.2%)	0 (0%)	0.452
ATN	57 (21.8%)	71 (44.9%)	**<0.05**
Pyelonephritis	4 (1.5%)	5 (3.2%)	0.438
Recurrent Glomerulonephritis	5 (1.9%)	4 (2.5%)	0.937
Others	9 (3.4%)	3 (1.9%)	0.540
Suboptimal	12 (4.6%)	6 (3.8%)	0.893
Total	262 (100%)	158 (100%)	

- Recurrent Glomerulonephritis includes Ig A nephropathy and Focal Segmental Glomerular Sclerosis Others include IFTA (Interstitial Fibrosis and Tubular Atrophy), TMA(Thrombotic microangiopathy), Hypertension and Diabetes Mellitus
- Abbreviations : ABMR-Antibody-mediated rejection, TCMR-T-cell mediated rejection, BKVN-BK virus nephropathy , CMV- Cytomegalovirus, ATN-Acute tubular necrosis

Conclusions

Overall, the data suggested that DDKT required more biopsies per patient compared to LDKT but the acute rejection rates were similar. ATN was common amongst DDKT likely due to delayed graft function. Further analysis could explore factors contributing to these differences including donor organ quality, recipient characteristics, and immunosuppressive regimens.

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Autologous Stem Cell Transplantation for Lymphoma: A Single-Centre Experience in Malaysia

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INTRODUCTION

The landscape of lymphoma treatment is characterized by the central role of chemotherapy, particularly in aggressive forms of the disease. Despite the efficacy of standard induction regimens like R-CHOP (rituximab, cyclophosphamide, doxorubicin, vincristine and prednisolone), a significant proportion of non-Hodgkin lymphoma (NHL) patients fail to achieve complete remission[1]. For these individuals, salvage chemotherapy followed by autologous stem cell transplant emerges as a promising therapeutic avenue, offering the potential for cure[2 – 3]. Similarly, while frontline treatments have advanced, a subset of Hodgkin lymphoma (HL) patients experience primary refractoriness or relapse after achieving initial remission[4]. Notably, pre-transplant PET negativity emerges as a robust prognostic marker in relapsed and refractory HL, guiding treatment decisions in this challenging context[5]. However, the use of high-dose therapy followed by autologous stem cell transplant is tempered by significant treatment-related mortality, necessitating careful patient selection to optimize outcomes.

OBJECTIVE

To explore the role of ASCT for lymphoma patients

METHODOLOGY

The study data were sourced from patient medical records and the database of Queen Elizabeth Hospital, Malaysia. Inclusion criteria encompassed adult patients diagnosed with non-Hodgkin or Hodgkin Lymphoma who underwent autologous stem cell transplant (ASCT) between March 2016 and March 2024. Demographic profiles, clinical characteristics, and treatment outcomes were systematically collected and scrutinized using Statistical Package for the Social Sciences (SPSS) Version 26.

Table 1: Patient and disease characteristic

Characteristic	No. of patients	%
Age at ASCT, years		
Median	33	
Range	16 – 62	
Gender		
Male : Female ratio	1.6 : 1	
Histology		
DLBCL (including HGBCL)	9	25
Mantle cell lymphoma	2	6
Primary CNS lymphoma	3	8
Composite lymphoma#	1	3
Primary Mediastinal B cell lymphoma	1	3
NK/T cell lymphoma	1	3
Anaplastic large cell lymphoma	4	11
Subcutaneous Panniculitis like T cell lymphoma	1	3
Hodgkin lymphoma	14	38
Ann Arbour Stage		
Stage I	3	8
Stage II	6	17
Stage III	18	50
Stage IV	9	25
B symptoms	36	100
Bulky disease (>7.5cm)	20	56
BM involvement	5	14
CNS involvement	6	17
Therapy before ASCT		
< 3L	24	67
> 3L	12	33
Disease status at ASCT		
Residual disease present	24	66
Disease free	12	34
Disease status post ASCT		
Complete remission	11	30
Adjuvant therapy* post ASCT	13	36
Relapsed post ASCT	8	22

ASCT; autologous stem cell transplant, HGBCL; high grade B cell lymphoma, BM; bone marrow,3L; 3 lines of therapy
#composite lymphoma; mixture of Burkitt's and mantle cell lymphoma
**including radiotherapy with or without novel therapy (brentuximab, nivolumab)*

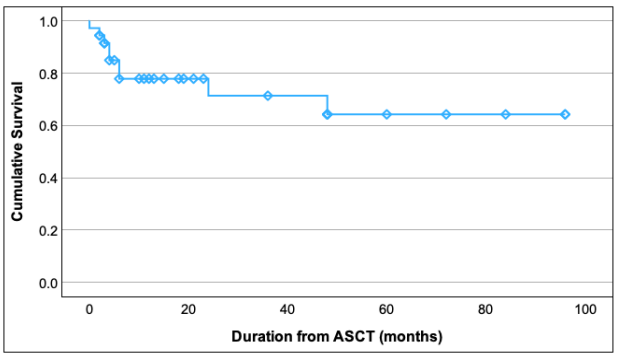
ACKNOWLEDGEMENT

We express our sincere gratitude to all individuals who contributed to this study.
The authors have no conflict of interest to disclose.

RESULTS

Over the preceding eight years, a cohort of fifty-two patients underwent successful peripheral blood stem cell harvest for autologous transplantation. Among these, 69% (n=36) met the inclusion criteria for this study. The median age of the lymphoma patients who underwent autologous stem cell transplant (ASCT) was 33 years, ranging from 16 to 62 years. Detailed patient and disease characteristics are presented in **Table 1**.
Notably, the majority of cases consisted of non-Hodgkin Lymphomas (n=22, 61%), with only two instances involving T-cell NHL. A significant proportion of patients presented with advanced disease stages (Ann Arbor Stage > 2, 75%) and bulky disease. ASCT was performed in various disease statuses: 6 patients (17%) in first complete remission (CR), another 6 (17%) in second or third CR, and the remaining 24 (66%) in partial remission. Conditioning regimens included BEAM in 31 patients and Thiotepa-based regimens in 5. Among those autografted in partial remission, 25% (n=6) achieved complete remission, while 14 patients required additional treatments, including brentuximab maintenance (n=11) and radiotherapy (n=2) for Hodgkin and non-Hodgkin lymphoma, respectively; the remaining received chemotherapy-based treatment for relapsed disease.

Figure 1: Kaplan-Meier overall survival post ASCT



Following a median follow-up period of 13 months, the cohort exhibited a 2-year overall survival (OS) rate of 75% **(Figure 1)**. The primary causes of mortality predominantly included disease progression and relapse within six months, with only two patients experiencing late relapse.

CONCLUSION

The limited number of autologous stem cell transplants in this study is attributed to the small size of the transplant unit, which serves only the Sabah state. Our experience in conducting autologous transplants underscores the need for ongoing improvement. From our observations, autologous stem cell transplantation plays a pivotal role in managing clinically aggressive lymphomas. Strategies to enhance post-transplant outcomes should focus on identifying high-risk lymphoma patients, initiating upfront stem cell collection, and integrating novel therapies, particularly in specific subsets of lymphoma patients. Adjunctive post-transplant therapies, such as novel treatments or radiotherapy, hold promise for improving outcomes in patients who do not achieve complete remission pre-ASCT. Emerging therapies like bispecific antibodies and chimeric antigen receptor T-cell therapy may revolutionize treatment options for relapsed or refractory lymphomas, although further long-term studies are imperative to assess their efficacy thoroughly.

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Biopsy-Proven Acute Rejection (BPAR) in Kidney Transplant Recipients (KTR): Characteristics and Outcomes

A Single Centre Experience

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Introduction

Allograft Rejection remains one of the most feared complications in Kidney Transplantation. We aim to evaluate the characteristics and outcomes of BPAR in Hospital Selayang.

Methodology

Records for all KTRs who underwent Kidney Allograft Biopsies (KAB) from January 2021 to March 2024 were evaluated.

Results

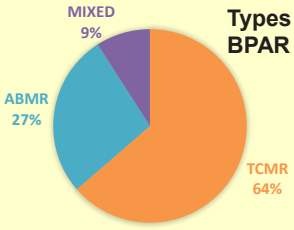
Total KAB = 108

Total BPAR = 22 (20%)

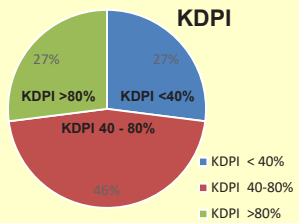
BPAR Cohort:

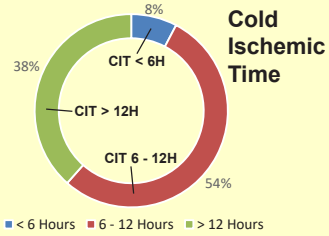
Living Related KTR = 27%

Deceased Donor KTR = 73%

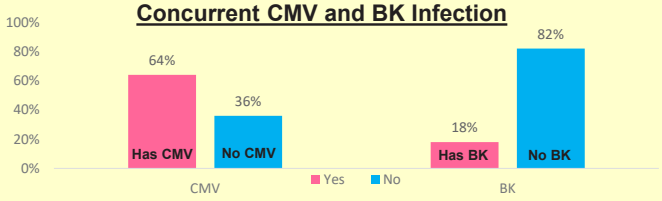


Characteristics of Cadaveric Donors





Concurrent CMV and BK Infection

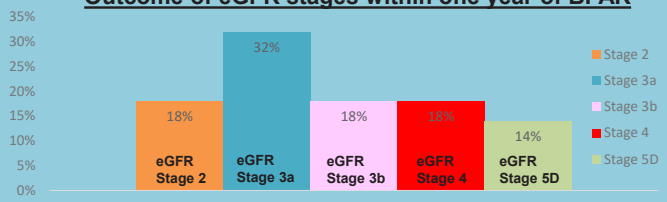


DEMOGRAPHICS	DETAILS	
Median Age (IQR)	36 years old (33 – 43 y/o)	
Race	Malay 77%	Chinese 23%
Gender	Male 68%	Female 32%
PRIMARY DISEASE	**PERCENTAGE**	
Unknown Etiology	60%	
1˚ Glomerulonephritis	32%	
Lupus Nephritis	4%	
Obstructive Uropathy	4%	
INDUCTION AGENTS	**PERCENTAGE**	
Basiliximab	57%	
Thymoglobulin	43%	
SENSITIZING EVENTS	**PERCENTAGE**	
Blood Transfusions (BT)	Had BT 87%	No BT 13%
Pregnancy (P)	Had P 10%	No P 90%
HLA Mismatches (M/M)	**PERCENTAGE**	
No Mismatch	6%	
4 Mismatches	29%	
5 Mismatches	41%	
6 Mismatches	24%	

Outcome

Within one year of BPAR, median creatinine was 152µmol/L (IQR 129 – 210µmol/L), not including dialysis-dependent KTRs.

Outcome of eGFR stages within one year of BPAR



BPAR was diagnosed early, within 3 weeks post-transplant in 50% of patients

Conclusion

This study has led to a better understanding of BPAR, which occurs early in many patients. Protocol biopsies should be considered for earlier detection which enables augmentation of immunosuppression and improves allograft longevity.

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SAFETY AND EFFICACY OF RUXOLITINIB IN STEROID REFRACTORY ACUTE AND CHRONIC GRAFT-VERSUS-HOST DISEASE

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Introduction

Corticosteroid is the standard first-line treatment for Graft Versus Host Disease (GVHD) post allogeneic Hematopoietic Stem Cell Transplantation (HCT). However, patients often become steroid-refractory or steroid-dependent. Ruxolitinib, a selective JAK inhibitor with its broad immune modulatory effect has been approved by FDA as the 2nd line treatment in both acute and chronic GVHD.

Objective

We aim to explore the efficacy and safety of Ruxolitinib in patients with steroid refractory GVHD.

Method

A retrospective study was conducted on patients receiving Ruxolitinib for GVHD after allogeneic HCT from 23th April 2019 till 19th March 2024 in Hospital Pulau Pinang. Acute GVHD cases were graded as per Mount Sinai Acute GVHD International Consortium (MAGIC) criteria, whereas patients with chronic GVHD were evaluated as per National Institutes of Health consensus guidelines.

Results

A total of 10 patients with a median age of 36 years old (range 17-62) were studied. The median duration of follow up was 13.5 months (range 2-59). 4 patients were started on Ruxolitinib for acute GVHD (n=3, grade III; n=1, grade IV) and another 6 for chronic GVHD (n=4, moderate; n=2, severe). 6 were given as 2nd line therapy and 4 of them as 3rd line therapy. Median duration on Ruxolitinib were 57 days for acute GVHD and 130 days for chronic GVHD. Till the end of the study, 8 patients' Ruxolitinib were stopped (n= 4, CR; n=1, PR; n= 3, disease progression), while 2 patients were still on Ruxolitinib. Acute skin GVHD is the commonest presentation (n=4), followed by liver (n=3) and gut (n=3). The most common organs involved in chronic GVHD were oral (n=5), liver (n=4), lung (n=4), followed by skin (n=2) , ocular (n=2) and genitalia (n=1). The overall response rate (ORR) for Ruxolitinib in acute GVHD was 75% on day 28 and 50% on day 56. The ORR for chronic GVHD was 100% at 3 months and 83% at 6 months. 2 patients achieved complete response, each for acute and chronic GVHD. Median time to response was 13.5 days. Most of them had grade I-II cytopenia related to ruxolitinib (n=3, grade I neutropenia; n=5, grade I-II anaemia; n=4, grade I-II thrombocytopenia). Only 2 patients experience grade III cytopenia (n=1, grade III neutropenia; n=1, grade III anaemia). 4 mortality cases were seen; 2 were related to progression of GVHD and 2 had severe infection probably related to grade III-IV cytopenia.

Acute GVHD response to Ruxolitinib

Age/gender	Disease	Status	Organs involvement (stage)	Response			
				Initial	Day 28	Day 56	≥3 months
35/female[£]	AML	Alive	Skin, liver, gut (III)	Skin(PR), liver(CR), gut(PR)	Skin(CR), liver(CR), gut (CR)		
36/male[¥]	CML	Dead	Skin, liver, gut (IV)	Skin(PR), liver(PR), gut(PD)			
45/male[£]	CLL	Dead	Skin, liver (III)	Skin(PR), liver(PR)	Skin(CR), liver(PR)	Skin(CR), liver(PR)	Skin(CR), liver(CR)
47/male[¥]	MM	Dead	Skin, gut (III)	Skin(PR), gut(SD)	Skin(PR), gut(PR)	Skin(PR), gut(PD)	

CR: complete response; PR: partial response; SD: stable disease; PD: progressive disease; AML: acute myeloid leukaemia; CML: chronic myeloid leukaemia; CLL: chronic lymphocytic leukaemia; MM: multiple myeloma; [£]Ruxolitinib was stopped due to CR; [¥]Ruxolitinib was stopped due to PD

Chronic GVHD response to Ruxolitinib

Age/gender	Disease	Status	Organs involvement (overall severity)	Response			
				Initial	≥3 months	≥6 months	≥1 year
22/male[α]	ALL	Alive	Skin, oral, liver (moderate)	Skin(PR), oral(PR), liver(CR)	Skin(CR), oral(PR), liver(CR)		
24/male[Φ]	ALL	Alive	Lung (moderate)	Lung(PR)	Lung(CR)		
17/male[Ѫ]	ALL	Alive	Oral, liver, lung (moderate)	Liver(PR)	Oral(PR), liver(PR), lung(CR)		
62/female[Φ]	AML	Alive	Oral, liver (severe)	Oral(CR), liver(CR)			
25/male[Ѫ]	AML	Alive	Oral, lung, ocular (moderate)	Oral(PR), lung(PR), ocular (CR)	Oral(CR), lung(PR), ocular (CR)	Oral(CR), lung(PR), ocular (CR)	Oral(CR), lung(PR), ocular (CR)
37/female[Ψ]	AML	Dead	Skin, oral, liver, lung, ocular, genitalia (severe)	Skin(PR), oral(PR), liver(PR), lung(PR), ocular(PR), genitalia(CR)	Skin(PR), oral(PR), liver(CR), lung(PR), ocular(PR), genitalia(PR)	Skin(PR), oral(PD), liver(CR), lung(PD), ocular(PR), genitalia(PD)	

CR: complete response; PR: partial response; SD: stable disease; PD: progressive disease; ALL: acute lymphoblastic leukaemia; AML: acute myeloid leukaemia; [α]Ruxolitinib was stopped due to good PR; [Φ]Ruxolitinib was stopped due to CR; [Ѫ]Patient still taking Ruxolitinib; [Ψ]Ruxolitinib was stopped due to PD

Discussion

The benefit of Ruxolitinib in treating GVHD was first described in a survey analysis conducted by Zeiser et al[1], with 80% global control rate of GVHD. Several retrospective studies then showed similar response rate of approximately 80%. Subsequent REACH studies[2,3] were conducted prospectively to evaluate Ruxolitinib in patients with steroid resistant GVHD. REACH 1 studies showed 54.9% ORR for acute GVHD with 28.8% of patients able to achieved CR. REACH 3 studies which evaluate response of Ruxolitinib in chronic GVHD reported 50% ORR with higher CR rate compared to BAT. Our data also showed similar encouraging results with 75% ORR at day 28 for acute GVHD and 100% ORR for chronic GVHD at 3 months. 1 patient with acute gut GVHD and another 1 patient with chronic GVHD lost response with GVHD progression although both of them had initial response to Ruxolitinib. Ruxolitinib has acceptable tolerance. Most of the patients had grade I-II cytopenia. We acknowledge that there are inherent limitations due to the retrospective assessments of response and small sample size in this study.

Conclusion

Ruxolitinib is well tolerated and exhibits satisfactory response in patients with acute and chronic GVHD.

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