ANZTCT ASM 2026

Accepted Poster Presentations

Contents

1. Alia Cibich

Clonal architecture and microenvironmental drivers of donor-derived haematological neoplasm after allogeneic haematopoietic stem cell transplant

Abstract:

Background:

Donor-derived haematological neoplasm (DDHN) is an increasingly recognised, but poorly understood complication of allogeneic HSCT. We performed an integrated clinical and biological analysis to elucidate DDHN burden, clonal evolution and pathogenesis.

Method:

We screened 811 patients transplanted at the Royal Adelaide Hospital between 1990--2023 to determine DDHN incidence. We characterised clonal evolution by next-generation sequencing and microenvironmental contributions in vitro using expanded bone marrow mesenchymal stromal cells (BM-MSC) collected at serial timepoints.

Results:

Thirteen (1.6%) cases of DDHN were identified locally, a \>10-fold higher incidence than prior European and Japanese registry studies. Notably, two cases were initially misclassified as relapse, suggesting some presumed relapses may represent unrecognised DDHN. Median time to diagnosis was 33.6 months (95% CI, 16.3--61.3), and two-year overall survival was 40.1% (95% CI, 47.4--99.8). Given the rarity of DDHN, we augmented our cohort with five additional cases (total 18 cases) from collaborating centres to facilitate comprehensive molecular profiling. The DDHN cases were enriched for adverse-risk cytogenetic lesions (44%), including monosomy/derivative-7 (17%) and complex karyotype (17%); and for mutations in epigenetic regulators (67%), with DNMT3Amut (39%) and TET2mut (17%) most frequent (Figure 1A). Interestingly, DNMT3Amut- and TET2mut-DDHN exhibited distinct evolutionary kinetics: DNMT3Amut had paradoxically shorter latency despite slower steady-state clonal expansion, whereas TET2mut evolved later despite faster steady-state growth. Paired donor-recipient analyses demonstrated accelerated recipient-biased clonal expansion and divergent malignant evolution from shared ancestral clones (Figure 1B--C). Strikingly, our stromal profiling demonstrated that DDHN-derived BM-MSCs were profoundly senescent (Figure 1D) and secreted excessive levels of pro-inflammatory senescence-associated secretory phenotype mediators, including IL-1β (Figure 1E); with subsequent in vitro modelling of TET2-knockout CD34+ cells exhibiting preferential growth in pro-inflammatory DDHN-derived BM-MSC conditioned media (Figure 1F) that had considerably elevated IL-1β levels.

Conclusion:

Collectively, these findings demonstrate DDHN are substantially under-recognised and supports a model in which donor clonal fitness is shaped by recipient inflammatory bone marrow niche selection post-alloHSCT. Targeting senescence-associated pathways may offer a strategy to disrupt disease evolution.

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2. Amy Khun

Restructuring haematology pharmacist services into a dedicated ambulatory care clinic at a tertiary cancer centre

Abstract:

Background:

The treatment landscape in malignant haematology is rapidly evolving toward complex ambulatory-delivered therapies requiring coordinated multidisciplinary care across the continuum. Pharmacists are medication experts who improve optimisation and safety within multidisciplinary teams. While inpatient pharmacy services are well established, dedicated ambulatory pharmacist-led models remain less well defined. At our tertiary cancer centre, pharmacy services are primarily delivered through a rotational workforce within operational units. This service redesign aimed to establish an integrated pharmacist-led ambulatory model with senior pharmacy leadership to strengthen medication management across transitions of care and longitudinal follow-up. To our knowledge, this is the first Australian centre describing a dedicated pharmacist-led ambulatory haematology clinic

Method/Service Model:

A pre-existing ambulatory pharmacist clinic was redesigned into a structured haematology-focused clinic with defined referral criteria and longitudinal follow-up of high-risk patients. Initial focus was myeloma, expanding to broader high-risk haematology populations. Standardised review points were implemented across key transitions including treatment initiation, post-discharge, pre-transplant, and pre--CAR-T. Core activities included comprehensive medication reviews, toxicity/supportive care management, adherence assessment, education and coordination across care settings. The pharmacist was embedded within the haematology multidisciplinary team, contributing to clinical decision-making, protocol optimisation and governance including nurse-led clinics.

Results/Outcomes:

Service activity increased from \~50 patient reviews annually, to \~40 patients per month, with sustained growth in clinician-initiated referrals for direct and indirect patient care. The model enabled rapid implementation of pharmacist-led pathways, including an immunomodulatory drug desensitisation protocol and outpatient bispecific antibody step-up dosing pathway. It contributed to our myeloma survivorship clinic, where 75% of patients required medication changes, demonstrating medication complexity and value of longitudinal review.

Conclusion:

An integrated, pharmacist-led ambulatory haematology model enabled multidisciplinary integration of specialist pharmacist expertise across the continuum, supporting safe delivery of complex outpatient therapies and governance in evolving haematology practice. Further evaluation will assess clinical impact, clinician experience, and patient-reported outcomes

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3. Athena Stathoulis

Beyond compendial sterility testing: an implementation framework for rapid microbiological release in CAR-T manufacturing

Abstract:

Chimeric antigen receptor (CAR)-T cell therapies have revolutionised the treatment of haematological malignancies, yet patients with aggressive, time-sensitive disease remain vulnerable to manufacturing-related treatment delays. Current compendial sterility testing under United States Pharmacopoeia (USP) \<71\> requires a 14-day culture period. This is incompatible with the clinical timelines of short shelf-life cell therapy products and exposes a structural mismatch between retrospective compendial sterility testing and clinical release timelines demanded by both decentralised and centralised CAR-T manufacturing models. Rapid sterility testing methods represent a promising means of addressing this limitation, although their translational integration remains poorly defined.

ATP bioluminescence, solid phase cytometry, and PCR-based assays targeting conserved 16S/18S rRNA sequences have emerged as rapid alternatives to compendial methods, delivering substantially shorter turnaround times. However, in conducting a narrative review of the literature, we identified four barriers to translation including (i) matrix-specific analytical validation, (ii) decentralised site operational readiness, (iii) cross-jurisdictional regulatory acceptability, and (iv) clinical governance for discordant or conditional release decisions. In response, we propose a structured three-phase validation framework for the conditional release of CAR-T products using rapid sterility assays. The framework progresses from analytical qualification through bridging and equivalency to conditional release implementation, with defined decision gates at each phase transition.

Rapid sterility testing represents a meaningful pathway to repositioning sterility assurance from a rate-limiting step to an enabling capability across CAR-T manufacturing models. Widespread adoption will depend on targeted regulatory reform and prospective multisite validation studies. By integrating analytical validation, operational readiness, regulatory evidence generation and clinical risk governance, this framework provides a practical blueprint for converting rapid sterility testing from an adjunct assay to an essential component of CAR-T and broader cellular therapy release workflows.

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4. Bianca Cirone

Understanding the relationship between hospital readmission post allogenic stem cell transplantation and return to work as indicators of morbidity.

Abstract:

Background:

Allogeneic stem cell transplantation is a complex and highly involved medical procedure. Survivors are at high risk of prolonged inpatient hospital stays and recurrent hospitalisations due to complications, especially within the first six to twelve months following transplantation. This acts as a significant barrier towards physical recovery and consequently, return to work as desired. For many patients, return to work serves as a metric of recovery from treatment, significantly improves quality of life and signifies a positive step toward the future1. We recognise the gaps in clinical practice in return to work guidance and support across the board in transplant centres and therefore endeavoured to explore the relationship between return to work rates and the frequency and reasons for hospital readmission post allogeneic stem cell transplantation as primary indicators of morbidity . This led to the development of targeted intervention referral pathways and a model-of-care for stem cell transplant specific employment support and exercise physiology services to improve patients' physical and functional status and the facilitation of return to work as desired.

Method:

Data was collected from Individuals at least six months after transplantation attending a Nurse-Led Haematology Supportive Care Clinic Program (NLHSCCP). Individual demographics, employment type (full time, part time, unable to work and retired) before and after transplant, readmission rates (RR) and reason for readmission were analysed. Descriptive statistics were used to determine proportion and characteristics of patients RTW post-SCT.

Results:

RESULTS

Between February 2024 and April 2026, 57 patients attended the NLHSCCP. Most participants had a diagnosis of acute leukaemia (61%), there were 49% females who attended who were older with a median age 53 yrs (range 21, 74) than males median age 43 yrs (range 23, 72) at transplant. The average length of stay for SCT admission was 32 days (range 16, 66). Thirty-six (63%) participants were readmitted at least once, with 82 total readmissions recorded within 27 months post-SCT. Reason for readmission included infection (33%), fever of unclear cause (9%), sepsis (5%) and graft-versus-host disease (GvHD) work up (10%). Of the 63% of participants that were working full time pre diagnosis, only 11% were able to resume full time work at 6 months following SCT.

Conclusion:

CONCLUSION

This preliminary data identifies a possible relationship between RTW and re-admission post-SCT. This work highlights opportunities for targeted lifestyle and behaviour support interventions to improve RTW outcomes. We have developed referral pathways and a model-of-care for SCT-specific employment support and exercise physiology services to improve patients' physical and functional status and facilitate RTW as desired.

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5. Brian Grainger

A Prospective, Longitudinal Analysis of Gastrointestinal Microbiome following Autologous Stem Cell Transplantation in Patients with Multiple Myeloma – Trial in Progress.

Abstract:

Background:

High-dose melphalan (HDM)-conditioned autologous stem cell transplantation (ASCT) is the standard frontline consolidation strategy for young, fit patients with treatment-responsive multiple myeloma (MM). Diarrhoea is a major contributor to morbidity and prolonged hospitalisation following ASCT, yet its microbial aetiology is poorly understood. HDM and antibiotic exposure can induce dysbiosis and immunosuppression,1 and emerging evidence suggests the gut microbiome (GM) may influence the efficacy of cellular therapies more broadly.2 Comprehensive characterisation of the GM during ASCT may identify dysbiosis signatures and pathogens missed by routine diagnostics. This has the potential to clarify their relationship to transplant-related clinical outcomes and inform strategies to preserve GM diversity, including dietary modification, curated probiotics, and rational antimicrobial use. Our study aims to characterise the GM and identify the microbial causes of diarrhoea in patients undergoing HDM ASCT for MM at a single Australian centre.

Method:

Forty patients undergoing ASCT will provide faecal samples at five prespecified time points: day of hospital admission prior to HDM, date of stem cell infusion, at the onset of symptomatic diarrhoea, at neutrophil recovery (peripheral neutrophil count ≥0.5 × 109/L on two consecutive days), and at day 100 post-ASCT. Samples will be analysed using shotgun metagenomics (Microba Life Sciences, Brisbane, QLD) to profile the composition and functional capacity of the GM, including more than 100 putative diarrhoeagenic microorganisms. Analyses will include alpha- and beta-diversity, and will integrate metagenomic and clinical data to identify pathogens and microbial signatures associated with treatment response and transplant-related morbidity. Clinical data, including demographics, pathology and imaging findings, treatment details, recurrence, and survival outcomes, will be collected prospectively and stored in a secure database. The study commenced recruitment on 2 March 2026.

Results:

Three of the 40 patients have been recruited at the time of submission.

Conclusion:

Not applicable.

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6. Celia Morris

Apheresis DIVAs- Difficult IV Access in Autologous HPC collection.

Abstract:

Patients undergoing autologous peripheral blood stem cell collection frequently have difficult intravenous access due to prior chemotherapy. In this LHD that often resulted in admission for central venous catheter insertion solely to enable collection. This pathway increased bed utilisation, delayed procedures due to reliance on intensive care staff, and exposed patients to unnecessary invasive device risks.

This project aimed to reduce avoidable admissions and central venous catheter use by implementing nurse-led ultrasound-guided peripheral intravenous access within the apheresis service. A local practice framework was established, including defined criteria for difficult access, nurse credentialing, and escalation pathways.

Baseline data demonstrated consistent reliance on central access, with 8 of 25 collections (32%) requiring Vascath in 2023 and 9 of 18 (50%) in 2024. These admissions typically required 2–4 day admissions. Following implementation, 18 (9 requiring ultrasound-guided cannulation) collections were performed over 8 months with no patients requiring admission for vascular access. This represents a 100% reduction in admissions for vascular access and an estimated avoidance of 18–36 bed days over 8 months, equating to an estimated cost saving of $32,000-$90,000 to the LHD. Patients avoided invasive procedures, supporting vessel health preservation and reduced exposure to central line-associated risks.

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Link to supporting document

7. Emma Munro

Development and evaluation of a clinical pathway for mucositis assessment and management in haematopoietic stem cell transplantation: Improving practice and standardising nursing care

Abstract:

Background:

The mucosal mucositis, oesophagitis and gut pain experienced by patients undergoing intensive chemotherapy and total body irradiation during haematopoietic stem cell transplant (HSCT) is debilitating. The evolving symptom profile of HSCT therapies presents challenges for nurses in the assessment and management of these patients. The aim of this project was to develop a clinical pathway to guide nursing practice, pain management, and streamline nursing interventions to promote standardised care for HSCT patients.

Method:

A multi-phase project was undertaken in Cancer Care Services at a large, tertiary hospital in Metropolitan Brisbane. Phase 1 encompassed a nursing staff survey (n=61) and chart audit (n=55). The staff survey assessed current knowledge and confidence in assessing and managing mucositis and oesophagitis. The chart audits assessed clinical documentation and use of the current mucositis assessment tool. Phase 2 involved a multidisciplinary focus group that reviewed survey and audit findings and co-designed a new clinical pathway. Phase 3 implemented the pathway, following a targeted education programme for clinical staff. Phase 4 involved post-implementation evaluation through repeating the nursing staff survey and chart audits to assess changes in knowledge, confidence, clinical practice, and compliance.

Results:

The post-implementation evaluation demonstrated high acceptability and uptake of the clinical pathway. All nursing staff (100%) agreed the assessment tool was easy to complete. Confidence of nursing staff managing mucositis increased from 50% pre-implementation 98% post. Confidence managing mucositis related pain with the afterhours medical team increased from 52% to 98%. Assessment tool completion increased from 56% to 80%. These findings indicate that the clinical pathway is feasible and acceptable within clinical practice.

Conclusion:

The mucositis clinical pathway reflects the change in symptom profile now experienced by HSCT patients. Continued monitoring and education are required to maintain compliance and support high-quality patient care.

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8. Erica Patterson

Improving Exercise Access in Haematopoietic Stem Cell Transplant Inpatients: A Pre-Post Evaluation of a Delegated Traffic-Light Safety Framework

Abstract:

Background:

Hospitalised stem cell transplant recipients are physically inactive[1,2] and experience deconditioning. Cytopenias can contribute to this through symptom burden and or safety limitation. Prescribed exercise during haematopoietic stem cell transplantation (HSCT) admission is safe [3] and can preserve physical function [4] and cardiorespiratory fitness [5]. Increasing demand for inpatient physiotherapy-led exercise following implementation of outpatient prehabilitation and rehabilitation services highlighted workforce constraints. Multidisciplinary Allied Health Assistants (MDT AHAs) may improve access through delegated exercise. However, reliance on daily haematological clearance created workflow delays. The aim was to implement and evaluate a traffic-light decision-making tool enabling MDT AHAs to safely deliver delegated exercise to hospitalised SCT patients.

Method:

A quality improvement framework was used. A traffic-light tool was developed from evidence supporting safe exercise in HSCT inpatients [6,7] and the MDT AHA delegation framework [8]. A pre-post cohort comparison included 2022 (pre) and 2024 (post) HSCT data. Data were de-identified. Outcomes included exercise assessment and participation rates.

Results:

Baseline characteristics were similar (pre: n=99, mean 57 yrs, 65% male, 54% allogenic HSCT; post: n=83, mean 59 yrs, 69% male, 49% allogenic HSCT; n=8 excluded). Exercise assessment increased (30% vs 60%). Among those assessed, participation remained high (87% vs 82%) and individual participation improved (64% vs 74%). Post-discharge community exercise referral and participation rose (4% vs 63%). MDT AHA-only sessions did not increase, but collaborative sessions with physiotherapists did.

Conclusion:

The traffic-light tool improved exercise accessibility for hospitalised HSCT patients. MDT AHA-only sessions did not increase, likely reflecting clinical complexity requiring physiotherapist input, but collaborative sessions increased. The tool may have allowed MDT AHAs to review other haematology inpatients, enabling physiotherapists to focus on complex HSCT patients. Limitations: Cohorts included HSCT admissions only; broader impacts across haematology populations may not be captured.

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9. Erica Patterson

Fit4CAR-T: Protocol for a Telehealth Exercise Prehabilitation Feasibility Study in Adults Undergoing Chimeric Antigen Receptor T-Cell Therapy for Lymphoma

Abstract:

Background: Chimeric antigen receptor T-cell (CAR-T) therapy is associated with substantial physiological stress and treatment-related toxicities, placing patients who are frail, sarcopenic, or have reduced cardiorespiratory fitness (VO_2peak) at increased risk of adverse outcomes. These patients experience higher rates of immune effector cell-associated neurotoxicity syndrome and poorer progression-free and overall survival following CAR-T therapy. Strategies to improve physiological reserve before CAR-T therapy may enhance treatment tolerance and clinical outcomes.

Aim: To determine the feasibility and efficacy of a 4-week exercise prehabilitation intervention for adults preparing to undergo CAR-T therapy.

Methods: A prospective, single-arm pilot feasibility study. Adults (≥18 years) with lymphoma scheduled to receive CAR-T therapy at The Alfred Hospital, Melbourne, will be invited to participate. The primary outcome is feasibility, assessed using predefined criteria for recruitment, intervention completion, attendance, adherence, exercise tolerance, and safety. Secondary outcomes include program acceptability, cardiorespiratory fitness (VO_2peak), body composition, cardiac structure and function, frailty, muscle strength, and exercise self-efficacy.

Baseline and post-prehabilitation assessment will be conducted in-person at the Baker Heart and Diabetes Institute. Participants will receive an individually tailored aerobic and progressive resistance exercise program based on baseline testing and symptom status. Exercise will be prescribed by an accredited exercise physiologist and supervised twice weekly via telehealth (45-minute sessions) for up to four weeks. Outcomes will be reassessed post prehabilitation. Analysis will include descriptives statistics for the feasibility outcomes and ANOVA for change in efficacy outcomes from pre-to post intervention timepoints.

Current Status: The study has received grant funding from Gilead Sciences and ethics approval from the Alfred Hospital Human Research Ethics Committee. Recruitment is underway, with six participants enrolled toward the target sample of 20. Findings will inform the design of a future randomised controlled trial.

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10. James Dungate

Influence of Collection-to-Cryopreservation Time and Donor Mobilisation on Post-Thaw CD3 Viability in Cryopreserved DLI Products

Abstract:

Background:

Donor lymphocyte infusions (DLI) are commonly manufactured from excess mobilised haemopoietic progenitor cell apheresis (HPC(A)) collections or directed non-mobilised T-cell apheresis (TC(A)) collections. Geographic isolation and reliance on interstate and international donors can result in prolonged transport-related delays prior to cryopreservation. While the impact of storage duration on HPC(A) products is well recognised, the rate at which T-cell quality deteriorates prior to cryopreservation is less clearly defined(1). Quantifying viability loss during this interval is important to determine the suitability of cryopreserved products for future DLI use.

Method:

A retrospective analysis of 95 cryopreserved allogeneic T-cell products was performed. Collection-to-cryopreservation duration was correlated with post-thaw CD3 viability and recovery using Pearson correlation and linear regression. Separate analyses were undertaken for mobilised (n=66) and non-mobilised (n=29) products.

Results:

Collection-to-cryopreservation duration demonstrated a strong negative correlation with post-thaw CD3 viability (r=-0.6958, p\<0.001), accounting for 48% of observed variability (R2=0.48). CD3 viability declined by 0.6% per hour prior to cryopreservation, with predicted viability decreasing from 90.2% at collection to 61.4% and 47.0% after 48 and 72 hours, respectively. Duration also negatively correlated with CD3 recovery (r=-0.5262, p\<0.001), declining by 0.41% per hour. Mobilised products exhibited greater susceptibility to deterioration than non-mobilised products, with viability losses of 0.63% versus 0.50% per hour and stronger correlation coefficients (r=-0.7503 vs r=-0.6949). Predicted viability at 48 hours was 57.5% for mobilised products compared with 71.0% for non-mobilised products.

Conclusion:

Collection-to-cryopreservation duration is a major determinant of post-thaw CD3 viability, with mobilised products exhibiting both lower predicted viability and a faster rate of deterioration. Given the extended transport times often required to support Australian transplant recipients, these findings raise important considerations regarding the routine use of cryopreserved DLI products derived from mobilised collections. Future studies correlating post-thaw viability with DLI efficacy and outcomes are required to determine the clinical significance of these observations.

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11. Jamie Jackson

Optimising immunoglobulin replacement dosing in secondary hypogammaglobulinaemia following allogeneic stem cell transplantation and CAR-T therapy: an Australian multicentre pharmacokinetic study

Abstract:

Background:

Secondary hypogammaglobulinaemia (SHG) is a common complication following allogeneic haematopoietic stem cell transplantation (allo-HSCT) and chimeric antigen receptor T-cell (CAR-T) therapy, contributing to infectious morbidity and hospitalisation. In Australia, immunoglobulin is a limited resource, and expenditure on immunoglobulin alone for SHG is approximately \$33.3 million (AUD) per year and rising. Despite widespread use of intravenous immunoglobulin (IVIG) and subcutaneous immunoglobulin (SCIG) replacement, dosing practices remain highly variable with limited evidence guiding precision dosing strategies in these populations.

Aim:

To develop population pharmacokinetic (PopPK) models to optimise IVIG and SCIG dosing in patients with SHG following allo-HSCT and CAR-T therapy.

Method:

This pharmacokinetic study is embedded in a broader multicentre retrospective cohort study investigating immunoglobulin use and infections in cellular therapy recipients across ten tertiary Australian hospitals. Of the 1000 patients' data collected, a cohort of 30 allo-HSCT and 30 CAR-T recipients that received immunoglobulin replacement therapy will be included in the pharmacokinetic study. Collected variables include patient demographics, transplant characteristics, serial serum immunoglobulin concentrations, IVIG and SCIG dosing regimens, and infection rates and severity.

PopPK modelling will be performed using nonlinear mixed-effects modelling to characterise immunoglobulin disposition and interpatient variability. Structural model development will evaluate one- and two-compartment models with assessment of first order elimination kinetics. Covariate analysis will explore the influence of patient-specific factors on pharmacokinetic parameters and immunoglobulin exposure.

Potential Outcomes:

Data collection and analysis is underway to characterise variability in practices and dosing approaches. Individualised precision dosing will reduce the variability in serum immunoglobulin concentrations and achieve higher trough levels to optimise its therapeutic effect.

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12. Jillanne Rau

Prehabilitation as Standard Care for Stem Cell Transplant Recipients: Establishing a Model of Care in an Australian Private Hospital

Abstract:

Background:

Patients undergoing haematopoietic stem cell transplantation (SCT) are at risk of developing malnutrition and sarcopenia. Receiving education and intervention from a dietitian, physiotherapist/exercise physiologist +/- psychologist prior to SCT will improve patients' nutritional, physical and psychological status and will result in improved outcomes such as less unintentional weight loss, malnutrition occurrence, deconditioning and length of stay.

Method:

Key stakeholders from The Wesley Hospital (TWH) and ICON Cancer Centre in Brisbane, Queensland, collaborated to establish a model of care for prehabilitation for all stem cell transplant recipients. Preliminary work was conducted to justify the proposed program including: Analysing coding data for SCTs at TWH over a 12 month period on length of stay, frequency of allied health reviews, malnutrition and fall incidence; Literature review on prevalence and consequences of malnutrition in cancer and haematological cancers, patient outcomes from established prehabilitation programs in other centres and feasibility/pilot data on proposed prehabilitation programs; Benchmarking with other QLD centres who offer SCT. Meetings were conducted with the ICON SCT Coordinator, Day Rehabilitation Unit Coordinator and TWH Allied Health participants to refine referral procedures and agree on data to be collected and shared between the prehabilitation and inpatient allied health teams. This data included baseline patient data collected during the prehabilitation program (weight, oral intake, PGSGA, 6min walk, FACIT fatigue scale, sit to stand repetitions, grip strength, +/- QOL scores) and details of interventions. Program participation involves consultations with a Rehabilitation Physician, Physiotherapist, Dietitian +/- other allied health disciplines for education and home exercise and nutrition plans at least one month prior to SCT. To evaluate program effectiveness and assess ongoing feasibility, baseline/pre SCT data will be compared to data prior to d/c from SCT admission in addition to data on length of stay, program uptake and patient satisfaction.

Results:

The Prehabilitation Model of Care for SCT recipients was approved by TWH Day Rehabilitation Team and participating Haematologists in April 2026 and is currently in the implementation phase.

Preliminary data collected at TWH via the coding department, allied health statistics and chart audits, indicated that a prehabilitation model of care for SCT recipients may be feasible.

May 2024 to May 2025

- 38 SCTs in this time period (30 Auto SCTs, 8 Allo SCTs)

- 4 sampled patients (future auto SCT recipients) received multidisciplinary allied health input at TWH Oncology Day Rehabilitation

- Average length of stay pts not attending DRU for prehab: 26.5 days (Allo SCT: 31.3 days, Auto SCT: 25.3 days)

- Prehab pts average LOS: 22 days

- 2 prehabilitation attendees had full outcome measures completed on initial appointment and discharge from the program. They had an average improvement in FACIT -Fatigue scores of 18%, and a 27.5 metre improvement in 6MWT results.

Conclusion:

It is hoped that establishing a model of prehabilitation as standard care for SCT recipients will achieve a reduction in deconditioning, length of hospital stay and improve quality of life.

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13. Julian Cooney

CMV Activation Associated with Major Graft Dysfunction Following Autologous and Allogeneic Haemopoietic Transplant- A Three Case Series

Abstract:

Background:

Cytomegalovirus (CMV) reactivation following hematopoietic stem cell transplantation (HSCT) and associated marrow suppression and secondary graft dysfunction appears underreported in autologous transplantation and secondary graft failure.

Method:

Cases:

Case 1

A 56-year-old man with Mantle Cell Lymphoma received R-HyperCVAD prior to BEAM autograft. Initial engraftment occurred; however, progressive cytopenias developed from D+18. CMV activation was identified and Valganciclovir therapy was commenced. Following CMV clearance, infusion of stored PBSCs at Day +56 resulted in full engraftment. The patient died 14 years post autograft in remission.

Case 2

A 56-year-old man underwent BEAM autograft for Mantle Cell Lymphoma following R-CHOP/R-DHAP. Primary graft failure occurred CMV activation was identified of 42,700 IU/ml on qPCR. Antiviral therapy with Valganciclovir was initiated, together with G-CSF, Eltrombopag and with platelets and RBCs; however, the patient developed ongoing complications including infections and progressive clinical deterioration, and he remained dependent on transfusions. Consideration was given to allogeneic transplantation. There was no evidence of lymphoma relapse, but the patient died from infectious complications ten months post autologous transplant.

Case 3

A 68-year-old man received haploidentical related donor allogeneic HSCT for AML, but at Day +155 he developed fever and abrupt marked CMV activation from 0 to 29,400 IU/ml, received Valganciclovir then severe pancytopenia followed. He was changed to Maribovir pancytopenia persisted but declining donor chimerism to 52%, with very hypocellular marrow. A second allograft is being considered.

Results:

Discussion:

Recognition and management of CMV reactivation and graft dysfunction following autologous as well as allogeneic HSCT remains clinically important, including with cytopenias and no alternative aetiology. Potential mechanisms include direct CMV-mediated marrow suppression, immune dysregulation, inflammatory marrow microenvironment injury, and antiviral-associated hematopoietic toxicity.

Conclusion:

Early recognition, serial viral surveillance, and consideration of CMV-associated marrow suppression are important in patients with unexplained post-transplant cytopenias or secondary graft dysfunction.

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14. Kate Graham

Shared Care: A nutrition care pathway for autologous stem cell transplant patients utilizing nutrition assistants and dietitians.

Abstract:

Background:

Autologous stem cell transplants (AuSCT), commonly used to treat lymphoma and myeloma, can result in suboptimal nutrition intake and malnutrition. At Peter MacCallum Cancer Centre nutrition care is provided to AuSCT patients using a defined care pathway. A care pathway review identified many AuSCT patients were well nourished at baseline and remained so throughout the transplant period. A shared care model utilising Nutrition Assistants (NA) with oversight by dietitians and handover as required was implemented in 2025 for patients identified as well-nourished during prehabilitation. This study aimed to evaluate the implementation of this shared care model.

Method:

A retrospective audit of AuSCT patients from care pathway implementation (April 2025) until April 2026 was conducted. Patients were identified through attendance at prehabilitation clinic, and NA care, dietetic care, nutrition interventions and nutrition status on discharge were extracted from the patient's medical record.

Results:

Fifty-seven patients were eligible for the shared care pathway. Of these, 45 proceeded to transplant with 16 (35.5%) cared for by NAs alone. Nutrition interventions included diet modifications and provision of oral nutrition supplements, and 94% remained well-nourished (MST \<2) on discharge. Twelve patients required shared care between NAs and dietitians, with total parenteral nutrition (n=8; 66.6%) the main reason for handover. Care was shared for 17 patients (38%) due to unplanned NA leave, however only 2 of these patients would have required shared care if full staffing was available. Importantly, NAs expressed high satisfaction with the shared care model stating it promoted skill development and enhanced job satisfaction.

Conclusion:

Implementation of this shared nutrition care pathway allowed reallocation of dietetic time to higher risk patients without compromising AuSCT patients' nutrition care or outcomes, and improved NA job satisfaction. This model could be considered for other populations where simple nutrition care may prevent malnutrition.

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15. Lin Liu

Improving visibility of banked cord blood units on international search registry through retrospective high-resolution HLA typing – a report of BMDI Cord Blood Bank's success story

Abstract:

High resolution (HR) HLA tissue typing provides a detailed 'fingerprint' of cord blood units (CBU), enabling refined match between a CBU and a patient needing haemopoietic stem cell transplant. These days, If a CBU does not have HR results, it will not appear in the initial search algorithms used by most Transplant Centres and Registries. CBU with low resolution typing will usually only be seen if the patient has a rare tissue type and is searched manually.

The BMDI Cord Blood Bank (CBB) commenced operations in 1996. More than 70% of the total searchable inventory of the CBB only had low resolution HLA results due to available technology at the time of banking. Many of these CBUs are of exceptional quality with high content of total nucleated cells and CD34+ stem cells, but their likelihood of being seen and selected is low due to unavailability of HR results.

In 2019 the CBB developed a tiered selection strategy to perform retrospective HR typing on banked, high-quality CBUs based on cell contents, HLA commonality and suitable sample types, and to show these results on the international search registry. A total of 318 CBUs have been HR typed so far. The outcome of this project has proven to be successful. Nearly a third of the search requests received in the last seven years (n=555) are on CBUs that have had HR typing performed as part of this project (n=164). Many of these CBUs have been repeatedly searched for up to 6 times. From these 164 search requests, 37 (23%) CBUs have had a reservation request and 18 (11%) CBUs have been released for transplant. Without their HR HLA results being readily available at the time of search, many of these CBUs would not have been selected to save patients' lives.

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Funding support: Australian Lions Cord Blood Foundation

16. Lydia Brown

Psychosocial care in hematopoietic stem cell transplant (HSCT): Clinician motivations, challenges and unmet needs

Abstract:

Background:

Patients receiving and recovering from allogenic or autologous hematopoietic stem cell transplantation experience intensive treatment regimens that involve substantial physical and psychological burden. Providing adequate supportive care for this population depends on collaboration across multidisciplinary clinical teams. However, systemic and institutional barriers can impede optimal psychosocial support. The purpose of this study was to explore clinician's perspectives on caring for HSCT patients, to shed light on this population's holistic needs and identify strategies to enhance psychosocial care delivery.

Method:

This qualitative study used semi-structured interviews conducted with multidisciplinary clinicians involved in HSCT care at Massachusetts General Hospital and the Dana-Farber Cancer Institute in Boston, United States. A purposive sampling strategy was used to ensure representation from diverse clinical specialties. Participants were asked about their motivations for working with this population, their observations of psychosocial challenges and perceptions of institutional resources and support. Two coders analysed the interviews using a framework-guided rapid analysis.

Results:

Twenty-one HSCT clinicians participated in this study including 8 physicians, 4 clinical psychologists, 4 social workers, 4 nurse practitioners and 1 registered nurse. Clinicians reported strong motivations for working with HSCT patients, including fulfilment derived from addressing unique medical needs of HSCT patients and opportunities for cross-disciplinary collaboration. Patient isolation and psychological distress were identified as key psychosocial challenges. While some institutional supports were available, limits to continuity of care and gaps in the integration of psychosocial care were identified as barriers. Participants identified a need for a more holistic, team-based model of care that is personalised to address the specific needs of each HSCT patient. Based on these findings from the United States, we also report on new initiatives in the Australian setting to address the psychosocial needs of HSCT patients.

Conclusion:

Findings show that there are gaps in psychosocial care of HSCT recipients in the United States. Based on study findings, we are now exploring new initiatives to understand and enhance psychosocial care of this population in Australia.

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17. Mei Ling Yeh

Beyond the Hospital Walls: BMF Nurse-Led Tele-Support for a Family Navigating SAA/MDS and Allogeneic HSCT Over Five Years

Abstract:

Background

Bone marrow failure syndromes are rare, complex disorders that create significant challenges for children and families, including understanding diagnosis, navigating treatment pathways, accessing support, and managing emotional and social isolation. Maddie Riewoldt's Vision Bone Marrow Failure Nurse-Led Tele-Support Service supports families through education, care navigation and psychosocial support beyond hospital care. Severe aplastic anaemia is a life-threatening paediatric bone marrow failure syndrome. For children, matched unrelated allogeneic haematopoietic stem cell transplantation offers a potential curative option, but the journey is clinically complex, prolonged and emotionally demanding.

Case Description

A three-year-old child presented with severe pancytopenia and was diagnosed with severe aplastic anaemia/myelodysplastic syndrome following investigation. The child proceeded to matched unrelated allogeneic HSCT and was referred by the treating clinician to the nurse-led tele-support service. The transplant course was complicated by gastrointestinal graft-versus-host disease and cytomegalovirus infection. The family also experienced psychosocial and practical stressors, increasing the need for continuity beyond hospital care.

Intervention and Outcome

Tele-support provided education about diagnosis, treatment pathways, transplant complications and graft-versus-host disease, emotional support, care navigation and preparation for clinical appointments. Long-term follow-up focused on vaccination, return to kinder/school, financial support resources and post-transplant monitoring. Support evolved from acute transplant-related needs to maintenance, long-term follow-up and psychosocial connection. Over time, the child's mother progressed from receiving individualised support to contributing lived-experience leadership as a facilitator within the bone marrow failure peer support group. Over five years, 94 encounters were provided, with contact frequency ranging from weekly to fortnightly and monthly according to need, and an average duration of 44.6 minutes.

Conclusion

This case highlights specialised nurse-led tele-support in complementing hospital-based care for families affected by childhood bone marrow failure syndromes and allogeneic haematopoietic stem cell transplantation. Tele-support provides continuity, advocacy, education and compassionate care beyond hospital walls.

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18. Michelle Trevisin

Development of a Quality Management Framework for implementation of a quality management system for the Clinical Haematology Cellular Therapy Service of Peter MacCallum Cancer Centre and The Royal Melbourne Hospital.

Abstract:

The Clinical Haematology Cellular Therapy Service of Peter MacCallum Cancer Centre (Peter Mac) and The Royal Melbourne Hospital (RMH) is currently working towards FACT Accreditation. As the project progresses it has become evident that a standardised and unified quality management system is required to future-proof the service for growth and prospective FACT Accreditation.

During analysis of the FACT-JACIE standards, over 600 polices and SOPs were identified in use across the service and operating from five separate quality systems across Peter Mac, The RMH and Cell Therapies P/L. This has highlighted the need to provide an interfaced and accessible quality management system in the form of a cloud-based solution to allow for a cohesive and structured approach to quality management.

A Clinical Haematology Quality Management Framework has been developed to guide the process for selection, implementation, and governance of a suitable, cost-effective, and sustainable quality management solution to enable the execution of the FACT accredited quality management program.

A review and gap analysis of current systems in use across the Parkville Precinct Hospitals and across ANZ cellular therapy sites will assist in selecting the best fit solution. Leaning into current system expertise and partner relationships will help to facilitate the process of system evaluation and selection.

An experienced and knowledgeable team will be appointed to manage and operate the proposed solution and ensure a smooth transition for the setup and organisation of documents and quality management activities.

A fully integrated, cloud-based quality management system with a sustainable governance model will allow for ownership of the quality management program and lead to engaged and empowered teams, allow for continuous improvement, organisational growth and change, and position Clinical Haematology to operate alongside ANZ and global FACT-JACIE accredited cellular therapy communities and ensure ongoing quality success.

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19. Nectaria Matsamakis

Review of the Outpatient Melphalan Autograft program being extended with Hospital in the Home

Abstract:

Background:

High-dose melphalan followed by autologous stem cell transplantation (ASCT) is the standard of care for eligible patients with multiple myeloma. While traditionally performed in the hospital, outpatient management has emerged as a cost-effective alternative. We have been delivering the Outpatient Melphalan Autograft Program since 2020 and admitting the patients on day 4. Since February 2025, the program was extended to admit patients on day 7 with the additional support of Hospital in the Home.

AIM: To determine whether the Outpatient Melphalan Autograft program can be successfully extended and keep patients at home longer with the addition of Hospital in the Home support

Method:

Retrospectively reviewed data from patients with multiple myeloma who underwent autologous transplantation in an outpatient setting between 2024-2025 that were admitted on day 4. And then compared it with the data of patients who participated in the new program that admitted patients from day 7, with the additional support of Hospital in the Home (HITH).

All patients had a Peripherally Inserted Central Catheter (PICC) on day -2, conditioning of IV melphalan 200mg/m2 administered on day -1 and stem cells administered on day 0 in the Apheresis unit.

The cohort of patients that were previously admitted on day 4, were continued to be monitored daily with an in-person Symptom and Urgent Review Clinic (SURC) review on day 1 by the Autograft Clinical Nurse Consultant, followed by phone calls with the Haematology Registrar over the weekend with a blood test on site on day 2. Followed by a planned admission on day 4 to the inpatient ward.

Similarly, the cohort of patients admitted on day 7 were monitored daily and fitted with a biobeat watch monitored by HITH from day -2. SURC reviews continued day 1 and day 4 by the Autograft Clinical Nurse Consultant, and HITH reviews continued in the home on day 2, 3, 5 and 6 (with the ability to administer intravenous fluids and anti-emetics). The care was overseen by the Autograft Clinical Nurse Consultant, liaising with HITH and the medical team.

All patients had predetermined criteria for hospital readmission.

Results:

Results are currently being reviewed and analysed.

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20. Safia Belbachir

Peri-Transplant Ruxolitinib use in Myelofibrosis Allogeneic Stem Cell Transplantation: Real-World Outcomes From a Single-Centre Australian Cohort

Abstract:

Background:

Allogeneic stem cell transplantation (allo-SCT) remains the only curative therapy for myelofibrosis (MF), but is associated with substantial transplant-related morbidity and mortality. Ruxolitinib is increasingly used pre-transplant as bridging therapy, and emerging prospective data suggest peri-transplant continuation may reduce inflammatory toxicity and GVHD. However, real-world data remain limited.

Methods:

We performed a retrospective single-centre cohort study of consecutive adult MF patients undergoing first allo-SCT at Fiona Stanley Hospital between 2016--2026. Patients were grouped according to ruxolitinib exposure strategy: no JAK inhibitor (No JAKi; n=4), pre-transplant ruxolitinib discontinued before stem cell infusion (Pre-Tx Rux; n=26), and peri-/post-transplant ruxolitinib continuation (Peri/Post-Tx Rux; n=13). Outcomes included engraftment, acute and chronic GVHD, overall survival (OS), CMV reactivation, and NRM.

Results:

Forty-three patients were included with median age 61 years (IQR 53--65); 56% received unrelated donor grafts. Median neutrophil and platelet engraftment were 22 and 32 days, respectively, with no significant differences between groups. Primary graft failure occurred in 2/43 patients (4.7%), both outside the peri/post-transplant ruxolitinib group.

Grade II--IV acute GVHD occurred in 35% overall and was numerically lower with peri/post-transplant ruxolitinib continuation compared with pre-transplant-only exposure (23% vs 38%, p=0.48). Moderate chronic GVHD occurred in 15% versus 8%, respectively, with no cases of severe chronic GVHD observed..

At last follow-up, overall survival was 74% overall and appeared favourable with peri/post-transplant ruxolitinib continuation compared with pre-transplant-only exposure (100% vs 58%, p=0.007), although follow-up remained shorter in the peri/post-transplant cohort (median 12.6 vs 56.6 months). CMV reactivation occurred in 29% overall and was numerically higher with peri/post-transplant ruxolitinib continuation (42% vs 23%, p=0.27).

Conclusions:

Peri/Post-transplant ruxolitinib continuation was feasible and associated with preserved engraftment, absence of graft failure in this real-world MF allo-SCT cohort. Prospective multicentre studies with longer follow-up are required to validate the potential GVHD and NRM benefits of peri-transplant ruxolitinib strategies.

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21. Safia Belbachir

Vedolizumab for Steroid-Refractory Ruxolitinib-Exposed Lower Gastrointestinal Acute Graft-versus-Host Disease: Real-World Outcomes from a Single-Centre Cohort

Abstract:

Background

Steroid-refractory (SR) lower gastrointestinal (LGI) acute graft-versus-host disease (aGVHD)remains associated with high morbidity and mortality, with limited real-world data on ruxolitinib-exposed patients. This study aims to describe response rates and survival outcomes in a real-world population of such patients treated with vedolizumab.

Methods

We retrospectively analysed 12 adult allogeneic stem cell transplant recipients treated with VDZ for SR-LGI-aGVHD at a single tertiary centre between 2018 and 2026. The primary endpoint was day-28 LGI overall response rate (ORR). Secondary endpoints included ORR at days 14 and 56, overall survival (OS), steroid tapering, infectious complications, and prognostic factors.

Results:

Patients received a median of 2 VDZ infusions (IQR 1--3; range 1--6). At VDZ initiation, 91.7% (11/12) had grade III--IV LGI-aGVHD, and 66.7% (8/12) received VDZ as fourth-line or later therapy. Median time from LGI-aGVHD diagnosis to VDZ initiation was 32 days (IQR 8--43), and from meeting SR criteria to VDZ was 21 days (IQR 5--34). Ten patients (83.3%) had prior ruxolitinib exposure, with 8 continuing concurrent ruxolitinib during VDZ treatment. In the intention-to-treat population, ORR at days 14, 28, and 56 were 33.3% (4/12; CR 8.3%), 41.7% (5/12; CR 25.0%), and 50.0% (6/12; CR 50.0%), respectively. Among evaluable patients, ORR at day 28 and 56 reached 71.4% (5/7; CR 42.9%) and 85.7% (6/7; CR 85.7%), respectively. Steroid reduction by day 28 occurred in 63.6% (7/11), with ≥50% reduction achieved in 45.5% (5/11).

Six-month and 12-month OS were 50.0% and 33.3%, respectively. Day-28 responders demonstrated superior survival compared with non-responders/non-evaluable patients (6-month OS 100% vs 14%; log-rank p=0.004). Infectious complications occurred in 83.3% (10/12) of patients, predominantly bacteraemia.

Conclusion:

VDZ-containing salvage therapy demonstrated clinically meaningful activity in heavily pre-treated, predominantly ruxolitinib-exposed SR-LGI-aGVHD. Outcomes remained limited by early non-relapse mortality. Early steroid tapering and day-28 response strongly correlated with survival and may represent clinically useful prognostic landmarks. Prospective studies are needed to define optimal timing, combination strategies, and patient selection for gut-directed therapy in SR-LGI-aGVHD.

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22. Safia Belbachir

Transfusion requirements after CAR-T cell therapy: A real-world single-centre analysis from Western Australia

Abstract:

Aim:

Haematological toxicity is the most common long-term complication of CAR-T cell therapy, but real-world data on transfusion requirements remains limited. We aimed to describe transfusion needs following CAR-T therapy, identify predictive factors, and assess associations between transfusion support and survival outcomes.

Method:

A retrospective analysis of 108 CAR-T recipients (2018--2025) at Fiona Stanley Hospital, assessing transfusion needs (RBC, platelet, cryoprecipitate) across three timepoints: pre-CAR (12 months), early post-CAR (\<30 days), and late post-CAR (30--365 days). Logistic regression identified predictors of transfusion burden; Kaplan-Meier and competing-risk analyses evaluated progression-free survival (PFS), overall survival (OS) and non-relapsed mortality (NRM).

Results:

Overall, 53.7% received at least one transfusion in the pre-CAR period. Post-CAR, early transfusion support (\<30 days) was required in 40.7% (RBC 77%, platelets 77%, both 54%). Late support (30--365 days) occurred in 52.8% (RBC 84%, platelets 70%). Transfusion burden peaked during infusion month (RBC 32.4%, platelets 30.6%), then progressively declined (Figure 1).

Pre-CAR transfusion was the strongest independent predictor of post-CAR transfusion requirements (early RBC p=0.002; late RBC p=0.014). Lower baseline haemoglobin and ICU admission predicted both early and late RBC transfusion. A CAR-HEMATOTOX≥2 was associated with increased RBC (p=0.016) and platelet support (p=0.011). Cryoprecipitate was administered in 11 patients (10.2%) and was associated with higher rates of grade≥3 CRS (36%vs9%, p=0.026), tocilizumab use (100%vs61%, p=0.008), ICU admission (55%vs20%, p=0.018) and concurrent platelet transfusion (73%vs26%, p=0.003). Late platelet transfusion was associated with inferior PFS (9.8vs47.6 months, p=0.002) and OS (9.8vs18.3 months, p=0.001).

Conclusion:

In this cohort, transfusion following CAR-T therapy was common and strongly associated with baseline marrow reserve, inflammatory toxicity, and inferior survival outcomes. While RBC and platelet transfusion requirements appeared to reflect prolonged marrow dysfunction and ICAHT-related toxicity, cryoprecipitate needs may represent a distinct CRS-associated coagulopathic process not captured by current hematotoxicity scoring.

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23. Sally Ip

Role of a pharmacist in outpatient allograft transplant care

Abstract:

Background: Allograft transplant recipients require individualised and complex medication regimens. Management is complicated with ongoing dose adjustments, the use of medications with narrow therapeutic indices, and significant drug interactions. With most of the care delivered in the outpatient setting, pharmacists are uniquely positioned to identify, prevent and resolve medication-related problems, as well as to provide education that supports adherence and the safe use of medicines.

Aim: To evaluate the prevalence and types of pharmacy-led clinical interventions in the outpatient allograft transplant setting.

Methods: Pharmacist resourcing was allocated to support medication management for outpatient allograft recipients at a large metropolitan teaching hospital. The pharmacist participated in outpatient medical rounds alongside physicians and nurses, with the aim of optimising medication safety, conducting comprehensive medication reviews and addressing medication queries.

A retrospective audit was undertaken between October 2025 to March 2026. Medication related problems were classified in accordance with the "Guidelines for pharmacists performing clinical interventions"[1].

Results: 165 medication reviews were conducted, involving 46 patients. Of these, 89 interventions (54%) were identified. Common interventions were provision of education (27%), compliance-related issues (22.5%), undertreatment (12.5%), and inappropriate dosing (13.5%). Other interventions included the identification of adverse drug reactions (5.5%), medication selection issues (6.5%), unmet monitoring requirements (3.5%) or non-classifiable (9%).

Common interventions included:

-incorrect dosing in relation to blood tests or food

-incorrect dosage of medications due to miscommunication

-self-cessation of medications

-sub-optimal used of "as-required" medications

Conclusion:

Medication-related problems are prevalent in the outpatient setting. The involvement of a pharmacist in post-allograft transplant care enhances medication safety, improves patient education, and optimises clinical outcomes.

The role of the pharmacist has been well received by both patients and the medical team. Future work will focus on targeted stakeholder surveys to assess the value of the pharmacist in outpatient transplant care.

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24. Sarah Andersen

Investigating current practice and staff perspectives on nutrition support during allogeneic stem cell transplantation

Abstract:

Background:

Historically, parenteral nutrition (PN) has been standard care during allogeneic stem cell transplantation. However recent evidence has identified superior outcomes through use of enteral nutrition (EN). This study assessed current practice in nutrition support in Australian adult transplant units.

Method:

An online survey was developed that explored current practice, perspectives, barriers and enablers to nutrition support provision, challenges with implementation and interest in future research. The Australasian Leukaemia & Lymphoma Group distributed the survey to staff working in Australian transplant units.

Results:

The survey was completed between August 2025 and February 2026. Staff from all Australian adult allogeneic transplant units (n=13) completed the survey including seven dietitians, four nurses and twelve haematologists. As the initial mode of nutrition care five units (38%) routinely provide PN, four units (31%) provide EN with three units (23%) using both and one providing oral nutrition only (8%). Units that primarily use EN place nasogastric tubes proactively within two days of transplant. 91% of respondents reported benefits to provision of EN including supporting the microbiome/ gut function and reducing risk of graft versus host disease.

Enteral nutrition provision was facilitated by medical and nursing support, early multidisciplinary patient education and use of nutrition protocols. Staff reported nutrition care could be improved by increased dietetic resourcing, the addition of pre and post-transplant dietetic clinics and increased nutrition education for patients and staff. 39% of respondents felt there were barriers to EN provision. Concerns regarding tolerance and gastrointestinal side effects, tube displacement/complications and patient and staff perceptions of EN were reported. 91% of respondents supported their unit participating in a nutrition clinical trial.

Conclusion:

Nutrition support provision remains variable despite increasing evidence for the benefit of EN. Addressing multidimensional barriers both locally as well as broader strategies such as guideline development will facilitate evidence implementation into practice.

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25. Sobia Umar

Secondary bone marrow disorders after multiple myeloma therapy: clinicopathological features and outcomes post allogeneic bone marrow transplant

Abstract:

Background:

Secondary bone marrow disorders (sBMDs) such as myelodysplastic syndrome (MDS) or acute leukaemia are a rare but serious complication following multiple myeloma (MM) therapy, particularly post-lenalidomide exposure (1-3). Allogeneic bone marrow transplant (alloSCT) represents the only potentially curative treatment option, but outcome data are limited (4), a gap which we aimed to address using our institutional database.

Method:

We identified 9 patients who underwent alloSCT at The Royal Melbourne Hospital between Sep-2020 and Apr-2026 for sBMD post-lenalidomide exposure for MM to analyse diagnoses, cytogenetic/molecular features, treatments, outcomes, and complications. Kaplan-Meier methods were used to estimate time-to-progression (TTP), overall survival (OS), GVHD-free relapse-free survival (GRFS), and non-relapse mortality (NRM).

Results:

Median age at sBMD diagnosis was 64.4 (range 56.1--71.1) years; 8 were male. sBMD diagnoses included acute myeloid leukaemia (n=4), MDS (n=3), B-acute lymphoblastic leukaemia (n=1), and acute leukaemia of ambiguous lineage (n=1). Median time from MM to sBMD diagnosis was 4.4 (range 1.4--15.5) years. Median duration of lenalidomide exposure was 38.9 (range 14.0--77.0) months. High-risk genetic features were common (complex karyotype, n=3; 7q abnormalities, n=2; TP53 alterations, n=3; RUNX alterations, n=4). At alloSCT 6 (66%) were in CR/CRi. All patients received reduced-intensity conditioning with peripheral blood stem cell graft from matched related (n=2), matched unrelated (n=3), haploidentical (n=3) and mismatched unrelated (n=1) donors. Median HCT-CI was 3 (range 0--10). Among survivors, median post-alloSCT follow-up was 17.0 (1.1--66.9) months. Estimated 12-month TTP, OS, GRFS, and NRM were 80.0%, 58.3%, 31.3% and 27.1%, respectively. Acute and chronic GVHD occurred in 2 and 1 patient, respectively. One patient relapsed post-alloBMT and 3 died (progressive disease, n=1; acute GVHD, n=1; CMV pneumonitis, n=1). No post-alloBMT MM progression was observed.

Conclusion:

Lenalidomide-associated sBMDs after MM are enriched for high-risk genetic features. AlloSCT can provide durable disease control in select patients, but early post-transplant morbidity and NRM remain substantial.

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26. Teresa Garcia

Physical and psychosocial late effects among paediatric allogeneic stem cell transplant survivors transitioned to adult long term follow up service.

Abstract:

Background:

Allogeneic stem cell transplantation (alloSCT) is the standard treatment for children with high-risk, refractory or relapsed haematological disease1. In Australia, the number of alloSCT performed in children annually is approximately 15%2. Advances in treatment modalities and supportive care in paediatric alloSCT resulted in growing number of adolescent and young adult (AYA) survivors. This vulnerable population is at risk of developing late effects as a result of prior chemo and radiotherapy, alloSCT conditioning and transplant-related complications which impacts overall survival and quality of life1.

Method:

We conducted a retrospective review of paediatric alloSCT survivors transitioned to an adult LTFU clinic over a four-year period (November 2020 -- 2024). Demographic details, prior treatment (chemo and radiotherapy), alloSCT conditioning and patient reported experience and outcome measures (PREMS/PROMS) were collected from electronic medical records (EMR), referral letters and quality of life questionnaires. The information collected were recorded in an ethics approved LTFU database and were analysed to identify the most prevalent physical and psychosocial late effects.

Results:

56 paediatric alloSCT survivors were referred and transitioned to adult LTFU clinic from November 2020 -- 2024. 90% attended their first adult LTFU visit and nearly 200 reviews were performed over the four-year period. The most common physical late effects identified were eye disease, low bone mineral density, cardiovascular disease and chronic graft versus host disease. The most frequently reported psychosocial late effects included fatigue, fear/worry, anxiety and depression.

Conclusion:

Paediatric survivors of alloSCT transitioning to adult survivorship care experience a considerable burden of physical and psychosocial late effects. It is important to keep this group of patients engaged in attendance at LTFU reviews as well as coordinated multidisciplinary follow up to support appropriate monitoring and evidence-based surveillance of late effects to improve long term health outcomes, psychosocial wellical and psych-being and overall survival.

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27. Venkata Tangirala

Incidence of cytomegalovirus (CMV) infection and Valganciclovir treatment efficacy in a cohort of patients undergoing Allogeneic Haematopoietic Stem Cell Transplants at Liverpool Hospital from 2022-2024

Abstract:

Background:

This audit aimed to assess the incidence of CMV infection and clearance rates on Valganciclovir therapy in patients who underwent allogeneic haemtopoietic stem cell transplant (Allo-HSCT) at Liverpool Hospital (Sydney, Australia) from 2022 to 2024.

Method:

A single site retrospective medical records audit of Liverpool Hospital's Allo-HSCT database from 2022-24 was performed. CMV surveillance was performed twice weekly, on Monday and Thursday, using quantitative nucleic acid amplification testing (QNAT) on plasma specimens. Plasma assays were reported as either not detected, low positive (IU/ml \< 500 -- no quantification), or detected with quantification (IU/ml \> 500). Any seropositive result was considered evidence of CMV infection, and two consecutive negative results to indicate successful CMV clearance. 44 patients were identified who received Allo-HSCT over 2022-2024. No patients were excluded. Descriptive statistical analysis was performed, and graphs were generated using GraphPad.

Results:

The median age at time of transplant was 46 years (range 22- 69), with 34% being female. All patients received CMV prophylaxis during conditioning with intravenous Ganciclovir as per protocol. No patients received Letermovir. CMV infection occurred in 24 patients (55%), median time to CMV infection was 31 days (range 8- 63). Of those withinfection, three (12.5%) had a low positive result, and cleared CMV DNAemia without antiviral treatment. Where first line therapy was initiated (n=21), oral Valganciclovir was used in 86% (18/21 patients). Six patients (25%) required second line treatment with intravenous Ganciclovir, and three patients (12.5%) required third line treatment with Foscarnet and/or Cidofovir. CMV DNAemia clearance with first line Valganciclovir was achieved in 83% (15/18). Two patients (8.3%) deceased during their third line treatment course.

Conclusion:

Incidence of CMV infection was 55%, CMV clearance was high with first line oral Valganciclovir which is similar to published prospective studies.

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28. William Jackson

Outcomes of Allogeneic Haemopoietic Stem Cell Transplantation for Acute Myeloid Leukaemia in Western Australia: A Comparison of Metropolitan, Regional, and Rural Patients

Abstract:

Background:

Acute myeloid leukaemia (AML) is an aggressive haematological malignancy for which allogeneic haemopoietic stem cell transplantation (allo-HSCT) remains the most effective curative treatment for eligible patients.2

Australia presents a unique geographic challenge where a population of approximately 27.7 million are spread over 7.7 million square kilometres, with transplant services concentrated in major metropolitan centres.11 This amounts to 4 people per km2.11 For patients residing in rural and regional areas, geographic isolation may introduce barriers across the entire transplant journey, from initial diagnosis, conditioning, post-transplant monitoring and management of complications such as graft-versus-host disease (GVHD).

A recent national registry study by Khan et al. using Australia and New Zealand Transplant and Cellular Therapies (ANZTCT) data from 2009 to 2019 demonstrated that residential remoteness independently predicted inferior overall survival (OS) following allo-HSCT for AML, with hazard ratios of 1.36 (95% CI 1.08--1.70; p = 0.008) for regional and 1.27 (95% CI 1.08--1.49; p = 0.003) for rural/remote patients compared with metropolitan counterparts.1

Western Australia\'s population is approximately 2.965 million as of June 2024, with a population density of 0.89 people per square kilometre. The state\'s total area is 2,527,013 square kilometres, making it the secondlargest country subdivision in the world. The majority of the population resides in Perth, which has a higher population density of 310 persons per square kilometre (REF 1A: Australian Bureau of Statistics https://dbr.abs.gov.au)

Western Australia\'s transplant programme is delivered through a single tertiary centre, Fiona Stanley Hospital (FSH), Perth, creating a unique model of centralised care. Whether this model alleviates the remoteness-related survival disadvantage observed nationally has not been examined. This study aimed to evaluate the impact of residential remoteness on transplant outcomes among WA AML patients undergoing allo-HSCT, providing state-level data to compare national findings and inform future policy.

Method:

Study Design and Setting

A retrospective cohort study of all adult WA patients who underwent allo-HSCT for AML at FSH between January 2015 and December 2025 was conducted. FSH is the only allo-HSCT centre in WA and serves the entire state population.

Data Source

Clinical and transplant data were obtained from the ANZTCT Registry, which prospectively collects standardised transplant data from all Australasian transplant centres. Ethics approval was granted by the South Metropolitan Health Service Human Research Ethics Committee.

Geographic Classification

Residential remoteness was classified using the Accessibility/Remoteness Index of Australia Plus (ARIA+), derived from patients\' residential postcodes at the time of transplant. Patients were assigned to one of three categories: Major Cities (Perth) , Regional Australia, and Remote/Very Remote Australia.

Variables

Collected variables included baseline demographics, comorbidities (Haematopoietic Cell Transplantation-Comorbidity Index [HCT-CI]), Disease Risk Index (DRI), donor type (related vs. unrelated), conditioning intensity (myeloablative conditioning [MAC] vs. reduced-intensity conditioning [RIC]), use of anti-thymocyte globulin (ATG), and Karnofsky Performance Status (KPS).

Statistical Analysis

Baseline characteristics were compared across remoteness groups using chi-square tests for categorical variables and Kruskal-Wallis tests for continuous variables. Overall survival was estimated using the Kaplan--Meier method, and groups were compared with the log-rank test. Multivariable analysis was performed using Cox proportional-hazards regression, adjusting for age, donor type, and disease status at transplant. Statistical significance was defined as p \< 0.05. All analyses were performed in R version 4.3.

Results:

RESULTS

Cohort Characteristics

A total of 228 WA adults underwent allo-HSCT for AML at FSH between 2015 and 2025. The cohort had a median age of 52 years (IQR 39--60) and was 48% female. The remoteness distribution was: Major Cities 74% (n = 168), Regional 21% (n = 48), and Remote/Very Remote 4% (n = 10). Three percent of patients identified as Aboriginal. Baseline characteristics are presented in Table 1.

Most baseline variables were well balanced across remoteness groups. No statistically significant differences were observed in age, sex, DRI, HCT-CI, or KPS. However, donor type (p \< 0.001) and conditioning regimen intensity (p = 0.017) differed modestly: regional patients received more unrelated donor transplants (65% vs. 54% in major cities) and more frequently underwent RIC (48% vs. 35%).

Overall Survival

At a median follow-up of 36 months, there was no statistically significant difference in OS between remoteness groups (log-rank p = 0.59). Median OS was 42.3 months (95% CI 33.1--NR) for major city patients, 40.1 months (95% CI 26.7--NR) for regional patients, and 38.5 months (95% CI 20.4--NR) for remote/very remote patients. One-year OS was 78%, 76%, and 75%, respectively (Table 2). Early post-transplant survival was comparable across all groups, with no excess 100-day mortality in regional or remote patients.

Multivariable Analysis

After adjusting for age, donor type, and disease status at transplant, residential remoteness was not associated with inferior OS (HR 1.04; 95% CI 0.73--1.49; p = 0.82). Age and disease status at transplant were the only variables independently associated with survival (both p \< 0.05).

Conclusion:

CONCLUSION

In this retrospective state-wide cohort of WA adults undergoing allo-HSCT for AML, geographic remoteness was not independently associated with inferior overall survival. One-year OS was comparable across metropolitan, regional, and remote patient groups. These findings suggest that WA\'s single-centre transplant model may deliver equitable outcomes irrespective of patient residential distance, contrasting with national data demonstrating worse survival for non-metropolitan patients. Larger prospective studies incorporating socioeconomic variables and post-transplant healthcare access metrics are warranted to confirm these findings and guide future policy.

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