Agenda

17 October 2024

8:00 am - 10:00 am
DEEP VENOUS DISEASE (VENOUS WORKSHOP - TICKETED EVENT)

Scientific Session - Venous - Conference Hall 3

Proudly sponsored by BD, Boston Scientific, Inari Medical and Penumbra

8:00 am
Welcome and Acknowledgement of Country
David Goh

8:05 am
Why vascular surgeons should be leading VTE management: a SET trainee's perspective
Erin Saricilar
Purpose: Venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism (PE), is a common and potentially life-threatening condition that is not always managed by vascular surgery teams in many public hospitals across Australia and New Zealand. The estimated annual incidence of VTE requiring hospitalisation in Australia in 1.72 per 1000 population, with an economic annual cost of AUD 1.72 billion Patients who suffer from VTE often have complex medical and surgical needs, comorbidities and require long-term surveillance, follow-up and ongoing management. Vascular surgeons are best suited to providing the holistic care that these patients require. Methodology: A qualitative study was performed using structured interviews of SET trainees that had taken part in VTE specific training. The key questions asked related to their change in perceptions about VTE management, their thoughts on the importance of long-term management needs of patients, and the benefits of surgeon-led management. Results: It is the view of SET trainees that have been a part of VTE specific training that surgeon-led management of VTE results in improved long-term outcomes for patients, due to the specialist knowledge and expertise of vascular surgeons in managing the disease in the long-term and its complications. Additionally, vascular surgeons are able to stay up-to-date with the latest advances in technology and understanding of the disease, ensuring that patients receive the best possible care through holistic management without a single system perception of the pathology. Conclusion: Vascular surgeons should be leading the management of VTE, due to their specialist training and expertise, and the long-term management needs of patients with the condition. By advocating for this change, we can improve the quality of care for patients with VTE.

8:13 am
Inflow and outflow assessment and optimisation for central venous stenting - Tips and tricks
Ramesh Tripathi

8:23 am
Iliofemoral DVT, venous stent and NIVL in pregnancy
Laurencia Villalba

8:33 am
The management dilemmas of the triad of nutcracker, May Thurner and ovarian vein reflux
Ramesh Tripathi

8:43 am
Diagnosis and management of nutcracker syndrome
Iman Bayat

8:53 am
Venous stent obstruction – Do we have a solution?
Phillip Puckridge

9:03 am
The impact of BMI on venous stunting outcomes
Ines Clement

9:11 am
IVUS in the management of deep venous disease
Bibombe Mwipatayi

9:21 am
Latest technologies for management of iliofemoral DVT—How have they changed my practice?
Rajesh Malik
Deep vein thrombosis (DVT) is the most common form of venous thromboembolism and can result in significant morbidity, including postthrombotic syndrome (PTS) in up to 50% of patients. Randomized trials of catheter-directed thrombolysis (CDL) have demonstrated that patients with symptomatic iliofemoral DVT (IFDVT) are at the greatest risk of developing PTS, and that CDL has a limited ability to prevent PTS. Consequently, various new trials and technologies to prevent PTS are being assessed. Novel technologies have opened new opportunities for treatment. For example, results from the prospective, multicenter CLOUT registry have shown effective treatment of thrombus of all ages and low PTS rates at 2-year follow-up using mechanical thrombectomy with the ClotTriever System (Inari Medical, Irvine, CA). The Protrieve sheath (Inari Medical) includes an expandable funnel that can trap emboli in the inferior vena cava (IVC) in cases involving bilateral proximal disease or thrombosed IVC filters, and the RevCore catheter (Inari Medical) is the first mechanical thrombectomy device designed specifically to address stent thrombosis. Aspiration thrombectomy techniques, such as computer-assisted vacuum thrombectomy (Indigo System, Penumbra, Alameda, CA) and volume-controlled aspiration mechanical thrombectomy (FlowTriever System, Inari Medical), are also increasingly used in the contemporary treatment of IFDVT. Combined mechanical and aspiration approaches (Aspirex System, BD, Franklin Lakes, NJ) are being investigated as well. Local treatment with anti-inflammatory drugs after recanalization (Bullfrog Micro-Infusion Device, Mercator MedSystems, San Leandro, CA) is being studied to determine its effect on preventing rethrombosis and disease symptoms. Data from ongoing registries and randomized controlled trials, including the BOLT, DEFIANCE, and REVIT studies, will continue to inform the treatment of patients with IFDVT.

9:31 am
When to investigate and treat deep Venous obstruction?
Phillip Puckridge

9:41 am
Is there a role for an ANZ Venous Forum?
Laurencia Villalba

9:51 am
Discussion

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17 October 2024

10:30 am - 12:30 pm
PULMONARY EMBOLISM – A VASCULAR PERSPECTIVE (VENOUS WORKSHOP - TICKETED EVENT)

Scientific Session - Venous - Conference Hall 3

Proudly sponsored by BD, Boston Scientific, Inari Medical and Penumbra

10:30 am
The Medical Management of DVT and PE
Prahlad Ho

10:40 am
CT, ECHO and clinical findings in high-risk PE
Rajesh Malik
High-risk pulmonary embolism (PE) is a life-threatening condition characterized by hemodynamic instability due to acute right heart failure. Without urgent reperfusion therapy, close to half of patients with

high-risk PE will not survive the acute event. Even when treated using systemic thrombolysis, the guideline-recommended first-line interventional therapy, this patient population has historically demonstrated approximately 30% in-hospital mortality. Recent technological advances, including large-bore mechanical thrombectomy devices, might improve the mortality rate in high-risk PE, but achieving favorable outcomes for these patients first depends on prompt and accurate diagnosis. Patients presenting with systemic hypotension and probable PE based on Wells and Geneva scores, laboratory tests, or other measures should begin anticoagulation therapy and supportive measures while awaiting a definitive diagnosis. Computed tomographic (CT) pulmonary angiography is the standard technique for confirming PE due to its widespread availability and capacity to provide clear and rapid results, and it can also provide quantitative information regarding the severity of right heart dysfunction. Transthoracic echocardiography is also used in the assessment of high-risk PE as another modality to evaluate right heart dysfunction and to rapidly determine whether right heart clot-in-transit is present. The presentation of this abstract will include discussion of clinical findings in the setting of high-risk PE as well as related details regarding the use and interpretation of CT and echocardiographic imaging. Recent clinical studies reporting interventional outcomes in high-risk PE patients will also be discussed.

10:50 am
Endovascular management of PE trials, past present and anticipated
Phillip Puckridge

11:00 am
Systemic lysis vs catheter-based therapies in the management of PE
Rohit Paliwal

11:10 am
PE management – ICU perspective – established PERT
Cartan Costello

11:20 am
The importance of training in VTE management within the vascular SET program
Erin Saricilar
Purpose: Venous thromboembolism (VTE), including deep vein thrombosis (DVT) and pulmonary embolism (PE), is a common and potentially life-threatening condition that vascular surgeons frequently encounter in their practice. Despite its importance, the teaching of venous thromboembolism management during vascular surgery training in Australia and New Zealand is often inadequate as most public hospitals have passed the acute management of this common pathology on to interventional radiology. Methodology: The initial portion of this study is a qualitative study that used a brief focus group composed of SET trainees with specific training in VTE and those without that training to answer questions in an unstructured environment, with the conclusions being noted and cited. Then, all SET trainees in Australia and New Zealand will be asked to complete a survey providing quantitative measures on the perception of the importance of VTE training, the current quality of this training, and desires for future training. Results: Sentiment provided by trainees who have completed VTE specific training is overwhelmingly positive. Key points of note were that VTE management is complex and different to any arterial disease, presenting its own operative and clinical challenges, and both sides of the vascular spectrum need to be treated with a different mindset. Also, it was noted that many who did not have VTE specific training felt overwhelmed at times when faced with more complex VTE conditions in the public hospital and were often not given high level guidance from seniors. Conclusion: It is apparent that there is a need for all SET trainees to be provided specific training in VTE management and there is a need for change within the vascular SET program to cater for this.

11:28 am
Large Bore Catheter Management of PEs
Rajesh Malik
Catheter-based large bore mechanical thrombectomy strategies for treating pulmonary embolism (PE) aim to quickly remove thrombus and relieve right ventricular (RV) strain. Such approaches involve the mechanical removal of thrombus from the pulmonary arteries by aspiration or entrapment. Interest in these techniques has stemmed from their rapid improvement of hemodynamics, reduced bleeding risk, and lack of intensive care unit requirement relative to thrombolytic-based treatments. Mechanical thrombectomy represents a safe alternative for PE patients with contraindications to thrombolytic therapy, which can occur in up to 50% of patients, and may be more effective at treating older thrombus, which can be resistant to thrombolytic drugs. Several devices have been developed with variations on these mechanisms-of-action. The FlowTriever System (Inari Medical, Irvine, CA) and Indigo Aspiration System (Penumbra Inc,

Alameda, CA) are the most studied medium-to-large bore devices indicated for treatment of PE. The FlowTriever System is comprised of the Triever aspiration catheter (16F, 20F, and 24F diameter) and optional FlowTriever disks which can be used to disrupt and entrap thrombus. The safety and efficacy of the FlowTriever System has been evaluated in the FLARE IDE study; the ongoing prospective, multicenter FLASH registry; in high-risk patients in the FLAME registry; and in ongoing PEERLESS and PEERLESS II randomized controlled trials (RCTs). The Indigo Aspiration System consists of an aspiration catheter (12F and 16F diameter) connected to a computer-assisted aspiration engine that controls a continuous aspiration based on the detection of thrombus. The Indigo System has been evaluated in the EXTRACT-PE IDE study; the ongoing prospective, multicenter STRIKE-PE registry; and the ongoing STORM-PE RCT. Data from these ongoing RCTs should provide high-quality evidence to inform societal treatment guidelines regarding PE management in the years to come.

11:36 am
The role of the ANZ vascular surgeon in PERT (PE Response Team)
Laurencia Villalba

11:46 am
How to start a PE thrombectomy service
Rajesh Malik
The advent of catheter-directed therapies for the treatment of pulmonary embolism (PE) has ushered in an era of resurgence in terms of the investigation into the true impact and effect of these new treatment modalities. This resurgence has also lead to the rapid development of multiple devices mostly focusing on lytic-free approaches widely known as mechanical thrombectomy (MT). Another important development in this new era has been the development has been the development of pulmonary embolism response teams (PERT). These teams were developed in order to have a multidisciplinary approach to PE patients including multiple medical specialties such as, but not limited to, interventional radiology (IR), interventional cardiology (IC), vascular surgery (VS), cardiothoracic surgery (CTS), pulmonology/intensive care physicians, internal medicine and hematology. It is crucial for each member of the team to have an understanding of these modalities and the data that supports their use. Mechanical thrombectomy has emerged as a promising new therapy in the treatment of PE. There are multiple key factors to developing a successful MT PE service. In our opinion, the most important factor is understanding the local hospital system and what resources are provided and how patients have been historically treated. Education of key members is also vital so that each specialty that participates in the decision making process of these patients are all aligned on the data and education of this disease process. Furthermore, developing system wide standardized treatment algorithms and patient pathways are important in order to make sure every patient is at the very least evaluated by a physician member of the PE team. The inclusion and education of hospital administration is also crucial in order to secure necessary support and funding to build and grow a successful MT PE program.

11:54 am
Percutaneous thrombectomy in intermediate and high-risk pulmonary embolism: The Flinders Medical Centre experience
Tam Vo
Purpose Acute pulmonary embolism (PE) is associated with an in-hospital mortality of 25% in high-risk patients. Currently, societal guidelines recommend systemic lysis for high-risk PE despite limited data and a major bleeding risk of approximately 10%. Percutaneous thrombectomy has recently been shown to be a promising treatment for intermediate/high risk patients with PE. Here, we review our firsthand experience with this new technique. Methodology A retrospective review of patients with intermediate or high-risk PE who received percutaneous thrombectomy was conducted. We recorded patient demographics, haemodynamics and pulmonary arterial pressures pre and post intervention. We also considered their peri-procedural recovery including length of hospital stay following intervention. Results We treated 34 patients with an average age of 68. Of these patients 19/34 (56%) were male. We identified that 20/34 (59%) of these patients had high risk PE while the remaining patients (14/34) had intermediate-to-high risk PE according to the European Society of Cardiology guidelines. The Lightning Flash was the most used device in 18/34 (53%) of cases. We also used Indigo CAT8, Lightning 12, Angiojet and FlowTriever. There were no procedural complications. All cause in-hospital mortality was 4/34 (12%). All patients who survived i.e. 30/34 (88%) were discharged without an oxygen requirement, with a median length of stay of 7 days post intervention. Of the 8/34 (24%) patients who underwent echocardiography pre and post procedure, the mean post-procedural reduction in pulmonary artery pressure was 9mmHg. Conclusion The results suggest that percutaneous thrombectomy is safe and effective, and should be considered in the management of patients with intermediate or high-risk PE in an attempt to improve the short-term outcomes in this patient cohort. Further work is required to determine the impact of such therapy on the longer-term sequelae of PE.

12:02 pm
Discussion

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17 October 2024

1:30 pm - 3:00 pm
SUPERFICIAL VENOUS DISEASE (VENOUS WORKSHOP - TICKETED EVENT)

Scientific Session - Venous - Conference Hall 3

Proudly sponsored by BD, Boston Scientific, Inari Medical and Penumbra

1:30 pm
Central venous obstruction and lower limb reflux – Treat one, the other or both?
Iman Bayat

1:40 pm
The role of sub-ulcer sclerotherapy in venous ulcer management
David Goh

1:50 pm
Percutaneous treatment of perforator disease – Latest technology, tips and tricks
Adrian Ling

2:00 pm
Comparative Study between Dermatology Life Quality Index (DLQI) and Sheffield Preference-based Venous Ulcer questionnaire (SPVU-5D) in Assessment of Quality-of-Life in patients with venous stasis ulcer
Chelsea Tong
Purpose: Venous leg ulcer (VLU) is a prevalent condition treated concurrently by vascular and dermatology. It is a condition associated with significant physical, psychological, and socioeconomic burdens. The evaluation of patient reported outcomes (PROs) is an indispensable element of research in chronic wound management. Health-related quality of life outcome (HRQol) through questionnaires such as the Sheffield Preference-based Venous Ulcer questionnaire (SPVU-5D) is well validated for measuring quality of life and impact of disease in patients with VLUs. The most well-validated HRQoL tool for the assessment of quality of life in patients with dermatological conditions is the Dermatology Life Quality Index (DLQI). To date there are no studies assessing the accuracy of DLQI for VLUs. The aim of this study is to compare the performance of DLQI to SPVU-5D in patients with VLUs. Method: A single center prospective study including all patients with VLUs between January 2024 – January 2025. Diagnosis of venous incompetency is based on clinical history, examination, and radiological findings. Ulcers of other etiology were excluded. Both DLQI and SUPVU-5D questionnaires completed at baseline and 12 week follow up. Primary outcome measured were performance of DLQI as a HRQol tool in terms of construct validity, responsiveness, and internal consistency. Results: 60 patients included to date. Median age was 76. Baseline characteristics recorded. Statistical analysis showed internal consistency of Cronbach's alpha at 0.75. Pearson's correlations showed r=0.6 moderate correlation for construct validation. Student T test was calculated for assessment of responsiveness. Conclusion: DLQI shows non-inferiority in comparison to SPVU-5D as an HRQoL tool for VLUs in terms of responsiveness, construct validity, and internal consistency. This provides valuable information to clinicians to evaluate the current quality of existing HrQol for VLUs.

2:08 pm
Exposure of Vascular Surgery Trainees to Varicose Vein Surgery, 10-year experience in a tertiary centre.
Benjamin Birch

2:16 pm
Debate: Best for C2 - Cyanoacrylate glue Vs Radiofrequency Ablation
Christopher Brooks, Matthew Claydon

2:36 pm

Discussion

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17 October 2024

3:30 pm - 5:30 pm
MISCELLANEOUS VENOUS AND THE TOO HARD BASKET (VENOUS WORKSHOP - TICKETED EVENT)

Scientific Session - Venous - Conference Hall 3

Proudly sponsored by BD, Boston Scientific, Inari Medical and Penumbra

3:30 pm
Lymphatic bypass for lymphoedema – Advances in surgery and results
Ramin Shayan

3:40 pm
The Medical Management of Peripheral Oedema
Katy Melrose

3:50 pm
SVC syndrome
Adrian Ling

4:00 pm
The obstructed IVC filter – Tips and tricks
Rajesh Malik

4:10 pm
Subclavian DVT - Management of venous obstruction post rib resection
Steven Dubenec

4:20 pm
What is the role of endovascular treatment of iliofemoral deep venous thrombosis in pregnancy?
Sarah Chew
Purpose: The risk of venous thromboembolism increases during pregnancy with short-term life and limb-threatening risks and long-term morbidity due to post thrombotic syndrome. Endovascular treatment in iliofemoral deep venous thrombosis (DVT) has been shown to be an effective treatment option in addition to standard anticoagulation therapy. However, the safety and efficacy of these interventions during pregnancy has not been well established. This review aims to assess the available evidence for endovascular treatment of iliofemoral DVT with concurrent pregnancy. Methodology: A comprehensive literature review and online search was conducted to gather information on the current available evidence on endovascular intervention in iliofemoral DVT in pregnancy. Results: A total of 9 relevant articles were identified, comprising 146 patients. The majority were post-partum patients with only 25 pregnant patients with iliofemoral DVT identified. All studies were retrospective with the majority being case series. Only one paper assessed long term outcomes with most papers examining short term outcomes such as procedural success, short-term patency and symptom relief. From the 25 pregnant patients identified that underwent endovascular treatment, 9 were treated with ultrasound-guided percutaneous aspiration thrombectomy. While outcomes varied among studies, no maternal or fetal deaths were reported. Two patients underwent elective termination of pregnancy post treatment. Conclusion: There is limited available evidence regarding endovascular treatment of iliofemoral DVT during pregnancy, with most studies reporting on post-partum DVT. Treatment of iliofemoral DVT in pregnancy is complex and requires consideration of both fetal and maternal wellbeing. The evidence base for this unique therapeutic challenge would benefit from larger prospective trials specifically examining the antepartum population in order to establish clear guidelines for the treatment of this patient group.

4:28 pm
Is there a role for endovascular management Tumour thrombus?

Jason Toniolo

4:38 pm
PERT Outcomes in a Regional Setting: A Retrospective Analysis
Myrna Ishak
Purpose: To assess patient survival and ancillary outcomes when managed by the Pulmonary Embolus Response Team (PERT) in Cairns Hospital. Methodology: We conducted a retrospective, single-centre cohort study. Patients admitted to ICU with a diagnosis of pulmonary embolus were included, from January 1st 2022 to December 31st 2023 inclusive. Patients identified as having low-risk PEs were excluded. Primary endpoints were all-cause mortality rate and the proportion of patients undergoing catheter-directed thrombolysis/thrombectomy or IVC filter insertion. Secondary endpoints comprised patients' discharge destination from hospital and the incidence of haemodynamic or respiratory failure. Results 37 patients were included, only one of which suffered a massive PE. The remainder presented with submassive PEs. One patient (2.7%) was risk-stratified as being high risk, one patient was intermediate low risk, and the remaining cases were intermediate high risk. Inpatient all-cause mortality rate was 5.41% (n = 2 patients). 15 patients (41%) were treated with systemic thrombolysis, 3 patients (8%) underwent catheter-directed thrombolysis, and another 3 underwent IVC filter insertion. None required intubation or ECMO. 31 patients (84%) were directly discharged home from hospital. Conclusion An established and accessible PERT Guideline expedites commencement of appropriate, life-saving treatment. It is an especially valuable resource in a regional centre, such as Cairns Hospital, due to the high proportion of IHTs from rural and remote facilities. While our reported all-cause mortality rate is superior to that described in the literature, this is confounded by a small sample size.

4:46 pm
Discussion and Closing Remarks

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17 October 2024

5:30 pm - 6:30 pm
WELCOME RECEPTION (TICKETED EVENT)

Cocktail - Vascular, Nursing - Exhibition Hall

5:30 pm
Welcome to Country

5:40 pm
Wominjeka Ngarrga (Welcome Dance)

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17 October 2024

7:00 pm - 10:30 pm
TRAINEES DINNER (TICKETED EVENT)

Speciality Dinner - Vascular

Proudly Supported by Gore & Associates

Travel: At 6:30pm please make your way from the Welcome Reception to the Crown Promenade Hotel main entrance (located next door to the Crown Conference Centre) where transfers will depart to Arc One Gallery at 6:45pm sharp. If you prefer to make your own way to the venue, please refer to the google maps directions. Please note that return transfers have NOT been arranged; guests will need to arrange their own transportation home at the end of the evening.

18 October 2024

7:00 am - 8:20 am
WOMEN IN VASCULAR SURGERY BREAKFAST (TICKETED EVENT)

Breakfast Session - Nursing, Vascular - Meeting Room M5 - Meeting Room M6

Proudly sponsored by Gore & Associates

Debate Sides:
Merits: Sara Zettervallm Catherine Thoo and Roxanne Wu
Quotas: Mark Jackson, Manar Khashram and Jennifer Chambers

7:00 am
Welcome and Introduction
Emma Sim, Korana Musicki

7:05 am
Debate: Merits vs Quotas: Best Path to Shaping a Strong and Equitable Vascular Surgery Workforce
Mark Jackson, Sara Zettervall, Catherine Thoo, Jennifer Chambers, Manar Khashram, Roxanne Wu, Jennifer Chambers

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18 October 2024

8:25 am - 10:00 am
AORTIC

Scientific Session - Vascular - Conference Hall 1 - Conference Hall 2

8:25 am
Convener Welcome
David Goh

8:30 am
Where is the best proximal sealing zone for an aortic endograft?
Sara Zettervall

8:40 am
Endoanchors offer durable protection of the proximal seal zone in patients with hostile neck anatomy
Apostolos Tassiopoulos

8:50 am
Infected AAA – Does endovascular management work long-term?
Boonprasit Kritpracha

9:00 am
Centre volume threshold for Aortic Surgery – Guidelines vs reality
Kevin Mani

9:10 am
How do we best train our future vascular surgeons in open aortic surgery?
Manar Khashram

9:20 am

What to do when you don't know why the sac keeps growing post-EVAR
Anastasia Dean, Anastasia Dean

9:30 am
Effect of Telmisartan on the Peak Wall Stress and Peak Wall Rupture Index of Small Abdominal Aortic Aneurysms: An Exploratory Analysis of the TEDY Trial
Tejas Singh

9:38 am
Predicting mortality for ruptured abdominal aortic aneurysms: validation of the Harbourview scoring system in a multi-centre New Zealand study population.
Jhanvi Dholakia
Purpose A surgeon is faced with rapid complex decision making regarding whether to provide operative intervention, when encountering a ruptured AAA. The Harbourview Risk Score (HRS), shows promise in calculating 30-day mortality 1–4. The. It scored 1 point for age (>76 y), pH (<7.2), SBP (<70 mmHg), Cr(>176.8 □mol/L) 4. The aim of this study is to validate this scoring system, and the secondary aims are to assess outcomes between open (OR) and endovascular (EVAR) intervention for rAAA. Methodology A multi-centre retrospective data review was performed on patients who presented to hospital with a rAAA between 2018 and 2023. Demographic, comorbidity, clinical and biochemical data was collected. Analyses was carried out using SPSS and Prism. Results 104 patients (68% male, median [range] age 75.5 [48-97], 28% Indigenous Māori, 61% NZ European) were included in the study. Of 78 patients that were offered an intervention, 28 (36%) were EVAR. Based on the Kaplan-Meier analysis, the median survival for patients with an OR was 90 days, and 850 days for patients with an EVAR. In the OR group, there was a 50% 30-day mortality, compared to 22% for the EVAR group (p-value 0.005) (OR 4.6 (95% CI: 1.51-14.02). In our cohort, 30-day mortality was 14.3% in HRS 0, 39.5% in HRS 1, 65.7% in HRS 2, and 88.2% in HRS 3 and 4 points, which are similar to the results in the seminal paper. 4 The ROC-curve identified AUC of 0.7527 with a p-value of <0.0001 suggesting that the HRS is a good score to use for predicting 30-day mortality. Conclusion Retrospectively applied, HRS was validated in our multi-centre New Zealand study. HRS is a quick and easy tool at hand to risk stratify patients and should be considered as a useful adjunct for decision making. Given an improved short to mid-term survival in our setting, where possible, EVAR first strategies should be strongly considered. Long-term data is awaited.

9:46 am
The Metformin Aneurysm Trial (MAT) – An Update
Kevin Tian
Background: No drug reduces the growth rate and rupture risk in small abdominal aortic aneurysms (AAA). Observational studies have shown that patients with diabetes have lower prevalence of AAA, which does not fit with its impact on other vascular diseases. Instead, this effect could be related to diabetic medication. The Metformin Aneurysm Trial (MAT) will test whether metformin reduces the risk of AAA rupture-related mortality or AAA surgery in patients with small, asymptomatic AAA. Methods: MAT is an international, multicentre, prospective, parallel-group, randomised, double-blind, placebo-controlled trial. Patients were included if they had an infrarenal AAA ≥35mm, not planned for repair, not diabetic and not on metformin, with eGFR≥45. All patients undergo a single-blind run-in period prior to randomisation, where they receive metformin to assess whether they tolerate it. If tolerated, patients were randomised to either 1500mg metformin XR daily or an identical placebo. The follow-up period is 3.5 years, with primary outcomes being AAA rupture-related mortality or need for surgical repair. Secondary outcomes were AAA growth, major adverse cardiovascular events, and health related quality of life. 1954 patients are required for 90% power (p=0.05) to detect a greater than 25% reduction in risk of the primary outcome. Results: As of 01/07/2023, 17 sites in Australia and New Zealand are recruiting, randomising, and following patients up per the MAT protocol. Ten additional sites are being set-up; six in the UK are expected to begin recruitment this year. 366 patients have been recruited and screened, 304 entered the run-in period, 58 not tolerating metformin and hence excluded. Currently 247 patients have been randomised, with 175 patients reaching 12-month and 100 at 24-month follow-up. Conclusion: MAT could be important in guiding the treatment of small AAAs. Additional active sites across Australia and New Zealand would be of great benefit to the trials success.

9:54 am
Discussion

8:30 am - 10:00 am
SETTING THE SCENE

Scientific Session - Nursing - Conference Hall 3

8:30 am
Welcome
Juliet Scott, Susan Monaro

8:35 am
Addressing diversity, equality and responsibility in the current healthcare system
M.Eileen Walsh

9:20 am
A call to sustain vascular nursing specialisation
Frances Horner, Lucy Stopher

9:35 am
The Vascular Team – Where to from here?
Mark Jackson

9:50 am
Discussion

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18 October 2024

10:30 am - 12:30 pm
COMPLEX AORTIC / THORACIC / ARCH

Scientific Session - Vascular - Conference Hall 2 - Conference Hall 1

10:30 am
Setting up a complex aortic service – What do you need?
Kak Khee Yeung

10:40 am
What are the endovascular options for elective and urgent thoracoabdominal aneurysmal disease? How do you choose and plan for success?
Kevin Mani

10:50 am
Long term outcomes and aortic remodelling for acute type B aortic dissection using endovascular stent grafts
Boonprasit Kritpracha

11:00 am
A masterclass in open thoracoabdominal aortic surgery
Timothy Wagner

11:10 am
Management options in the aortic arch
Sara Zettervall

11:20 am
Arch branch endografting – Tips and tricks to minimise risk and maximise success

Kevin Mani

11:30 am
TEVAR in acute/subacute type B thoracic aortic dissection: A proposal for less proximal coverage
Boonprasit Kritpracha

11:40 am
The SUNDAY trial - Scandinavian Trial on Uncomplicated Type B Dissection Therapy
Kevin Mani

11:50 am
IVUS is essential for the treatment of Complex Acute Type B Aortic Dissections
Vikram Puttaswamy

11:58 am
Management of post-dissection thoracoabdominal aneurysms
Anastasia Dean, Anastasia Dean

12:08 pm
Physician-modified endografts – The new school
David Lindstrom
Background Emergent complex aortic diseases are challenging to treat. When off-the-shelf grafts are unsuitable and patients are unfit for open repair the remaining option is often some type of physician modified graft. One type of modification is the In-situ laser fenestration (ISLF), where aortic side branches are covered and flow restored with in-situ fenestration of the stent graft. The aim of this presentation is to discuss evidence and technical details of the procedure. Methods Resume of published reports on ISLF technique. The ISLF technique can also be facilitated by an off-the shelf, single SMA-fenestrated device – then mesenteric ischemia is avoided and renal ischemia time shortened. Features of an optimized design of such an endograft suitable for >90% of juxta- and pararenal AAAs is demonstrated. Also a clinical report of ISLF of visceral aortic stent-grafts 2018-2023 in three aortic centers: In total 65 ISLFs were performed in 34 patients. The procedure was acute in 79%, and 35% were ruptures. Four patients (12%) died within 30 days, all presented with a rupture. Technical success was achieved in 61/65 ISLF (94%). Median follow up was 16 months. Cumulative survival at six months, one year and two years was 88%, 80% and 72%. Conclusion ISLF is a useful tool for emergent endovascular procedures in complex anatomies when off the shelf grafts and open surgery is not feasible.

12:18 pm
Discussion

10:30 am - 12:30 pm
DIVERSITY

Scientific Session - Nursing - Conference Hall 3

Proudly sponsored by WOLFMED/HADECO

10:30 am
A call to action: Exercise as a mode of therapy for PAD/Vascular dysfunction
Belinda Parmenter
Peripheral artery disease (PAD) is a debilitating condition that leads to reduced walking ability, poor quality of life and an increased risk of major adverse cardiovascular events and cardiovascular mortality. Exercise is the gold standard treatment for PAD, both before and after surgical intervention, yet few people in Australia are referred to structured exercise programs, and even fewer take part. This presentation will summarise the critical evidence for exercise in patients with PAD, including the effect of walking versus other modes, various intensities, including levels of claudication pain, supervision compared to home-based exercise, and the evidence for exercise post-surgery compared to no exercise. Different case studies will be presented to help illustrate the benefits of various exercise prescriptions, and evidence will be presented on the effect of exercise on walking ability, quality of life, aerobic fitness and muscle strength, major adverse cardiovascular events and mortality. This presentation aims to present practitioners with various exercise prescriptions to provide patients with PAD and assist them in achieving optimal fitness and function, improved quality of

life, and reduced risk of major adverse cardiovascular events and mortality.

11:15 am
Determination of skill and knowledge requirements of an instrument nurse working in major vascular surgery for the development of a virtual reality training tool.
Mele'ana Kaitu'u, Mele'ana Kaitu'u, Mele'ana Kaitu'u
Purpose
An open abdominal aortic aneurysm (AAA) is a complex, high-risk procedure, with limited opportunities for an instrument nurse to gain experience and develop the skills required to assist the surgeon in caring for the patient during surgery. The aim of the study was to develop the content for a virtual reality (VR) training tool designed to develop the instrument nurses' skills when working in major vascular surgery.
Methodology
An exploratory qualitative design was utilised with semi-structured interviews and focus groups via Zoom. Participants were recruited via the Australian College of Perioperative Nurses and the Australian and New Zealand Society for Vascular Surgery. The interviews were recorded using Zoom, deidentified and transcribed verbatim and analysed using thematic analysis.
Results
Four major themes were identified from the data analysis: Preparation for surgery, Essential psychomotor skills, Non-technical skills, and The virtual reality training tool.
Conclusion
Expert vascular instrument nurses and consultant vascular surgeons provided a detailed compilation of the knowledge and skills required by an instrument nurse which will inform the development of the proposed VR training tool. With the increasing infrequency of open AAA repair, there are limited opportunities for instrument nurses to gain experience and develop the necessary skills. Hence there is a need to develop a realistic, repeatable, measurable experience such as a VR training tool for open AAA, to provide an accessible, learning experience for the instrument nurse.

11:25 am
Management of Osteomyelitis in DFU: Histology or Microbiology
Lucy Stopher
Purpose International and Australian guidelines on the management of diabetes-related foot infections, recommend proximal bone analysis to guide post-operative antibiotic therapy in patients undergoing foot amputations. Despite observational evidence suggesting correlation between histopathology and clinical outcomes, routine histopathology is rarely performed in Australia, perhaps due to turnaround time and controversy around the inter-rater agreement among pathologists. We studied the concordance between histopathology and microbiology in this cohort. Methodology A single-centre retrospective, study between January 2023 and February 2024 at Sir Charles Gairdner Hospital, Perth included diabetic patients ≥18 years, who underwent below ankle amputation with histopathological analysis from proximal bone samples. Secondary outcomes were rate of revision surgery, subsequent antibiotic therapy, readmission to hospital, and persistent infection at 3- and 6-months post-amputation. Results Sixty-seven patients were included of whom 51 (76%) were male, with mean age 66 years. Whilst 31% of samples demonstrated pathological inflammation, microbiological growth was detected in 70% resulting in only 53% concordance. Mean reporting time for histopathology was 11 days. At 3-months 19% of cases had had revision surgery, 27% received subsequent antibiotic therapy, 22% were readmitted to hospital, and 16% had signs of persistent infection. Six-month data collection is ongoing. Conclusions This study highlights the high rate of discordance between histopathology and microbiology from proximal bone samples in diabetes-related foot infections and in adverse outcomes following amputation. Further studies are needed to investigate the optimal approach to determine residual infection post-surgery, duration of antibiotic therapy and optimal prevention of adverse outcomes.

11:35 am
Quantification of changes in skin characteristics associated with chronic venous disease achieved
Sharon Boxall

11:45 am
SAVE-ING the Day – Establishing the Surveillance After Vascular and Endovascular Surgery Nurse-Led Program to Improve Outpatient Clinical Services and Service Delivery
Jeff Bull
Introduction: The Surveillance After Vascular and Endovascular Surgery (SAVES) Program is a South Australian nurse-led telephone-based surveillance program established to facilitate surveillance investigations and follow-up using evidence-based protocols. The aim of the surveillance program is to improve efficiency, safety and quality of care for vascular patients treated through the Flinders Medical

Centre, South Australia. Methodology: A Level 2 Registered Nurse was appointed full-time in January 2023 to establish the program. The hospital's evidence-based surveillance protocol was updated, expanded and endorsed by the Vascular clinicians. A database was created to collect and audit demographical data, vascular diagnoses, imaging results, interventions and quality assurance information. Patients were enrolled into the surveillance program following retrospective and prospective consultant and surveillance clinic attendance, review of upcoming surveillance imaging bookings and daily review of verified imaging reports. Key Components: Two full-day and two-half day clinics run weekly allowing for over 40 telephone appointment bookings. Outcomes: Over 800 patients are under the protocol-based nurse-led service. On average 130 patient telephone consults occur per month via the surveillance clinic in addition to 45 case reviews to follow-up clinical discussions with Consultants. Significance/Implications: The nurse-led surveillance program manages approximately 80% of patients requiring ongoing surveillance follow-up and alleviates an average of 55 clinic hours per month of medical staff time allowing for additional clinical support in concurrent wound clinics, ward duties and reduced outpatient clinic appointment workload. Conclusion: The implementation of the nurse-led program has significantly reduced outpatient workload for medical staff in addition to providing more comprehensive surveillance care and coordination for Flinders Medical Centre vascular patients.

11:55 am
A Vascular-Geriatric Model of Care as part of an Aged Care Outreach Service
Susan Monaro
Purpose To describe the development and implementation of the Vascular and Geriatric (VaG) nursing component of an Aged Care Outreach Service. Relevance Nursing care required in Residential Aged Care Facilities can be complex due to the older person's frailty, multimorbidity, and polypharmacy. Monitoring and managing chronic diseases in this context can be challenging. Many health services have outreach services to assist with hospital avoidance. Background Residents with vascular dysfunction have high-level needs due to impaired healing and the resulting complex wounds. When a resident deteriorates, there is often an expectation of in-hospital care, which may not align with the wishes of the person and their family. Early identification and management of deteriorating wounds and difficult-to-control pain aims to reduce the risk of hospitalisation and associated complications. Context A model of care that links vascular clinicians to the geriatric advanced practice outreach nurse provides upskilling and mentoring, escalation pathways, and sharing of difficult decisions. In turn, the advanced practice outreach nurse upskilled and mentored healthcare workers caring for aged care facility residents. Tailoring outreach care models to provide specialist nursing care within residential facilities will support higher-level care delivered in the person's familiar environment, improve the person and family experience, and reduce the costs and potential for iatrogenic problems associated with hospitalisation. Conclusion Our VaG model of care supports specialist care for aged care residents with vascular dysfunction. It enhanced existing links between hospital and residential care settings and built the capability of the residential care workforce through clinical consultation, peer learning and networking provided by the advanced practice outreach nurse.

12:05 pm
Navigating the Vascular Care Continuum: Implementing a Nurse-led Collaborative Model of Care in Te Tai Tokerau
Karen Devine
Nurse-led collaborative care models which bridge community and hospital settings represent a paradigm shift within hub and spoke vascular care models in New Zealand. We present the development and implementation of such a service in the spoke locality of Te Tai Tokerau, New Zealand, a region of significant rurality and high deprivation with disparate health outcomes particularly for indigenous Māori. A mixed methods approach was employed in development and evaluation of the care model, which involved a move from medical focus to a collaborative care model with nurse specialists (CNS) as keyworkers. The nursing team function as a central point of contact for patients and health care professionals across the care continuum. Through collaborative working in the community and outpatient settings, CNS engage with at-risk populations and their health care teams, providing education on vascular conditions, lifestyle modifications, vascular assessments and treatment plans. For patients requiring specialised interventions or acute care, the model seamlessly transitions to the hospital setting, where CNS coordinate inpatient assessments, functioning as a conduit between hub and spoke localities. Key components of the model include advanced practice nursing competencies, collaborative care planning and utilisation of mobile and telehealth technologies to facilitate remote consultations and monitoring. Data analysis demonstrates more effective utilisation of outpatient clinic appointments, reduced wait times for first specialist assessment, faster access to surgical interventions, reduced length of inpatient stay, increased patient satisfaction and value added for multidisciplinary team members. Our results highlight the effectiveness of the nurse-led model in optimising vascular care delivery particularly to underserved rural communities and has

reproducibility for similarly challenged regions.

12:15 pm
Discussion

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18 October 2024

12:45 pm - 1:15 pm
COOK MEDICAL LUNCHTIME SYMPOSIUM: ADVANCED AORTIC REPAIR – DURABLE REPAIR, PATIENT FIRST, NO COMPROMISE! (TICKETED EVENT)

Scientific Session - Vascular - Conference Hall 2 - Conference Hall 1

Proudly sponsored by Cook Medical

12:45 pm
Get it right the first time
Kevin Mani

12:50 pm
Endovascular options to preserve the visceral's
Anastasia Dean, Anastasia Dean

1:00 pm
Endovascular options to preserve the LSA
Charles Milne

1:10 pm
Discussion

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18 October 2024

1:30 pm - 3:00 pm
CAROTID / CEREBROVASCULAR / STROKE

Scientific Session - Vascular - Conference Hall 2 - Conference Hall 1

1:30 pm
ANZ Vascular Training experience in Carotid surgery, 11 year review
Benjamin Birch
Purpose Carotid surgery aims to reduce the risk of future embolic stroke in patients with severe carotid stenosis. Despite the high-risk nature of carotid surgery, vascular surgery training requires trainees to demonstrate competency in carotid intervention. Similar to other areas of vascular surgery, there has been recent concern that vascular surgery trainees have had reduced training opportunities in carotid endarterectomy (CEA) and carotid artery stenting (CAS). We aim to review the trends of ANZ vascular surgery trainee exposure to carotid surgery. Methodology A retrospective analysis was conducted using data from the Australasian Vascular Audit, between 2013 and 2023 across all vascular training centres. We analysed trainee participation in CEA and CAS, reviewing trainee role (surgeon vs assistant) and other factors that may contribute to trainee participation and development. Results In the study period, 13335 carotid interventions were performed in ANZ, 94.5% were CEA. There was a 10.3% reduction in overall carotid procedures during this period. The proportion of consultant and trainee primary operator was consistent: 49.0% and 26.2% respectively. Trainee participation remained at 49.0%. The Consultant-Trainee co-surgeon proportion increased over time, 11% to 22%. Similarly, consultant-consultant co-surgeon proportion increased in CEA and CAS from 0.32% to 0.73% and 6.7% to 14.5% respectively. Conclusion Despite the overall

reduction in carotid surgery, vascular surgical trainees have had strong training opportunities and access to carotid surgery in training centres across ANZ without a significant change in participation. The increased proportion of cases with joint surgeons may demonstrate a trend to reduced autonomy in both consultants and trainees. Trainers should remain mindful of facilitating primary operating opportunities for trainees to develop competent independent practice.

1:38 pm
The bloody tumor: A 15-year experience with Carotid body tumors
Purpose: Carotid body tumors though not common are considered one of the toughest cases to be managed surgically especially due to their high vascularity and proximity to vital structures . Delayed presentation with large tumors with complications like nerve palsies are not uncommon. We studied the clinical profile, interventions, and outcomes of these tumors and assessed the various factors influencing operative morbidity and recurrence. Methodology: This retrospective study was conducted at the Christian Medical College in Vellore, a tertiary care center in south India. We analyzed the patients from Feb 1st, 2009 to June 30th, 2024. Results: 176 of 182 tumors were excised from 171 patients (91 female, 80 male). Average age at presentation was 36.4 years, and 8 patients had familial bilateral tumors. Most common presentation was a painless neck mass. There were 84 Shamblin group III, 85 Shamblin group II, and 7 Shamblin group I tumors. 47 Shamblin group II/III tumors were associated with transient cranial nerve palsy or paresis (26.7%). 9 patients underwent ICA interposition repair either with reversed saphenous vein or PTFE.8 Shamblin group III tumors were associated with perioperative stroke (4.5%). Preoperative embolization was done in 22 tumors with 5 patients having serious complications. 8 patients had persistent nerve palsy . 17 patients required mandibular subluxation and 7 mandibular swing.3 patients required craniotomy to excise the residual tumor.Average blood loss ranged from 350ml to 2.5l.2 patients had recurrence Conclusions: Carotid body tumors are still one of the challenging cases for a vascular surgeon.They require multi modal approach involving proper evaluation ,preoperative embolization,additional exposure methods like mandibular swing and appropriate post operative management.

1:46 pm
Significance of ICAD in the setting of symptomatic carotid disease
Matthew Ligtermoet

1:54 pm
CT Perfusion in Carotid Disease
Mei Yan Ngun
CT Perfusion has emerged as a useful tool to guide decision making in acute stroke treatment. CT perfusion parameters can be a marker of cerebrovascular reserve and show changes in atherosclerotic cerebrovascular disease, including carotid stenosis. Changes to cerebral perfusion can be seen post-revascularization, with dMTT and rCBF commonly showing significant improvement. Future applications may include diagnosing and predicting risk of complications post revascularisation.

2:02 pm
Carotid Shunting: A view from 39 years experience
Bernard Bourke
PURPOSE: To present the senior author’s (BB) experience and views related to cervical carotid artery shunting during a 39-year experience of carotid intervention (CI). METHODS: Retrospective and prospective data related to BB's performance of carotid endarterectomy (CEA) and carotid stenting (CAS) with additional reference to our international published data on studies performed during that period (1,2). CAS (all per femoral) commenced in 2005 evolving to a “primary” stenting policy selecting patients unlikely to require balloon dilation and with multi-disciplinary involvement. RESULTS: From 2/1/1986 to date BB has performed 2677 CI (CEA: 2176; CAS: 501). Interventions per annum peaked at 134 in 1996 (all CEA). Symptomatic CEA: 76% CAS: 93%. CEA method changed from initial “all under GA and all shunted” (the first 468 consecutive cases of the series) through selective shunting using loco-regional anaesthesia (LRN) and from very rare patching through almost universal vein patching to Eversion CEA without patching (except for shunted patients). Total shunts inserted: 650. Shunt rate for CEA LRN: 10.8%, for CI: 5.0%. Our published data on DWI lesions associated with shunting will be discussed (2). CONCLUSION: There is no doubt that some brains are “shunt dependent” (SDB) but that does not necessarily prove a shunt is required during CEA. However, the observed behaviour of awake patients with SDB prior to the insertion of a shunt strongly suggests significant cerebral damage would occur without shunt support. A selection policy involving both CEA LRN and CAS reduces shunt requirement to a very low level. 1.Bourke and Crimmins: J Vasc Surg 2002, 36: 70-4 2.Bourke, Bourke and Beiles: Eur J Vasc Endovasc Surg (2016) 51, 167-173

2:10 pm

Trans-carotid artery revascularization (TCAR) outcomes are equivalent to CEA both for symptomatic and asymptomatic patients
Apostolos Tassiopoulos

2:18 pm
Setting up an off-the-shelf TCAR Program: Results so far from a single-centre experience
Frances Lee
This talk will discuss a single institution's experience with using an off-the-shelf approach to transcarotid artery revascularization (TCAR) for managing carotid artery stenosis in high-risk surgical patients. While carotid endarterectomy (CEA) and transfemoral carotid artery stenting (tfCAS) have been effective in reducing stroke risk, tfCAS has been associated with higher periprocedural stroke rates, partly due to suboptimal embolic protection. TCAR has emerged as a safer, minimally invasive alternative that provides better embolic protection through direct carotid access and temporary flow reversal. Initial trials, such as the ROADSTER and PROOF studies, demonstrated TCAR's safety and efficacy, with lower stroke and death rates compared to both CEA and tfCAS. This presentation will highlight our institution's use of an off-the-shelf alternative to a dedicated flow reversal device, discussing procedural techniques, early patient outcomes, and the advantages of this cost-effective approach for carotid revascularization in high-risk patients.

2:26 pm
Setting up a TCAR service
Apostolos Tassiopoulos

2:34 pm
Debate: Asymptomatic Carotid Stenosis
Damien Holdaway, Douglas Crompton

2:54 pm
Discussion

1:30 pm - 3:00 pm
EQUALITY

Scientific Session - Nursing - Conference Hall 3

1:30 pm
Building a resilient vascular team
Joanne Gibbs

2:15 pm
Driving Equity in Healthcare: Implementing a Mobile Nurse-Led Vascular Service in Te Tai Tokerau, New Zealand
Robyn Martinovich
There is a growing need to provide health services closer to home. Geographical remoteness, limited healthcare infrastructure, and financial barriers hinder our people from accessing timely and appropriate vascular assessment, leading to delayed diagnosis and treatment. It is imperative that we think outside the box and work on initiatives that break down barriers to access and ensure equitable healthcare. This has led to the development of a fully mobile diagnostic vascular nursing service for Te Tai Tokerau, New Zealand. Using qualitative research, we surveyed patients assessed on the mobile diagnostic van. The survey addressed barriers to access to conventional in-hospital services and overall satisfaction with the mobile service. A large proportion stated that the significant financial burden of long-distance travel meant assessment at our regional hospital was not an option for them. Te Tai Tokerau has a very high proportion of people in the most deprived section of the population with a Māori population well above the national average. The average yearly income for Te Tai Tokerau is consistently $30,000 less than the national average. This is significant when we consider that 50% of patients assessed, did not require further investigations and would have shouldered the significant cost of travelling approximately 300km to be told so. By bringing specialised care directly to patients' doorsteps, we can mitigate the challenges of geographical isolation and ensure equitable access to our service for some of our most vulnerable communities.

2:25 pm
Changing face of Senior Vascular Ward Nursing in the Waikato
Karen Nixey
In the last five years there has been many changes for the senior vascular ward nurse in the Waikato. Prior to 2019 there were few dressing choices available with most patients needing to go to theatre for debridement. The use of penthrox in the ward has meant more and more debridement is done on the ward by senior nurses who have been upskilled. They now use versajet and curettes to do debridement that previously would have required a trip to theatre and an anaesthetic. This has had enormous advantageous for patients who formerly would have had to be nil by mouth, often for several days, which interfered both with their glycaemic control and rehabilitation. Fiscally the advantage to the hospital is huge. A soft tissue debridement in theatre is costed at approximately $3200 whilst a versajet debridement on a ward can be done for less than $1000.00. With a ward bed being costed at about $1200 a night anything that enables a patient to be safely discharged earlier is valued. Waikato, like many other hospitals, is continually juggling admissions and discharges. Senior nurses now also routinely use and care for extra cellular matrixes such as BTM and endoform often discussing with registrars which is appropriate. In the Waikato vascular ward we now often utilise stimulan beads to provide targeted anti-biotic options for patients where infection is suspected based on clean tissue or bone often taken in theatre during initial amputation. More change is coming with our Intensive Care and High Dependency Units merging into a closed Critical Care Unit. This will mean that vascular patients who used to routinely be booked into HDU will now go into a unit on the ward through which senior nurses will rotate. Does this lead to more responsibility for the senior vascular nurse? Yes it does but it also makes it more interesting and satisfying.

2:35 pm
Discussion

2:45 pm
Self care - Introduction + practice
Joanne Gibbs

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18 October 2024

3:30 pm - 5:30 pm
EQUALITY/PHILANTHROPY/FINANCIAL RESPONSIBILITY

Scientific Session - Vascular - Conference Hall 1 - Conference Hall 2

This session is in association with the Global Vascular Companionship (GVC)
Proudly sponsored by Inari Medical

3:30 pm
RACS Global Health- Vascular Surgery in Nauru and the Pacific
David McClure

3:38 pm
Setting up a Vascular Surgery Service In Barbados
Nina Yhap

3:46 pm
Global Vascular Companionship – A 2024 update
Iman Bayat

3:54 pm
Onsite training of surgeons in low and middle income countries
Vikram Iyer
There exists a significant disparity in the availability of vascular services between high and low- to middle-income countries. The Global Vascular Companionship seeks to address this disparity through provision of vascular training of surgeons to provide these services to their respective nations. Local capacity building

can take a number of forms. We present two possible models for this. Firstly, a surgeon who has completed a formal vascular fellowship at a recognised institution may still feel unable to provide the full scope of care that their nation may require. This surgeon and nation may be assisted by outreach visits from vascular surgeons to provide additional training in defined paradigms and procedures, to expand the services available locally. Secondly, a surgeon who may not require a formal fellowship in vascular surgery, either due to local experience or circumstances, could avail of similar outreach visits to upskill both themselves and their institutional staff in certain aspects of vascular care. Insight into an individual's skillset and local infrastructure is key in identifying what degree of training can occur locally. An overarching Global Vascular Curriculum, with core and non-core modules, could assist in providing a framework for such training. On-site vascular training in low- and middle-income countries, either to refine or develop new skills in the provision of vascular care, is a key step in allowing each person, in every nation, to access to equitable vascular care.

4:02 pm
The role of instant messaging Apps in Vascular Surgery capacity building
Jill O'Donnell

4:10 pm
Financial considerations for Vascular Surgery in SE Asia
Boonprasit Kritpracha

4:22 pm
Enhancing surgical education in LMIC countries
Ramesh Nataraja

4:30 pm
Early Medical Graduate Perceptions towards Vascular Surgery: A New Zealand Multi-Centre Survey
Jhanvi Dholakia
Intro Vascular surgery (VS) services are facing rising pressure for an increasing number and complexity of procedures, while facing a predicted shortage and risk of burnout amongst surgeons. Attracting early-career doctors to VS is critical to a sustainable workforce, though this can be challenging within a highly competitive workforce environment. Therefore, this paper is aimed to understand the perceptions towards VS as a career for pre-vocational doctors to inform future recruitment efforts. Methods A survey based observational cross-sectional study was conducted between August 2022 and August 2023 in two major tertiary centres. The Consensus-Based Checklist for Reporting of Survey Studies (CROSS) was utilised in the design. Participants were included if they had graduated from medical school within 24 months of the study date, were non-incentivised and participated voluntarily. The survey tool with 28 items was developed in an iterative process. Results Of 49 respondents (24% response rate), half were considering a career in surgery, though only 2 (4%) were interested in VS. The majority agreed that vascular surgery had an impact on patient lives (92%), had good earning potential (82%) and was technologically advanced (76%). but disagreed that there was good work-life balance (96%) and had a gender balanced specialist population (92%). The main deterrent for choosing VS was a poor work-life balance, high stress and a difficult training programme. The majority had no exposure to VS in medical school (65%) or as a graduate doctor (78%), and many (84%) thought it would be difficult to find a mentor in VS. Conclusion There was low interest in a career in vascular surgery in this cohort of pre-vocational doctors with deterrents including work-life balance, gender balance and a difficult training programme. Recruitment efforts should focus on early exposure to the VS specialty, mentorship opportunities and education around available flexible training opportunities.

4:38 pm
The importance data sovereignty and translational research in Indigenous vascular surgery
Justin Cain
Since 1990, the number of published research regarding the health Indigenous people has increased exponentially (1). During this time, the health of Indigenous communities has continued to decline (2), and translation of this research has not been disseminated to people at the grassroots. This is largely due to research being performed by non-Indigenous researchers applying western methodology that is not responsive to cultural differences (1). The purpose of this paper is to introduce the concept of Indigenous data sovereignty to the ANZSVS. Also to highlight Indigenous research frameworks that can be used to improve how research involving Indigenous populations (3) Reference List 1. Rahiri J-L, Koea J, Pitama S, Harwood M, Aramoana J, Brown L, et al. Protecting Indigenous Māori in surgical research: a collective stance. ANZ Journal of Surgery. 2020;90(12):2396-9. 2. Rahiri JL, Alexander Z, Harwood M, Koea J, Hill AG. Systematic review of disparities in surgical care for Māori in New Zealand. ANZ J Surg. 2018;88(7-8):683-9. 3.

Jamieson LM, Paradies YC, Eades S, Chong A, Maple-Brown L, Morris P, et al. Ten principles relevant to health research among Indigenous Australian populations. Medical journal of Australia. 2012;197(1):16-8.

4:46 pm
Aboriginal and Torres Strait Islander Peoples have a unique distribution of peripheral artery disease
Kevin Tian
Background Aboriginal and Torres Strait Islander Peoples are at high risk of developing peripheral artery disease (PAD), having poor outcomes and a high rate of major amputation. Anecdotally, these patients are predisposed to distal arterial disease, but whether this distribution of disease is unique compared to non-Indigenous patients is unknown. This study compared the distribution and severity of PAD in Aboriginal and Torres Strait Islander and non-Indigenous patients. Methods A retrospective cohort study was conducted with patients who underwent lower-limb revascularisation between January-2015 and July-2023. Clinical and angiographic PAD severity was assessed at the time of first presentation to the vascular surgery service. Rutherford classification was used to clinically assess PAD severity, where 1-3 indicated degrees of intermittent claudication (IC), whilst 4-6 indicated degrees of chronic limb threatening ischaemia (CLTI). Three validated angiographic scoring systems (GLASS, ANGIO-score, TASC) were used to assess angiographic PAD severity based on computer tomography and digital subtraction angiography. Results 504 patients were included. 57 (11.3%) were Aboriginal and Torres Strait Islander, who were more likely to present with CLTI (74% vs 65%, p=0.01) than IC compared to non-Indigenous patients. No Aboriginal and Torres Strait Islander patient presented with rest pain without tissue loss. They were more likely to present with infrapopliteal disease (GLASS: OR 1.93, 95%CI 1.15-3.24; ANGIO-score: OR 1.97, 1.18-3.29; p=0.01), but less likely to present with aortoiliac disease (TASC: OR 0.36, 0.18-0.72, p=0.004; ANGIO-score: OR 0.39, 0.20-0.76, p=0.006) compared to non-Indigenous patients. Conclusion Aboriginal and Torres Strait Islander Peoples are more likely to present with more severe PAD clinically, with a predisposition for infra-popliteal artery disease. Investigation into how best to treat tibial disease in this cohort is essential to improving PAD outcomes.

4:54 pm
Health disparities in the surgical care of Indigenous versus non-Indigenous Australians
Monica Shahid
Health disparities in vascular surgical care have persisted for decades. The Australian Burden of Disease Study (ABDS) 2011 examined four complications of diabetes—diabetic neuropathy, diabetic foot ulcer, lower limb amputation, and vision impairment—and estimated their prevalence and burden. In 2011, approximately 730,000 Australians had diagnosed diabetes, with 1.7% experiencing lower limb amputation. The health loss due to diabetes-related lower limb amputation accounted for about 1% of the total non-fatal burden of diabetes in 2011, representing 456 years of healthy life lost due to living with disability in Australia. Indigenous Australians experienced significantly higher rates of diabetes-related lower limb amputations, bearing a burden 3.8 times greater than that of non-Indigenous Australians, with rates of 10.8 YLD (years lived with disability) per 100,000 people compared to 2.8 YLD per 100,000 for non-Indigenous Australians. The age-standardised rate of non-fatal burden due to diabetes-related lower limb amputations is highest among individuals living in remote and very remote areas when compared to inner regional areas and major cities. These elevated rates in remote areas are likely influenced by the higher proportion of Indigenous Australians residing in these regions, who have higher diabetes rates and consequently higher rates of diabetes-related amputations. There is also a clear trend of increasing burden with greater socioeconomic disadvantage. New strategies are essential to address these disparities. We recommend that surgeons use data to identify groups that would benefit most from medical care and collaborate with community organisations or individuals to create lasting health improvements. While surgeons alone cannot eliminate the structural inequalities in Australain society, they should work to ensure that everyone has access to high-quality vascular surgical care.

5:02 pm
Underrepresentation of vascular surgery in regional and rural centres in Australia: a study investigating its extent and possible solutions.
Shawn Ng
Purpose: Regional and rural health centres play a crucial role in serving their communities. Despite this, there is a lack of research originating from regional and rural sites. Thus, rural communities are underrepresented in medical research, perpetuating health inequity in these communities. Our study aims to identify the extent of this disparity with regards to vascular surgery research in Australia, and explore options for these regional and rural sites. Methodology: Articles published in the Australia and New Zealand Journal of Surgery (ANZJOS) from 2004 to 2024 were screened. Articles relevant to vascular surgery were included. The centres represented by the corresponding authors were recorded. The Modified Monash Model (MMM) was used for Australian centres to categorise them into metropolitan, regional, rural and

remote sites.(2) Centres outside Australia were excluded. Results: 152 research articles were identified, and 12 international articles were excluded. Of the included articles, nine originated from MMM 2 regional centres and three from MMM 3 rural centres. All remaining articles originated from MMM1 metropolitan centres. With only 8.57% of articles originating from a regional or rural centre, this highlights a significant underrepresentation. Conclusion: To address challenges in research at regional and rural sites, solutions should be centred on key principles such as leadership and collaboration. Emphasising the community-wide benefits of research could result in greater allocation of resources by policy makers, and collaboration with rural health groups and university sites can increase access to research academia and facilities.
1.Versace VL, Skinner TC, Bourke L, Harvey P, Barnett T. National analysis of the Modified Monash Model, population distribution and a socio-economic index to inform rural health workforce planning. Aust J Rural Health. 2021;29(5):801-10.

5:10 pm
Systematic review of travel and accommodation allowances from the state governments across rural and regional hospitals in Australia.
Zhi Kiat Sia
Purpose/Introduction: The rising living costs have significantly impacted the rural/regional population. The costs associated with accommodation and travelling from rural/regional towns to the hospital are high. They often have to drive more than 200km and pay for accommodation and fuel on top of the medical fees. We aim to perform a systematic review to evaluate what government/hospital related incentives are available in different states for the rural/regional population. Methodology: We have interviewed different hospital-affiliated hospital accommodations and individual local health district (LHD) to obtain in-depth information about the actual cost patients have to pay. We have collected information and data from different state government-led websites. Results: Private vehicle transport subsidy is 40c (NSW), 20c (NT), 34c (QLD), 32c (SA), 24c (TAS), 21c (VIC) and 16c (WA) per kilometre travelled. Range from $40 to $160 per night is reimbursed for private accommodation stay across different states. The patient/family can claim up to $120/night for 8 or more nights per financial year for not-for-profit/for-profit accommodation in NSW. Air travel will be subsidised or reimbursed for approved reasons. All government websites have offered online/paper claim with over-the-phone support to make the claiming process easier. Claim needs to be filled in by a medical practitioner for the first visit, only a single-form is required for subsequent visits within the first 24 months to the same medical practitioner. Retrospective claims within 24 months will be acceptable. Conclusion/s: In this era of rising living costs and profound inflation, we aim to deliver easier access to medical services especially in the rural settings. We aim to present the transparency and claiming process under different state governments and the cost of hospital-affiliated accommodations in regional/rural Australia.

5:18 pm
Discussion

3:30 pm - 5:30 pm
RESPONSIBILITY

Scientific Session - Nursing - Conference Hall 3

3:30 pm
Shared decision making can help people make informed decisions about dysvascular partial foot amputation
Michael Dillon

4:15 pm
Improving the care of high-risk diabetic foot disease in the greater Wellington region
Heather Schulz
Purpose: The prevalence of diabetes is increasing at an alarming rate in New Zealand. 50% of diabetics will develop significant peripheral neuropathy and vascular disease, with people of Māori, Pasifika and South-Asian ethnicities bearing a disproportionate burden of the disease. In an effort to reduce these poor outcomes in the Wellington region, the High-Risk Diabetic Foot Clinic (HRDFC) was established in 2017. To support and sustain the patient outcomes, the Clinical Nurse Specialist (CNS) Vascular Surgery role was implemented in 2022, to provide coordination and leadership of patient/whānau care and health professionals. Methodology: In a retrospective study, data were collated from electronic medical records to

identify all the patients that were treated through the HRDFC between 2018 and 2022. Data for these patients were compared with patients treated with diabetic foot disease during 2013-2017, prior to implementation of the clinic. Outcomes assessed included minor and major amputation rates, and the level of engagement of more vulnerable demographic groups. Survey data were collected on the quality improvement of the CNS Vascular Surgery role. Results: Minor amputation rates reduced from 77.1% to 57% of cases, and major amputation rates reduced from 29.8% to 11.9%. The HRDFC helped to engage more Māori and Pasifika patients compared to pre-HRDFC with a proportional increase of Māori from 7.8% to 11.9% and Pasifika from 15.7% to 23%. Survey data for the CNS vascular surgery role demonstrated timely access to the tertiary vascular service for support and advice and improved transition of care across regional services. Conclusion: The HRDFC has demonstrated a reduction in amputation rates and an increase in Māori and Pasifika engagement. The Vascular CNS role supports improved delivery of care across the patient continuum.

4:25 pm
What are the risk factors impacting on acute inpatient outcomes for adult patients undergoing non-traumatic major lower extremity amputations?
Tanghua Chen

4:35 pm
Optimising Statin Therapy in Peripheral Artery Disease: Insights for Nursing Practice from the TEAM-PAD Study
Naomi Cooper
Purpose Elevated cholesterol is a key risk factor for Peripheral Artery Disease (PAD). All patients with PAD should be prescribed statin therapy if tolerated as cardiovascular risks can be significantly reduced lowering low-density-lipoprotein (LDL) levels to <1.8mmol/l. This cohort study aimed to evaluate utilisation and efficacy of statin prescribing in patients with PAD. Methods Patients with an established history of PAD were recruited to the TEAM-PAD randomized controlled trial which aims to improve secondary cardiovascular risk prevention through multidisciplinary care, conducted at a tertiary Sydney Hospital. Prospective baseline health data, including statin prescription, total cholesterol, and LDL levels, were analysed to describe cholesterol management. Actual LDL levels were compared to clinical guideline target recommendations for this high-risk population, accounting for pre-existing prescribed statin therapy, and projected improvements in secondary risk prevention calculated. Results Of the 80 enrolled participants, 67 had cholesterol results available and were included in this analysis. Statins were not prescribed in 13 (19%) and 67 (62.7%) were not achieving guideline-based LDL target ranges. Of the patients prescribed statins, 29 (53.7%) were not receiving an adequate dose to achieve guideline recommended LDL levels. Using a prescribing nomogram, the average dose increase required to achieve target LDL control was an incremental increase of 1.6 (±0.67) to the next highest dose of their currently prescribed statin. Conclusion Our results indicate widespread poor utilisation of statins, and inadequate calibration of optimal therapeutic dosages by surgeons managing PAD. Nurse-led prescribing, based on treatment nomograms, has potential to align treatment with guideline-directed management and significantly impact clinical practice and patient prognoses.

4:45 pm
A Qualitative analysis of the Experiences of Patients on Oral Warfarin therapy
Sunita Sharma
Abstract: Background: Warfarin is recognized as one of the most widely used drug for the therapeutic and prophylactic regimens for thromboembolic events in patients suffering from various cardiovascular disorders. Aim and Objectives: The aim of this study was to explore the experiences of patients regarding the OPD based warfarin monitoring. Materials and Methods: The phenomenological research design with purposive sampling technique was used to interview thirty patients on oral warfarin therapy who were attending (CTVS) OPDs. The data was analyzed by using Colaizzi's method. Results: A total of eight core themes and twenty-nine sub-themes emerged from the data. It was found that despite their initial fear and worry, most of the participants were found to be accepting towards the initiation of warfarin therapy. The most common side effects which they suffered included bleeding and bruising. Although the patients reported satisfaction from the treatment facilities of the hospital, most of them reported facing much inconvenience due to frequent OPD visits. They expressed suffering from financial and psychological issues, a lack of knowledge regarding warfarin therapy and their quality of life also seemed to be impaired. Conclusion: It was concluded that long-term warfarin therapy significantly affects the quality of life of patients and careful monitoring of this drug is essential for successful treatment. Additionally, a need was found to provide detailed knowledge to the patients regarding care related to warfarin therapy that could somewhat assist in the prevention of their hospital visits for minor issues. Limitations: This is a single centre study. Conflict of Interest: None. Key words: Oral warfarin therapy, International Normalized Ratio, Quality of

life, Knowledge, Out-patient department.

4:55 pm
Nurse-centered concerns in caring for patients with delirium
Susan Monaro
Purpose Delirium is common in older patients admitted for in-hospital treatment of vascular dysfunction. In the absence of effective pharmacological treatment, nursing management is essential. The purpose of this study (Enabling Nurses to Recognise and manage the Impact of Cognitive impairment in Hospitalised patients) is to explore nurses' experience of recognising and managing patients with delirium. Methodology Nurses from two acute aged care wards and one neurology ward in a Sydney metropolitan tertiary referral hospital were invited to participate in a semi-structured interview, of which eleven nurses agreed to participate. The interviews were recorded and transcribed verbatim. Data was analysed qualitatively by applying the principles of human factors as an interpretative lens. Results Multiple human factors principles were identified with an intersection of workplace, management, and people related factors. All participants reported high levels of capability in the recognition of delirium and the importance of knowing about behavioural disturbances and their impact on the patients, families, and clinicians. Many participants identified concerns related to management with inadequate workforce allocation, need for multiple modes of workforce capability development which was challenged by limitations in the provision of mentorship, and excessive workloads. Most had experienced difficulties in delivering patient-centred care particularly when the family were excluded. Conclusion Nurses who care for inpatients with delirium identified strong capability in the recognition delirium but experienced difficulties in management. Nurses reported there was a lack of time to care and a lack of recognition of the burden of care. There was an overwhelming sense of responsibility with many describing moral injuries. These understandings of recognising and managing delirium in geriatric patients needs to be integrated into the care of patients admitted and undergoing treatment for vascular dysfunction.

5:05 pm
Discussion

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18 October 2024

7:30 pm - 11:00 pm
CONFERENCE DINNER (TICKETED EVENT)

Speciality Dinner - Nursing, Vascular

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19 October 2024

7:50 am - 8:20 am
PENUMBRA BREAKFAST SYMPOSIUM: MAKING STRIDES IN THE TREATMENTS OF ACUTE LIMB ISCHEMIA WITH COMPUTER ASSISTED VACUUM THROMBECTOMY (CAVT) AND BEYOND (TICKETED EVENT)

Breakfast Session - Vascular - Conference Hall 2 - Conference Hall 1

Proudly sponsored by Penumbra

7:50 am
CAVT– A game changer
Chris Delaney

8:10 am
Q&A

19 October 2024

8:30 am - 10:00 am
PERIPHERAL VASCULAR DISEASE

Scientific Session - Vascular - Conference Hall 1 - Conference Hall 2

This session is association with SALVAGE
Proudly sponsored by Boston Scientific & PolyNovo

8:30 am
SALVAGE
Mark Jackson, Catherine Thoo

8:33 am
Meta-Analysis of Randomised Controlled Trials Comparing Bypass and Endovascular Revascularisation for Peripheral Artery Disease
Angus Pegler
Purpose. Peripheral artery disease affects approximately 250 million people globally. Multiple randomised controlled trials have compared bypass and endovascular interventions but the optimum revascularisation approach remains unclear. The recently published BEST-CLI and BASIL-2 trials provide current and robust data addressing this question, however their findings are not concordant. This systematic review and meta-analysis provides an overview of the worldwide randomised evidence comparing bypass surgery and endovascular revascularisation in lower limb peripheral artery disease. Methodology. A comprehensive literature search of MEDLINE, Embase and CENTRAL databases was performed of all time periods up to 7 May 2023 to identify randomised controlled trials comparing bypass and endovascular revascularisation for treating lower limb peripheral artery disease. The primary outcome was major amputation. Secondary outcomes were mortality, re-intervention, 30-day adverse events and 30-day mortality. Odds ratios were calculated and pooled using the random-effects model. Risk of bias was assessed using the Cochrane risk of bias 2 tool. Results. Fourteen cohorts were identified across thirteen studies, enrolling 3840 patients. There was no significant difference in major amputation (OR 1.12; 95% CI 0.80-1.57) or mortality (OR 0.96; 95% CI 0.79-1.17) between the bypass and endovascular groups. Bypass was associated with a significant reduction in re-intervention compared with endovascular treatment (OR 0.57, 95% CI 0.40-0.82). Conclusion. These findings suggest that rates of major amputation and mortality are similar following bypass and endovascular interventions. Patients who undergo bypass surgery have a significantly lower re-intervention rate post-operatively.

8:41 am
Plain balloon versus drug coated balloon angioplasty, a 5-year projected cost analysis in an Australian climate
Ayushica Saran
Peripheral vascular disease (PVD) significantly impacts morbidity and mortality, affecting 15% of Australians, with prevalence rising with age. Recently, drug-coated devices have become more available, showing positive outcomes in treating proximal superficial femoral and popliteal artery diseases. However, these devices come with higher costs. This study projects the 1-5 month costs of these interventions using published re-intervention rates. A systematic review of randomised controlled trials (RCTs) was conducted to determine re-intervention rates after plain old balloon angioplasty (POBA) and drug-coated balloons (DCB) in superficial femoral and popliteal artery angioplasty. The primary patency (PP) and clinically driven target lesion revascularisation (CD-TLR) rates at 12, 24, 36, and 60 months were extracted as weighted mean averages. Hospital database searches using Australian classification of health intervention (ACHI) codes identified admissions over two years involving index endovascular treatment of superficial femoral and popliteal artery disease. Costs per admission were retrieved from financial records, excluding cases with additional inseparable inpatient procedures. Primary patency rates for POBA vs DCB were: 55.2% (n=875) vs 79.5% (n=1541) at 12 months, 48.2% (n=286) vs 74.4% (n=458) at 24 months, 45.8% (n=241) vs 67.0% (n=430) at 36 months, 51.8% (n=56) vs 73.3% (n=87) at 60 months. DCB demonstrated significantly higher primary patency rates at all intervals. Thirty-eight admissions involved endovascular treatment of the superficial femoral and popliteal arteries, showing no significant cost difference between POBA and DCB. In conclusion, our cost projection supports DCB use over POBA for primary lesions in the superficial femoral

and proximal popliteal arteries. DCB offers a cost-neutral method to reduce re-intervention rates in this patient population.

8:49 am
Peri-operative Regime Reduces the Risk of AngioJet® Thrombectomy Induced Acute Kidney Injury – A Single Centre Retrospective Cohort
Calyb Austin
Acute arterial and venous thrombotic events, such as acute limb ischemia (ALI) and venous thromboembolism (VTE), present urgent clinical scenarios requiring prompt intervention. The AngioJet® system is a pharmacomechanical thrombectomy device used for acute arterial and venous thrombus removal. It delivers a plasminogen-activating agent directly into the thrombus, reducing mechanical vessel trauma and enabling effective thrombolytic drug distribution. The device has shown high success rates, with 90% of patients completing mechanical thrombectomy successfully and an average hospital stay of 4.2 ± 1.4 days. Despite its efficacy, the AngioJet® system carries a risk of acute kidney injury (AKI). AKI incidence rates following AngioJet thrombolysis vary from 11.4% to 29%, with risk factors including prolonged thrombectomy duration, increased contrast volume, concurrent pulmonary thrombectomy, diabetes, PE, hypertension, and recent major surgery. Most AKI cases resolve within three months post-operatively. Our study involved 304 AngioJet thrombolysis cases in 230 patients, with a mean age of 65.79 years. The peri-operative protocol included pre-operative IV hydration, intra-operative anticoagulation, and post-operative monitoring and hydration. Thrombectomy time was limited to less than 240 seconds, and the lytic dose of tissue plasminogen activator was capped at 20 mg. Out of 304 cases, 6 patients developed AKI on day 1, 7 on day 3, and 5 on day 5. A significant relationship was found between AKI and diabetes ($p = 0.035$, Cramer V 0.126), and thrombectomy time ($p = 0.031$). The ROC model indicated an AKI risk inflection point at 155 seconds of thrombectomy time. Complications included 11 technical failures (3.6%), 12 major amputations (3.9%), and 2 deaths (0.7%). Our study demonstrates the use of a peri-operative protocol which reduces incidence of AKI to comparators.

8:57 am
Overview of Best CLI trial
Alik Farber

9:09 am
Jetstream atherectomy: Single centre retrospective analysis of lesions and outcomes
Daniel Zhang
Purpose Endovascular atherectomy devices provide a minimally invasive avenue of debulking calcified plaque that do not traditionally respond well with angioplasty and stenting. This paper presents a single centre's experience with the Jetstream Atherectomy System (Boston Scientific) over the last two years. Methodology We retrospectively identified all cases of Jetstream atherectomy between June 2022 to April 2024. Data was collected via medical records, radiology images (intraoperative angiograms), and follow-up reviews. Data including indication, location of lesion (determined by distal extent of lesion), length of lesion, pre-treatment lumen diameter, post-atherectomy lumen diameter and post-intervention lumen diameter was recorded. Outcomes of one-year primary patency, re-intervention rate, and complications were assessed. Results A total of 57 Jetstream procedures were performed: 26 femoral, 16 popliteal, 4 crural and 1 iliac case. Of these, more than half the lesions were chronic total occlusions: 13/26 femoral, 13/16 popliteal, 4/4 crural and 1/1 iliac. Primary patency was 73.1% at one year. Average luminal gain was 24.7mm immediately post atherectomy, and 41.1mm after complete intervention (including angioplasty +/- stenting). There were a total of 10 dissections (3 femoral, 5 popliteal, 2 crural), 1 perforation, and 2 cases with significant residual clot burden. 6/57 (10.5%) cases were stented – 3 for flow-limiting dissections, 1 for perforation and 2 for residual clot burden. 2 cases had distal trashing. Conclusion The rates of primary patency in our centre is consistent with that in the literature. On analysis of lesion characteristics, longer lesions, particularly those extending to tibial vessels, have poorer outcomes with regards to complications and need for bail-out stenting. Atherectomy is an effective endovascular tool, particularly in femoral vessels and for heavily calcified or occluded vessels, to achieve reasonable luminal gain without stenting.

9:17 am
An early Australian experience with the Lightning Bolt 7 Device in the treatment of Acute Lower Limb Ischemia
Bronwyn Beelders
Acute lower limb ischemia (ALI) is a vascular emergency that can be life or limb threatening, necessitating prompt and effective intervention to preserve limb function and patient survival. The standard treatment approaches include open thrombectomy, bypass surgery, and catheter-directed thrombolysis. Despite aggressive revascularisation, the reported 30-day amputation rate ranges between 8-30%, with an average

length of stay of 11 days (SD9). Recent advancements in endovascular techniques have introduced the Lightning Bolt 7 device, a new device utilizing computer-aided mechanisms for rapid clot removal through modulated aspiration. This study aims to evaluate the efficacy and safety of the Lightning Bolt 7 device as a treatment for ALI. Method: A retrospective review from November 2023 to July 2024 was conducted to identify patients who presented with ALI and underwent treatment with the Lightning Bolt 7 at Flinders Medical Centre. Patient demographic and outcome data were collected. Results: A total of 12 patients were identified, with an average age was 68.5 years (SD 11.7), 67% were male and 33% female. Rutherford classification was 1 in 3 patients, 2a in 6 patients and 2b in 3 patients. Anatomically, 3/12 (25%) were treated for aorto-iliac pathology while the remainder (9/12) were infra-inguinal. Intra-operatively, alteplase was used to augment Lightning Bolt 7 in 3/12 (25%), while 1/12 (8%) required subsequent open thrombectomy due to the presence of refractory thrombus. There were no device related complications. At 30 days, all-cause mortality was 1/12 (8%) and 11/12 (92%) patients had limb salvage. The median length of stay was 3.5 days (IQR 3-6.5). Conclusion: Our early experience with Lightning Bolt 7 demonstrates that it is safe and effective for the treatment of ALI with high rates of limb salvage and the capacity to facilitate early discharge from hospital.

9:25 am
The Hazy and Complex Relationship Between Cannabis and Vascular Health
Mark Jackson

9:33 am
Marijuana use and symptomatic aortoiliac occlusive disease- a systematic review and retrospective cohort study
Abhishekh Srinivas
Purpose The use of marijuana and its association with peripheral arterial disease has been well described. Anecdotal evidence at our centre has demonstrated a significant increase in patients presenting with symptomatic aortoiliac occlusive disease with a current or previous history of marijuana use. It remains unknown in the literature the association between these, as well as long-term outcomes comparing the differences between marijuana and non-marijuana users and their post-operative course. Our goal was to perform a systematic review to analyse the association between marijuana use and burden of aortoiliac occlusive disease. Methodology A systematic literature search was conducted using the Cochrane Database and OVID Medline databases in accordance with the PRISMA statement, on the 24th of June, 2024. We identified 2 articles, of which 1 (retrospective cohort study) was analysed. Given this, an observational study using the Australasian Vascular Audit (AVA) was conducted at Northern Health using a prospectively-maintained institutional database to identify patients with symptomatic aortoiliac occlusive disease who underwent operative treatment. Past medical history, including duration and amount of marijuana use was analysed using the hospital's medical records. Results We identified 67 cases of symptomatic aortoiliac occlusive disease requiring operative intervention over a 12-month period, all of which were included in this study. The majority of patients were male (83.5%) with median age 64 (IQR 57 – 69). 40 patients had a history of documented marijuana use, with 34 being currently active smokers with >10 pack years. Conclusion Although there is limited information available in the literature showing the association of marijuana use and aortoiliac occlusive disease, our retrospective cohort study has demonstrated a positive association. Further prospective studies are warranted in this area.

9:41 am
Discussion

8:30 am - 9:30 am
REST AND RECOVERY WITH JO GIBBS (TICKETED EVENT)

Workshop - Nursing - Conference Hall 3

TREAT® 'REST AND RECOVERY' SESSION
Hospital wards are complex and dynamic environments that rely on optimal individual and team performance. High workloads, long work hours and a lack of control in a hyper-kinetic work environment can lead to fatigue, stress and cognitive exhaustion. Staff need practical and helpful strategies that ensure they have moments to rest and recover. This helps staff function effectively so they can meet the demands of complex healthcare delivery.

Therapeutic Relaxation and Enhanced Awareness Training (Treat®) provides hospital programs that help

individuals and teams to function at their best.

The popular Treat® ‘Rest and Recovery’ sessions have been especially designed for medical and nursing staff to help reduce cognitive and physical fatigue, stress and emotional exhaustion. These sessions are based on current research and have been shown to reduce burnout (Kang et al, 2019). They include mindfulness and psychological tools, combined with restorative rest, to improve calm, vitality, and emotional regulation.

The Treat® 'Rest and Recovery' sessions also provide the opportunity to learn practical relaxation and stress reduction techniques to use at home or at work, to help reduce anxiety, stress and overwhelm.

No prior experience is needed. You can sit or lie down and relax and recover with supportive props during the session.

8:30 am
Rest and Recovery with Jo Gibbs
Joanne Gibbs

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19 October 2024

10:30 am - 12:30 pm
COMPLEX OEDEMA WORKSHOP

Scientific Session - Nursing - Conference Hall 3

Proudly sponsored by Essity and Medi-Rent

This session will begin with 1 hour of theory on oedema management in complex patients with Rebecca Aburn and be followed by a 1 hour practical workshop guided by Medi-Rent and Essity. Delegates will be allocated to a station and rotate at the 30 minute mark ensuring access to both stations.

Station 1 - Oedema and Pneumatic Compression - Medi-Rent
Station 2 - Oedema and other modes of compression - Essity

10:30 am
Theory: Oedema management in complex patients
Rebecca Aburn

11:30 am
Oedema Practical Rotation: Pneumatic Compression AND Other Modes of Compression

10:30 am - 12:30 pm
PVD

Scientific Session - Vascular - Conference Hall 2 - Conference Hall 1

10:30 am
PRE-oPerative Assessment for patients with chronic limb thReatening ischaEmia (PREPARE): A multinational Delphi consensus
Laxmi Sistla

10:38 am
Quality of Life in Chronic Limb-Threatening Ischemia: A Consultant PhD Experience
Leonard Shan
Introduction: Quality of life (QOL) in chronic limb-threatening ischemia (CLTI) is critical to comprehensive outcomes analysis and provision of high-value care. This PhD thesis aims to develop a blueprint for a new

CLTI-specific QOL measurement instrument that does not currently exist. The PhD experience from a consultant's perspective is also provided which is unique in Victoria. Methods: The instrument blueprint was developed by demonstrating the need, defining the purpose, developing a conceptual model, and identifying item content. A wide range of research methodologies was employed according to contemporary standards of QOL instrument development. This included a rigorous evidence synthesis of QOL instruments, data, and applications, to provide a prospectively designed framework for the QOL instrument. Results: There were six key components of the blueprint. Firstly, defining a predictive CLTI-specific QOL instrument. Secondly, a multidisciplinary team comprising healthcare professionals and patients was assembled. Thirdly, outlining ideal measurement properties, summary scores, and capturing all disease states. Fourthly, the importance of a feasible instrument with low responder and administrative burden, and simplicity of scoring and interpretation was highlighted. Fifthly, showing how clinical utility was important for implementation, with an emphasis on minimal clinically important difference and prognostic models. Finally, QOL in CLTI is related to themes involving independence, identity, coping, and not being alone. Conclusion: A blueprint for the new CLTI-specific QOL instrument has been developed to be fit for purpose in CLTI. The research methodologies employed are foundational in vascular surgery. The instrument will help to improve the quality and sustainability of care we provide to patients. This PhD will also help to develop the academic landscape of vascular surgery in Victoria.

10:46 am
Long-term revascularisation outcomes from the largest regional vascular surgery unit in Australia
Kevin Tian
Introduction Australia has 28% of its population living in regional, rural, and remote areas. High volume, regional vascular surgery units are essential in delivering care to these patients locally, alleviating their need to travel great distances to the metropolitan. Townsville University Hospital (TUH) is one such unit and the largest regional vascular unit in Australia, and services a large area including North and Western Queensland, with most of the work being in peripheral artery disease (PAD). This study reports the outcomes of revascularisation for PAD at our centre. Methods A retrospective cohort study was conducted with patients who underwent lower-limb revascularisation between January-2015 and July-2023 at Townsville University Hospital. Patients who presented with acute limb ischaemia or had previous revascularisation procedures were excluded. The clinical PAD severity was determined using the Rutherford classification at the initial presentation. Outcomes of the index revascularisation procedure were assessed, including major adverse limb events (MALE), major adverse cardiovascular events (MACE), major amputation, repeat revascularisation and all-cause mortality. MALE was defined as a composite of major amputation and repeat revascularisation, and MACE was defined as myocardial infarction, stroke, or cardiovascular mortality. Results 504 patients were included, with an average age of 71±10.3 years, and a proportion of 75.2% males. 34.3% of the patients presented with intermittent claudication, 8.0% with rest pain and 57.7% with tissue loss. 74.2% of revascularisation was endovascular, 23.8% open, and 2.0% hybrid. At 1- and 5- years post-procedure, the rate of MALE was 24.9% and 40.5%, with MACE at 15.5% and 29.1% respectively. Rate of major amputation was 4.6% and 9.1% at 1- and 5-years, with repeat revascularisation at 24.3% and 37.7%. The annual risk of mortality was 12.0%. Conclusion This study reports outcomes following revascularisation for PAD in a high-volume regional centre.

10:54 am
A 5-year retrospective cohort study investigating femoropopliteal bypasses at a single institution.
Chrisdan Gan
Introduction: Femoropopliteal bypass with vein conduit is a well-described and studied method of revascularisation since its inception in 1948. Over time, various techniques have evolved regarding the selection of vein conduit and configuration. There is limited data in Australia on the efficacy of reversed vs non-reversed and in-situ vein bypasses. Aims: A 5-year retrospective cohort study was conducted at a single institution to investigate whether reversed vein bypasses have a higher rate of stenosis at the proximal anastomosis due to size mismatch. Our secondary aims include long-term outcomes - re-intervention rates, graft patency, graft failure and major amputation. Methods: All patients who had an infra-inguinal bypass at Alfred Health between 2010 and 2015 were identified with reference to the AVA database. Patients who received single vein grafts were included. We investigated at 7-year follow up interval. Proximal stenosis was assessed using US. Results: 239 patients underwent infra-inguinal bypass surgery in our institution in a 5 year period. Our initial analysis of 62 cases in our study cohorts demonstrates a male predominance (2:1) with a Median age of 72 years. CLTI was the most common indication for intervention in both groups. 74% were reversed cephalic vein bypasses vs 24% non-reversed. Duplex arterial ultrasound was the predominant follow up modality. 6 week duplex arterial ultrasound demonstrated a haemodynamically significant proximal stenosis in 12% of all bypasses, of these 62% in the reversed bypass group. Conclusion: Reversed femoropopliteal bypass grafts demonstrates a higher rate of proximal stenosis at the initial surveillance study compared to non-reversed or in-situ bypass grafts. This may have implications regarding re-

intervention rates and long-term patency. Further analysis will be conducted to rates of proximal bypass graft stenoses at intervals during the 7 year follow-up. Furthermore, studies with greater power are required to conduct multivariate analysis testing.

11:02 am
Best CLI Trial - Limitations and Criticisms
Alik Farber

11:14 am
Predictors of Early Graft Failure in Infrainguinal Bypass Grafts: Incidence and Risk Analysis, A Bi-National Ten-Year Retrospective Study
Mei Ping Melody Koo
Purpose:Early bypass graft failure(EGF), occlusion of bypass graft within 30 days of index procedure, is associated with significant mortality and morbidity in infrainguinal arterial reconstruction surgeries. We aim to identify predictors of EGF in contemporary Australian-New Zealand vascular surgical practice. Methodology:Data from the Australasian Vascular Audit by the Australian and New Zealand Society for Vascular Surgery were retrospectively reviewed. Patients who underwent infrainguinal bypass from 2013 to 2022 were selected from the database. Demographics, operative details and relevant associations were analysed by multivariate logistic regression. The primary endpoint was graft failure within 30 days. Results:A total of 18,684 open infrainguinal arterial bypasses were performed, 1,121(6%) were complicated by EGFs. 13,922 were male with mean age 69+/-12 years. Comorbidities included hypertension(86%), smoking(72%), ischaemic heart disease(54%), diabetes(36%) and significant renal impairment(8%). Indications for initial bypass included tissue loss(31%), claudication(27%) and rest pain(17%). Significant predictors of EGF included end-stage renal failure (Odds Ratio[OR],19.4; p=<.001), pedal bypass (OR, 4.1; p=.026), use of prosthetic graft (OR,1.8; p=.001), in-situ great saphenous vein (OR,1.5; p=.011), and suboptimal venous conduit (OR,3.0; p<.001). Although the proximal anastomotic site and blind popliteal run-off displayed associations with graft failure, they were not significant in our regression model. Hypertension (OR, 0.8; p=.025), ischaemic heart disease (OR, 0.8; p=.003), having three vessels run-off (OR,0.7; p=.003) and utilising reversed GSV conduit (OR,0.7, p=.03) were protective factors against EGF. Conclusion:Our study revealed similar rate of EGF compared to existing literatures, and identified multiple non-technical factors that contributed to higher failure rate. Consideration of risk factors in operative planning may improve graft prognosis.

11:22 am
The CROCS-BKA Study – Comparison of Rigid Or Conventional soft Stump dressings following Below-the-Knee Amputation
Anjali Gentejohann
Submitted as per conditions of 2023 ANZSVS grant: Introduction: Below-knee amputation (BKA) has a devastating impact on function, and progression to prosthetic fitting is a crucial milestone. Rigid removable dressings (RRDs) are protocolised in some regions to promote successful orthosis, however there's limited evidence to guide optimal dressing choice. This New Zealand-based multi-centre study (in collaboration with the NZ Artificial Limb Service) presents one of the largest cohorts of patients to address the question: do RRDs alter surgical and functional outcomes following BKA? Methodology: A retrospective cohort study was conducted according to STROBE guidelines. Patients who underwent primary BKAs in four tertiary centres between 2009 and 2022 were included. Exclusion criteria were previous contralateral amputations, a subsequent (contralateral) amputation within 12 months, and paediatric cases. Surgical outcomes were length of hospital stay (LOS), return to theatre (RTT) and mortality. Functional outcomes were time to initial assessment (a surrogate for stump healing time) and prosthetic fitting, and long-term mobility and quality of life scores. Results: Of the total 1007 patients included, 470 (46.7%) received a RRD, 489 (48.6%) were fitted with a soft dressing, and for 48 (4.7%) dressing type was not recorded. Median time to initial assessment was 13 days shorter (74 vs 87 p=0.001). The RRD group had 0.72 [0.54 – 0.97 p=0.03] odds of returning to theatre. There were no differences in LOS, adjusted mortality, time to prosthetic fitting, or mobility and quality of life scores. Conclusion: Times to initial assessment and rates of return to theatre were reduced in the RRD cohort. These findings are consistent with international literature and guidelines, and lend evidence to support the routine application of post-op RRDs post-BKA. While a randomised controlled trial may not hold equipoise, this data should be correlated with multi-centre studies from other regions.

11:30 am
Patient Perspectives on the Key Priorities for Peripheral Artery Disease Management and Research
Nima Iranpour
Purpose This study aims to address the knowledge gap regarding patient and consumer-driven priorities in peripheral artery disease (PAD) research within the Australian context. By understanding what aspects of PAD management and intervention are most important to patients, the consumer-focused study seeks to

inform researchers and healthcare organisations how best to align clinical practices and research efforts with outcomes that matter to patients. Methodology In this mixed-methods study, a representative cohort of 15 patients with PAD, purposefully selected from 90 participants in a concurrent randomised controlled trial, attended a consumer workshop and completed a structured questionnaire and focus-group interviews, developed from previous qualitative research. Participants ranked ten predefined factors by priority and responded to five open-ended questions to provide qualitative insights into their preferences and concerns. Quantitative responses were analysed by calculating mean ranks (out of 10), while qualitative data underwent thematic analysis. Results Patients identified "Prevention of Complications," "Improving Quality of Life," and "Access to Vascular Care" as their top priorities, with average ranks of 2.5, 2.7, and 2.7, respectively, indicating their high importance. In contrast, "Cost Associated with Treatment" was ranked lowest (mean rank 5.3), reflecting less concern relative to other factors. The qualitative data reinforced these findings, emphasising the need for early intervention, enhanced preventive health programs, non-surgical treatment options, and comprehensive patient education. Conclusion Consumer-reported priorities of quality of life and access to comprehensive care are actionable goals for health services that meet patient needs and preferences. Best-practice research engages consumers, with this project demonstrating the value of consumer-driven priorities to shape effective and relevant healthcare solutions.

11:38 am
Alignment of Antithrombotic Therapy with Bleeding Risk in Peripheral Artery Disease: Insights from the OAC3-PAD Score
Sean Miller
Purpose Selecting antithrombotic medications for patients with Peripheral Artery Disease (PAD) involves balancing the benefits of intensified therapy against the risk of severe bleeding. The new OAC3-PAD bleeding risk score may help decision-making by characterising individual risk profiles. This study aims to stratify PAD patients into OAC3-PAD risk categories and assess alignment of current antithrombotic prescriptions with bleeding risk. Methodology This retrospective cohort study included consecutive PAD patients in a tertiary vascular unit from June 2022- June 2023. OAC3-PAD variables—age, CLTI, congestive cardiac failure, chronic kidney disease, prior bleeding, anaemia, and dementia—were extracted from electronic medical records. Descriptive statistics, and multinominal logistic regression compared antithrombotic prescribing across OAC3-PAD risk groups. Results The 425 patients were classified into OAC3-PAD bleeding risk categories: low (77, 18%), low-moderate (56, 13%), moderate-high (156, 37%), and high (136, 32%). Of the 42 patients not prescribed antithrombotic medications, only 10 were high-risk. Aspirin was the most commonly prescribed antithrombotic (131, 31%), followed by dual antiplatelet therapy (DAPT) (98, 23%). Low-dose rivaroxaban was prescribed to 47 patients (11%). High-risk patients were less likely to receive low-dose rivaroxaban (OR 0.40, 95%CI 0.18 - 0.88) or DAPT (OR 0.60, 95%CI 0.37 - 0.97), but more likely to be on oral anticoagulants (OR 5.34, 95%CI 3.20 - 8.92) compared to low-risk patients. Conclusion The OAC3-PAD bleeding risk score provides a valuable framework for stratifying PAD patients and aligning antithrombotic therapy with bleeding risk. Currently, the prescription of low dose rivaroxaban and DAPT aligns with bleeding risks, but less for oral anticoagulation. These findings highlight the need for tailored antithrombotic strategies that balance efficacy with safety based on individual bleeding risk profiles.

11:46 am
A Literature review of Interval Gangrene
David Sun

11:54 am
The Relationship Between BMI and Comorbidities in Patients with Peripheral Artery Disease
Ritesh Chimoriya
Background/Aims: Obesity is a major risk factor for Peripheral Arterial Disease (PAD) and is linked to various comorbidities that can impact clinical outcomes. This study aimed to explore the associations between BMI and clinical factors in PAD patients. Methods: This retrospective cross-sectional study included all patients with PAD diagnosis treated at a public tertiary hospital in Sydney between June 2022 and June 2023. Data were collected by reviewing Electronic Medical Records (EMR). Descriptive analysis and correlation were used, and hierarchical regression was conducted in three steps: first step included demographic variables, second step added PAD-related clinical variables, and final model incorporated all comorbidities. Results: Of 427 participants with PAD, 233 (54.6%) had BMI recorded and were included. The mean age of the participants was 73.1 years (95% CI: 71.5,74.7), with the majority being male (69.5%). Chronic limb-threatening ischemia was present in 55.5% of participants, while 28.8% had intermittent claudication. The average weight of participants was 78.4 kg (95% CI: 75.8,80.8), resulting in BMI of 27.6 kg/m^2 (95% CI: 26.8,28.4). Step 1 revealed that demographic variable (age and gender) explained 3.8% BMI variation (R2=0.038; F=5.613, p=0.004). When PAD associated clinical variable (PAD surgery and PAD stage) was added, the model further strengthened by 8.2% (R2=0.12; F=6.083, p<0.001) and had a negative association. Addition of

comorbidities, including OSA(p<0.001), COPD(p=0.005), osteoporosis(p=0.031) and hypertension (p=0.040), increased the model significantly (R2=0.315; F=10.0858, p<0.001) collectively explaining 31.5% BMI variation. Conclusion: Demographic variables, PAD-related clinical factors, and comorbidities collectively explained 31.5% of BMI variance in PAD patients. Comorbidities such as OSA, COPD, osteoporosis, and hypertension, were significant contributors, emphasising their role in managing obesity and underweight in PAD patients.

12:02 pm
A comparison of sartorius and gracilis flaps in Vascular surgery: a single-centre prospective study
Jhanvi Dholakia
Purpose Groin complication following vascular surgery occurs in 10-30% of cases and is associated with significant morbidity and mortality. Institutions have published results on sartorius and rectus femoris muscle flaps to cover arterial reconstructions. However, in recent years, the gracilis muscle flaps has emerged as a an alternative technique . To the best of our knowledge, this study is the first head-to-head comparison of sartorius and gracilis muscle flaps. Methodology A prospective study was carried out between January 2019 to December 2023 at Waikato Hospital. Study design was based on the STrengthening the Reporting of OBservational studies in Epidemiology (STROBE) Checklist. Patients undergoing a muscle flap for an elective or emergent indication under Vascular surgery were included. Primary outcomes were wound healing, mortality, length of stay, reintervention, limb and graft salvage. Results There were 25 flaps created during the study period of which 12 patients had a gracilis flap and the with a median follow up was 26 months. In the gracilis group, 11 (92%) patients completely healed, compared to 9 (69%) in the sartorius group (p=0.16). Median time to healing was 53 days in the gracilis group and 60 days in the sartorius group, though this was not significant (HR=0.93 [0.36-2.4]). There was no difference between the two groups in adjusted mortality (HR=0.46 [0.08 – 1.2]). Three (35%) patients needed reintervention, via groin debridement, in the gracilis group, compared to 1 (8%) in the sartorius cohort. There were two major amputations and 1 graft occlusion in the sartorius group, none in the gracilis group. Conclusion The gracilis holds potential as an alternative muscle coverage option for groin complications. In this single-centre cohort inferiority or superiority was not demonstrated, compared to the traditional sartorius flap. Further multi-centre data should be collected to correlate clinical outcomes with perceived benefits of the gracilis flap.

12:10 pm
Discussion

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19 October 2024

12:30 pm - 1:30 pm
THE BOARD OF VASCULAR SURGERY - SUPERVISORS AND TRAINERS MEETING

Business Meeting - Vascular - Meeting Room M15

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19 October 2024

12:45 pm - 1:15 pm
MEDTRONIC LUNCHTIME SYMPOSIUM: ESAR - SOLUTION FOR LONG TERM DURABILITY (TICKETED EVENT)

Scientific Session - Vascular - Conference Hall 2 - Conference Hall 1

Proudly sponsored by Medtronic, Chaired by Dr Boonprasit Kritpracha and Dr Vikram Puttaswamy

12:45 pm
Introduction

12:50 pm

ESAR: SOLUTION FOR LONG TERM DURABILITY
Apostolos Tassiopoulos

1:10 pm
Q&A

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19 October 2024

1:30 pm - 3:00 pm
DIABETIC FOOT ULCER

Scientific Session - Vascular, Nursing - Conference Hall 2 - Conference Hall 1

Proudly sponsored by Solventum

1:30 pm
Outcomes following minor amputation in patients with diabetes-related foot disease
Chanika Alahakoon
Purpose: Minor amputation is a common requirement to treat diabetes-related foot disease (DFD). Remoteness of residence is known to limit access to healthcare and has previously been associated with poor outcomes following vascular disease. The primary aim of this study was to examine the associations between remoteness of residency and ethnicity with the risk of major amputation and death following initial treatment of DFD by minor amputation and possible risk factors of the same outcomes. Methodology: This was a retrospective analysis of data from patients who required a minor amputation to treat DFD between 2000 and 2019 at a regional tertiary hospital in Queensland, Australia. Baseline characteristics were collected along with remoteness of residence and ethnicity. Remoteness was classified according to the 2019 Modified Monash Model (MMM) system. The outcomes of major amputation and death were examined using Cox-proportional hazard analyses. Results: A total of 534 participants were included, with 306 (57.3%) residing in metropolitan or regional centres, 228 (42.7%) in rural and remote communities and 144 (27.0%) were Aboriginal or Torres Strait Islander people. During a median (IQR) follow-up of 4.0 (2.1-7.6) years, 103 participants (19.3%) had a major amputation and 250 (46.8%) died. The risks (hazard ratio [95% CI]) of major amputation and death were not significantly higher in participants residing in rural and remote areas (0.97 [0.67, 1.47] and 0.98 [0.76, 1.26]) or in Aboriginal or Torres Strait Islander people (1.44 [0.96, 2.16] and 0.89 [0.67, 1.18]). Ischemic heart disease (IHD), peripheral artery disease (PAD), osteomyelitis and foot ulceration ($p<0.001$ in all instances) were independent risk factors for major amputation. Conclusion: Major amputation and death are common following minor amputation to treat DFD. Aboriginal and Torres Strait Islander People and residents of remote areas were not at excess risk of major amputation or death.

1:38 pm
Functional Near Infrared Spectroscopy – A Novel Method to Identify High-Risk Diabetic Foot Ulcers
Ryan Teh
Purpose To evaluate the use of functional Near-Infrared Spectroscopy (fNIRS) in the evaluation of overall microvascular foot perfusion in diabetic foot ulcers (DFU) to predict wound healing. Methods Patients with DFUs were recruited to a prospective study, with fNIRS measured using MOORVMS-NIRS and correlated with wound dimension changes monitored using Silhouette Wound Imaging technology. fNIRS measures of oxygenated (O2Hb) and deoxygenated (HHb) hemoglobin, as well as calculated oxygen saturation (SaO2) was performed in three phases, (1) at rest whilst sitting reclined at 45 degrees, (2) with toe and ankle flexion movements at 40bpm, (3) at rest after toe and ankle flexion. Each phase was measured for two minutes and mean values for each phase was calculated using the MOORVMS-PC software. Dynamic parameters of change in foot perfusion during flexion exercise versus baseline, and post-exercise versus baseline was calculated as a ratio, analysed with One-Way ANOVA. Results 60 patients were recruited in the study, one of whom died and three lost to follow up. Of the remaining, mean age was 65.4±12.6 years old, with male predominance (82.1%). When grouped into healing ulcers (n=21), non-healing ulcers (n=32) and deteriorating ulcers (n=3) over a 3-month follow up period, flexion to baseline O2Hb ratio was significantly lower in both non-healing (0.89±0.14U) and deteriorating (0.60±0.17U) groups, compared to healing (1.02±0.12), $p<0.005$. This trend was similar for post-flexion compared to baseline O2Hb (healing, 1.12±0.19U; non-healing, 1.03±0.14U; deteriorating, 0.85±0.15U, $p=0.013$). This relationship was similarly seen for HHb measures. Conclusion We present fNIRS as a novel, non-invasive method, to evaluate overall foot perfusion in diabetic

patients. This is a potential method to evaluate higher-risk feet to predict wound healing and deterioration in DFUs. This user-friendly platform could complement current bedside measures of ankle-brachial and toe pressure indices.

1:46 pm
Outcomes with the use Stimulan Antibiotic Beads in Diabetic Foot Infections
Philip Allan
Purpose: Diabetic foot infections (DFIs) are associated with significant morbidity. Systemic antimicrobials are often required and can have adverse effects. Moreover, delivery of antimicrobials can be limited if the circulation is compromised. The use of topical antibiotic beads, Stimulan, has been described in bone infections. However, the benefits of its use in DFIs, particularly in severe infections, is unclear. The aim of this study was to evaluate the outcomes of Stimulan in patients with DFIs. Methodology: This was a prospective single-centre study of patients with DFIs who received Stimulan for severe DFIs between Aug 2023–Jul 2024. Baseline demographics, limb characteristics, and outcomes were collected. Primary outcomes were time to healing, limb loss, and death. A control group from the period immediately prior to the introduction of Stimulan was used for comparison. Data was analysed using t-tests, $\chi 2$ tests, and regression analysis, and is expressed as mean±SD or %. Results: Overall 159 patients were included, of which 43 (64±13y, 63% male) received Stimulan, and 116 were controls (67±14y, 68% male). Baseline characteristics were not significantly different between groups except for a higher rate of peripheral arterial disease in the control group (67% vs 44%; p=0.008), and a higher WIfI stage in the Stimulan group (91% stage 3 or 4; p<0.0001). Time to healing (123±60d vs 159±125d), limb loss (15% vs 17%), and 30-day death did not differ between groups on univariate analysis. When WIfI stage was adjusted for in multivariate analysis, patients that did not receive Stimulan had a statistically significant risk for limb loss (OR 2.81, p=0.05) and death (OR 6.71, p=0.002), but not for wound healing. Conclusion: This study suggests that the use of Stimulan in patients with severe DFIs is associated with a lower rate of limb loss and death. Further validation and follow-up is required to determine the benefits of topical antibiotic therapy.

1:54 pm
The use of biodegradeable temporising matrix for patients with diabetic foot ulcers.
Nunzio Franco
Background: Diabetic foot ulcers (DFUs) represent a significant complication of diabetes mellitus, often leading to prolonged morbidity and increased risk of amputation. The management of DFUs remains challenging, necessitating innovative approaches to enhance healing. Aim: This study evaluates the effectiveness of a biodegradable temporising matrix (BTM) in treating DFUs at The Canberra Hospital. Methods: This is a pilot of a single-centre, retrospective observational study, examining patient records from January 2023 to current. The study included patients with DFUs treated with BTM at the Canberra Hospital Vascular surgery department. Key outcome measures were complete wound closure, time to complete healing, and incidence of infection or other complications. Results: As the data collection remains ongoing, 4 patients were chosen to explore in this pilot study. 3 out of 4 patients achieved complete wound closure. Infection occurred in half of the patients, however, this required removal of the BTM and further minor amputation in only one patient. These findings suggest that BTM significantly enhances the healing process in DFUs, reducing the overall treatment time and improving clinical outcomes. Conclusion: The use of a BTM in the treatment of diabetic foot ulcers demonstrates promising results. This study underscores the potential of BTM as a viable and effective option in the management of DFUs, contributing to improved patient outcomes and reduced healthcare burden. Further research and randomised controlled trials are recommended to validate these findings and explore the broader applicability of BTM in wound care management.

2:02 pm
A growing body of evidence – Tissue coverage in a less than ideal environment
Chrisdan Gan
Introduction The NovoSorb® Biodegradable Temporising Matrix (BTM) is a synthetic polyurethane dermal matrix which facilitates the organisation of a neodermis. It has been used to reconstruct complex wounds and is well described in the management of burn injuries. There is limited evidence in vulnerable populations such as diabetic, ischaemic foot or groin wounds. Aims We present a single centre experience of BTM applied to six wounds to six adult patients at our institution in an 18-month period and the results of their wound healing. Methods Five patients with non-healing foot wounds were assessed for the perfusion, infection and shape to ensure optimisation of the wound bed prior to application of BTM. The initial post-operative course was managed with close monitoring during the acute in-patient stay with interval photography. Follow-up occurred through either a high-risk foot multidisciplinary service or the vascular surgery out-patient clinic until complete wound closure. Results All patients who received BTM for foot wounds had a WIfI stage 3 or 4. Complete wound healing was observed in three patients over a six-month

period. One patient received split skin-grafting after delamination of the neodermis. Two patients are currently being followed prospectively regarding their wound healing progress. Conclusion BTM has been demonstrated to be a suitable alternative for wound management in the setting of chronic non-healing or infected wounds. There are many challenges with the use of BTM including labour-intensive resource requirements post-application and patient compliance. Prospective and multiple centre studies would aid in defining suitable candidates for this treatment.

2:10 pm
Regional and ethnic variation in revascularisation, and major limb amputation, in patients with diabetic foot disease in Aotearoa New Zealand (AoNZ)
Meg Beaumont
PURPOSE: Major amputation is a life-changing complication of diabetes-related foot disease (DRFD). Perfusion assessment and prompt revascularisation are essential components of limb salvage. Inequities exist for major amputation secondary to DRFD in Aotearoa New Zealand (AoNZ), and may be driven by inequities in access to revascularization. This study aims to examine regional and ethnic inequities in revascularisation for DRFD in AoNZ. METHODS: The Virtual Diabetes Register identified diabetic individuals alive on 1 January 2016. Exclusion criteria were non-residents of AoNZ, and prior major limb amputation or revascularisation. Public hospital discharge data identified procedures from 2016-23. Primary outcomes were major amputation, and open and endovascular lower limb revascularisation prior to amputation. Univariate and risk-adjusted analyses were performed, with patients stratified by their domiciled region. RESULTS: Of 256,807 patients (49.0% female, 16.2% Māori) included, 1,234 patients (0.5%) underwent major amputation. Males (aOR 2.2, 95% CI 1.9-2.4), Māori (aOR 1.5, 95% CI 1.3-1.7), and high socioeconomic deprivation (aOR 1.8, 95% CI 1.4-2.3) had higher risk-adjusted odds of major amputation. There was threefold regional variation in major amputation rates (unadjusted 0.3-1.1%, risk-adjusted 0.3-1.0%). For patients undergoing major amputation, 45.1% had revascularisation prior. There was threefold variation (16.7-58.3% unadjusted, 17.1-58.6% risk-adjusted), with geographic inequity between the centralised area of Waitematā (risk adjusted revascularization rate 49.1%) compared to the regional/remote area of Tairāwhiti (17.1%). Māori were more likely to have revascularisation prior to major amputation (aOR 1.4, 95% CI 1.0-1.8); a difference present for endovascular but not open surgery. CONCLUSION: Regional variations in revascularization prior to DFRD-related major amputation may represent geographic inequities in access to a Vascular Surgery service in AoNZ.

2:18 pm
A prospective single centre case series on the use of Novosorb MTX to facilitate wound healing in a vascular surgical patient population
Chris Delaney
Background: Patients suffering from vascular disease present unique challenges to any clinician seeking to facilitate wound healing in this cohort. Traditional methods of assisted wound closure such as skin grafting or autologous flaps, require an operating theatre and often necessitate general anaesthesia; they are often avoided in this cohort due to high risk of systemic complications and failure. Biodegradeable temporising matrix (BTM) has shown promise in overcoming many of the barriers associated with wound healing in the vascular surgical cohort, however, its applicability is limited to wounds that are more superficial in nature. Novosorb MTX provides the same polyurethane matrix as BTM but without the sealing membrane. It can therefore be utilised more broadly in vascular surgery to include deeper, complex wounds where contraction is acceptable. Methods: Prospective data collection was undertaken for all patients who have been treated with Novosorb MTX since October 2023. Patient demographics and outcome data including wound aetiology, location of Novosorb MTX application, presence of wound closure and time to wound closure were recorded. Results: Novosorb MTX has been applied to 10 wounds in 10 patients. All were performed in a ward environment without the need for anaesthesia. The majority (9/10) were for the treatment of diabetic foot wounds. To date, wound closure has been recorded in 5/10 wounds with the time to closure ranging from 15-21 weeks. Of the remaining 5 wounds, 3 are on a healing trajectory, 1 patient died prior to wound closure and 1 patient required surgical debridement of the wound due to inadequate treatment of the index infection. Conclusion: Novosorb MTX is a safe and effective treatment to facilitate wound closure in vascular surgical patients. Its ability to be used in deep wounds outside of the operating theatre environment provides an advantage over other methods of assisted wound closure in this high-risk patient cohort.

2:26 pm
Major Amputation rates during the COVID-19 era, what can we learn?
Calyb Austin
The COVID-19 pandemic has dramatically reshaped healthcare systems worldwide, influencing patient care and medical practices across various domains. One critical area examined during this period is the rate of

major amputation surgeries that profoundly impact patients' lives, involving the removal of a limb above the ankle. A retrospective study conducted at The Wollongong Hospital in New South Wales, Australia, sheds light on the effects of the pandemic on major amputation rates and healthcare-seeking behaviors. This study meticulously compared major amputation rates during the pandemic to those from the pre-pandemic period, analysing patient parameters and healthcare behaviours. Contrary to the literature, the results revealed no statistically significant increase in major amputations during the pandemic. This finding suggests that telehealth services and lockdown measures may have effectively mitigated the anticipated rise in amputation cases. A key observation from the study is the delay in patients seeking medical attention during the pandemic, leading to longer symptom durations before hospital visits. This delay, driven by factors such as lockdowns and self-imposed isolation, underscores the pandemic's impact on healthcare access. Although the study found no immediate increase in major amputations due to these delays, the long-term consequences remain uncertain. Delayed presentations in emergency departments have been linked to more severe illnesses, longer hospital stays, and increased mortality rates, raising concerns about future healthcare challenges. The study also explored various established risk factors for amputations, such as diabetes, peripheral vascular disease, and smoking status, finding no significant differences between the pre-pandemic and pandemic periods. This indicates that the management of these risk factors was not substantially affected by the pandemic, possibly due to the successful implementation of telehealth and remote healthcare policies.

2:34 pm
The role of Podiatry in high-risk foot
Jayden Beever
The Podiatry team at Northern Health (NH) play a leading role in assessing the overall foot health of all patients at NH. This includes dermatological, neurological and arterial assessments, which provide key information for decision making on hospital admission and discharge when liaising with medical and allied health teams. These assessments are completed across both inpatient and outpatient services. NH Podiatry service patients in the Hume and wider catchment areas. Often NH Podiatry encounter patients from regional and complex socio-economic communities; highlighting the need for delivering targeted patient centred care that is in line with patients' goals of care. Patients referred with tissue loss can include diabetes related foot ulcerations, chronic, ischaemic and pressure ulcers. The Foot Procedure Unit (FPU) is a National Association of Diabetes Centres (NADC) accredited core high-risk foot service focused on patients requiring the assessment, diagnosis and management of complex foot disease through a day admission. FPU also services specialist and allied health outpatient clinics such as Vascular, Orthopaedic and Infectious Diseases (ID). NH Podiatry is working towards becoming a centre of excellence with feedback to showcase Endocrinology involvement in inpatient and FPU services as well as contribution to a national Redcaps dataset for Diabetes related foot admissions. NH podiatry and vascular are also in the early stages of trialling an inpatient Diabetic Foot Round (DFR) in partnership with ID and Endocrinology. Podiatry at NH are at the forefront of research and quality improvement, practices are endorsed by strong evidence-based guidelines from The International Working Group on The Diabetic Foot 2023. Podiatry have recently purchased a Transcutaneous Oxygen Pressure (TCP02) device and is being trialled in a research study to evaluate perfusion measures to further support Vascular intervention decision making and therapy.

2:42 pm
Pedal acceleration time as a novel test of lower limb perfusion
Mike Wu
Purpose Toe pressures (TP), ankle-brachial index (ABI) and transcutaneous oximetry measurements (TCOM) are modalities used to predict wound healing in patients with PAD. However, they have their limitations and pedal acceleration time (PAT) is a novel alternative modality. We compared PAT and assessed whether it could predict the clinical outcomes of patients with lower limb wounds or claudication. Methodology All patients who underwent lower limb arterial duplex scans over a 4-month period (November 2023 to Feb 2024) also had a PAT. Their charts were reviewed and relevant clinical information was collected. The patients with wounds were placed into three groups: those with healing wounds, those with uncertain wound healing, and those who required revascularisation or amputation. Patients with claudication were placed into three groups: pre-operative, post-operative with symptom resolution, and post-operative with ongoing claudication. Analysis was performed using one-way ANOVA assuming non-normal distribution. Results There were 99 legs scanned. There were 67 males and 32 females. 52 scans were performed for critical limb, 20 for claudication. There were 24 TP's. There was a strong negative correlation between TP and the lateral plantar artery PAT (rho = -0.7271, p=0.0002). Patients with healing wounds had a lower PAT than those who required intervention (103ms vs 147ms, p=0.0002). There was no difference in PAT between patients with healing wounds and indeterminate wounds. The follow-up time of the groups were statistically similar. In comparison, TP could not differentiate between the healing group and the intervention group. There was a difference in PAT between the pre-operative claudication patients and

those who had post-operative symptom resolution (93.5ms vs 68.0ms, p=0.038). Conclusion PAT can be used to predict the outcome of a wound, or the post-operative symptom resolution of a patient with claudication. It is negatively correlated with TP, and in this study performed better than TP.

2:50 pm
Discussion

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19 October 2024

3:30 pm - 5:30 pm
ANZSVN AGM AND AWARDS

Scientific Session - Nursing - Conference Hall 3

Includes the presentation of:

Best Novice Speaker Award
Janice Caine Best Presenter Award (Sponsored by Urgo Medical)
Sheri Sandison Encouragement Award
Vascular Nurse of the Year (Sponsored by ACVA)

3:30 pm - 5:30 pm
WOMEN AND DIVERSITY IN VASCULAR SURGERY

Scientific Session - Vascular - Conference Hall 1 - Conference Hall 2

3:30 pm
My experience in Vascular Surgery and academia in Europe
Kak Khee Yeung

3:37 pm
My experience in Vascular Surgery and academia in North America
Sara Zettervall

3:44 pm
Equity is an everyone issue: Why gender-balance matters in surgical training
Sarah Joy Aitken

3:51 pm
Trends and Impact of Initiatives on Gender Ratios in Surgical Training Applications and Acceptance
Monica Shahid
Purpose: This study aims to evaluate the impact of the Royal Australasian College of Surgeons' (RACS) diversity and inclusion initiatives on female participation and acceptance rates in Surgical Education and Training (SET) programs in Australia from 2013 to 2021. Methodology: The study used a retrospective cross-sectional analysis of publicly available data from RACS activities reports from 2013 to 2021. It compared the number of male and female applicants and their acceptance rates into SET programs across nine surgical subspecialties before and after the release of RACS' Diversity and Inclusion Plan (DIP) in November 2016. Results: The analysis revealed a complex picture of gender equity progress. While the overall number of surgical applicants decreased across most subspecialties, cardiothoracic surgery and neurosurgery showed a minimal increase. Notably, the proportion of female applicants increased significantly only in orthopaedic surgery, from 14% to 18% (p=0.047), despite an overall decline in applicant numbers. Regarding acceptance rates, significant increases for female applicants were observed in general surgery, plastic surgery, and orthopaedic surgery post-DIP release, with acceptance rates rising to 39.07%, 25.55%, and 60.64%, respectively. In general and orthopaedic surgery, male acceptance rates also increased significantly, while in plastic surgery, the increase was limited to female applicants. Conclusion: The study highlights the modest but significant progress towards gender equity in surgical training following the implementation of RACS'

Diversity and Inclusion Plan. Despite an overall decline in surgical applicants, targeted initiatives have improved female acceptance rates in several key subspecialties. However, the persistent underrepresentation and complex dynamics suggest that continued efforts are necessary to foster a more inclusive and equitable environment in surgical education and practice.

3:59 pm
Gender disparities in the Vascular Surgery workforce in Australia and New Zealand
Rebecca Mortensen

4:06 pm
Battle of the WITS: Career pathways in Trauma Surgery
Katherine Martin

4:13 pm
Radiation safety in Vascular Surgery: What women want to know
Samantha Khoo

4:20 pm
Underrepresentation of women in cardiovascular trials
Davina Daudu
Purpose: The proportionate inclusion of women in clinical trials is vital to improve the population external validity of these trials and to aid decision-making in this population group. Historically, there has been underrepresentation of women in clinical trials relative to disease burden in numerous fields, including oncology, neurology, haematology, immunology and cardiovascular medicine/surgery. Methodology: We have reviewed the literature regarding the extent to which women are underrepresented in cardiovascular trials, the implications of this lack of representation on vascular surgical clinical outcomes, barriers to participation and potential facilitators that can be implemented in future studies to improve cardiovascular outcomes for women. Results/Conclusion: Underrepresentation of women relative to disease burden in cardiovascular clinical trials has been persistent and is well-documented across various cardiovascular fields, including stroke, cardiovascular medicine, cardiac surgery and vascular surgery. Studies with invasive interventions, trials with older aged participants and those with “hard” primary outcomes have lower enrolment rates of women. This leads to a paucity of information regarding the benefits, risks and outcomes of therapies and interventions, exacerbating the complexity of patient and physician decision making for female patients with cardiovascular disease.

4:28 pm
Complex aortic surgery: Do women get the same benefits with current treatment as men?
Sara Zettervall

4:35 pm
Gender based differences in aortic aneurysm pathophysiology and treatment response
Kak Khee Yeung

4:42 pm
The gender-care gap for women with PAD: Hidden, persistent and larger than you think
Chrisdan Gan

4:49 pm
Closing the gap in vascular surgery and renal transplant outcomes in Australia
Roxanne Wu

4:56 pm
Vascular health and outcomes of Indigenous women in Aotearoa New Zealand
Meg Beaumont
PURPOSE: Māori, the Indigenous people of Aotearoa New Zealand (AoNZ) experience inequity in comparison to the Pākehā (non-Indigenous) population across a wide range of health outcomes, including in Vascular health. This presentation reviews the limited literature on vascular health outcomes for Māori, focusing specifically on Māori women, in the areas of abdominal aortic aneurysm (AAA), diabetes related foot disease (DRFD), and peripheral arterial disease (PAD). FINDINGS: Māori women have a higher incidence of AAA than Pākehā women, as well as higher aneurysm-related mortality rates1. The Māori Health Pipeline 2016-24 screened 1800 Māori women, finding 1.3% had an AAA measuring 30mm or greater and 2.6% had AAA 27mm or greater. 60-70% of identified AAA were not appropriately followed up2. In DRFD, a 2024 study

of 256,807 diabetic patients showed females overall had lower risk-adjusted rates of both minor and major amputation. However, ethnic inequities were evident, with Māori females having a risk-adjusted major amputation rate equivalent to Non-Māori males. Postoperative mortality following both minor and major amputation is higher for Māori than Pākehā. There is an overall lack of literature on outcomes for Māori women in PAD, despite known higher hospitalisation rates with PAD in the Māori population. One study found Māori women were less likely than Pākehā to be prescribed cardioprotective medications in the context of PAD. CONCLUSION: Limited studies show inequitable outcomes for Māori women in vascular surgery. More work is needed to better characterise these inequities in order to improve resource provision. 1. Sandiford, P., Mosquera, D., & Bramley, D. (2012). Ethnic inequalities in incidence, survival and mortality from abdominal aortic aneurysm in New Zealand. 2. Chambers, E., Bartholemew, K., Sandiford, P., Hill, A., Taumoepeau, L., Poppe, K., Doughty, R. (2024). National planning for AAA screening: Research evidence from the Māori Health Pipeline.

5:04 pm
Navigating the Bermuda Triangle: POTS, EDS and vascular compression
Sharon Hong

5:11 pm
Discussion

5:20 pm
Board of Vascular Surgery Presentation
Thomas Daly

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19 October 2024

5:30 pm - 6:30 pm
ANZSVS ANNUAL GENERAL MEETING

Business Meeting - Vascular - Conference Hall 2 - Conference Hall 1

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19 October 2024

7:00 pm - 9:30 pm
COOK MEDICAL DINNER (TICKETED EVENT)

Speciality Dinner - Vascular

With special guest speakers Dr Thodur Vasudevan (Vasu) (Melbourne, Australia), Prof Kevin Mani (Uppsala, Sweden), Dr Charles Milne (Melbourne, Australia), Dr Anastasia Dean (Auckland, New Zealand)

7:00 pm - 9:30 pm
GORE & ASSOCIATES DINNER (TICKETED EVENT)

Speciality Dinner - Vascular

With special guest speaker Dr Sara Zettervall. Moderator: Adrian Ling (Melbourne), Jarryd Solomon (Melbourne) and Carl Muthu (New Zealand).

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20 October 2024

7:00 am - 9:00 am
SALVAGE / GVC FUN RUN (TICKETED EVENT)

Workshop - Vascular

Join us for the SALVAGE/GVC Fun Run as we lace up our running/walking shoes and come together on this iconic run/walk around The Tan as we raise funds for the Vascular Foundation.

Can you beat the current record of 10 minutes and 8 seconds from 2006 held by Australian Olympian Craig Mottram?

The fun run has been organised as an initiative by a group of ANZSVS members (SALVAGE) and the Global Vascular Companionship (GVC)

SALVAGE aims to advance the prevention, diagnosis, and treatment of chronic limb-threatening ischemia (CLTI).

Global Vascular Companionship is dedicated to advancing vascular health equity globally, focusing on low and middle-income countries.

All profits raised will go towards supporting the Vascular Foundation.

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20 October 2024

9:00 am - 10:00 am
EVERYDAY MOBILITY SESSION

Workshop - Vascular - Conference Hall 1 - Conference Hall 2

This session has been created with the healthcare professional in mind. It will focus on simple mobility exercises that you can incorporate into your daily routine to enhance your mobility and help you feel strong and free.

The session will include:
- Movements for first thing in the morning to wake up the body & feel energised for the day
- Movement snacks throughout the day to improve posture (including simple chair moves)
- Unwinding stretches for joint stiffness & muscle aches
- Using movement & breath to reset and regulate stress.

About the instructor: Angela Baklis is the co-founder of The A Life. She is an Osteopath & movement coach with 15 years experience. In the last 5 years Angela has transitioned from in person treating to coaching online Strength & Mobility. She focuses on joint strength & learning how to move for longevity! Angela, husband & little girl now travel the world & run 2 online memberships with hundreds of students from over 15 countries who all value building a resilient body for an adventurous life.

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20 October 2024

10:30 am - 12:30 pm
RENAL ACCESS / ARTERIOVENOUS FISTULA

Scientific Session - Vascular - Conference Hall 2 - Conference Hall 1

10:30 am

Six-Month Outcomes from the Merit WRAPSODY™ Cell-Impermeable Endoprosthesis vs. Percutaneous Transluminal Angioplasty for Treatment of Venous Outflow Circuit Stenosis or Occlusion in Hemodialysis Patients with Arteriovenous Fistulae (The WAVE Study)
Richard Bond
Abstract Purpose: To describe 6-month primary outcomes from a prospective, randomized, controlled trial comparing the safety and efficacy outcomes for the Wrapsody cell-impermeable endoprosthesis (endoprosthesis) compared to percutaneous transluminal angioplasty (PTA) for venous stenosis or occlusion in arteriovenous fistulae (AVF). Materials and methods: This prospective, multicentre, international, trial (the WAVE Study, NCT04540302) was conducted across 43 centres in the United States, South America, and the United Kingdom. Patients with AVFs and peripheral venous outflow stenosis/occlusion were randomized (1:1) to treatment with the endoprosthesis or PTA. Results: The primary safety endpoint was the proportion of patients without any localized or systemic safety events through 30 days that affected the access or venous outflow circuit and resulted in a reintervention, hospitalization, or death. The primary efficacy endpoint was the proportion of patients with target lesion primary patency at 6 months, defined as freedom from clinically driven target lesion revascularization or target lesion thrombosis. A key secondary endpoint was access circuit primary patency, defined as the time to loss of primary patency of the access circuit (i.e., the time from the index procedure to any venous outflow circuit re-intervention, access thrombosis, or access abandonment). Conclusion: Results will be ready this spring. Findings from this study are expected to provide insight regarding the clinical utility of a novel endoprosthesis relative to PTA.

10:42 am
The trans-radial approach for endovascular intervention of the problem arterio-venous fistula: a single-centre case series and systematic review
Asanka Wijetunga
Introduction: The arteriovenous fistula (AVF) is the gold standard access modality for haemodialysis, but due to patient and technical factors, it is prone to stenosis and thrombosis. The trans-radial approach offers multiple unique benefits, but its safety, efficiency and efficacy have not been rigorously studied in the context of the AVF. This study provides a case series of trans-radial AVF procedures, and a systematic review and meta-analysis of existing literature to solidify the role of the trans-radial approach in endovascular AVF surgery. Methods: Surgical records were interrogated to identify all trans-radial AVF interventions between 2019-2021. The primary endpoints were procedure time and complication rates. The secondary endpoints were primary assisted patency and increase in pre- and post-operative brachial artery blood flow. The systematic review was performed by searching MEDLINE, Embase and CENTRAL from 2000-2023. Results: The case series identified 76 consecutive procedures performed on 49 patients. Mean procedure time was 64 minutes, and only one complication, a puncture site haematoma, was identified. Mean postoperative AVF flow increase was 342mL/min ($p<0.001$). Primary-assisted patency at 6 and 12 months was 91% and 82% respectively. The systematic review included 16 studies totalling 1163 procedures. Mean procedure time was 44 minutes. Complications were rare: procedural failure (1.2%), hematoma (0.90%), radial artery occlusion (0.74%), and pseudoaneurysm (0.12%). Post-procedural flow increased by an average of 274 mL/min. Pooled primary-assisted patency rates at 6 and 12 months were 88% and 77% respectively. Conclusion: The trans-radial approach allows for expedient, safe and durable AVF endovascular surgery, however this technique would benefit from prospective evaluation.

10:50 am
Regionalisation of Renal Services
Manar Khashram

11:02 am
Femoral vein transposition for AV fistula
Alik Farber

11:14 am
Enhancing AVF Success: The Role of Pre-Operative Ultrasound Vein Mapping
Mei Ping Melody Koo
Background: Preoperative ultrasound vein mapping is recommended for optimising arteriovenous fistula(AVF) creation for hemodialysis access. Routine Doppler ultrasound mapping significantly reduces immediate AVF failure rates and improves long-term patency compared to clinical examination alone. This study evaluates the reliability of vein mapping and its impact on surgical outcomes. Methods: This retrospective study reviewed autogenous AVFs created between 2020 and 2022 at a tertiary institution in Australia. Pre-operative vein mapping worksheets and operative reports were analysed to assess concordance between suggested and actual AVF creation sites. Outcomes included fistula maturation, occlusion rates, 30-day morbidity and mortality. Results: Of the 82 AVFs created, 36 were forearm (34

radiocephalic, 2 ulnobasilic) and 46 upper arm (31 brachiocephalic, 15 brachiobasilic) fistulae. Vein mapping suggested 46 radiocephalic, 32 brachiocephalic, and 4 brachiobasilic fistulae as suitable for creation. Discrepancies occurred in 31.7% of cases: 15 forearm cephalic veins required conversion to brachiocephalic fistulae, 3 forearm cephalic veins unexpectedly allowed for radiocephalic creation, and 12 cephalic fistulae needed conversion to brachiobasilic AVFs. Within 30 days, there was one fistula occlusion and one mortality. Additionally, five forearm fistulae failed to mature, necessitating further interventions. Conclusion: Preoperative vein mapping is valuable for planning AVF sites, but the high discrepancy rate suggests that intraoperative assessment is crucial. Discrepancies may result from arterial status, neuraxial blockade, venous dilatation, vein mapping techniques, and sonographer expertise. Incorporating intraoperative assessments could enhance site selection accuracy and optimize AVF outcomes.

11:22 am
Prediction of arteriovenous fistula maturation by measurement of early flow volume changes
Nunzio Franco
Arteriovenous fistula (AVF) maturation is crucial for ensuring effective hemodialysis. Literature indicates that intraoperative and early postoperative blood flow measurements can serve as reliable predictors of AVF maturation. Intraoperative blood flow measurement using duplex ultrasound has shown significant predictive value for AVF maturation. Studies report that intraoperative flow rates exceeding 300 mL/min are associated with higher maturation rates, providing an immediate assessment of AVF viability. Early postoperative measurements, particularly within the first two weeks, also demonstrate strong predictive capabilities. This can allow for early intervention for those fistulas predicted to fail, or to plan for a different access option The predictive accuracy of early blood flow measurements is supported by their ability to identify potential complications such as stenosis. By detecting these issues early, clinicians can implement timely interventions to enhance AVF maturation rates. In conclusion, both intraoperative and early postoperative blood flow measurements are effective in predicting AVF maturation. Incorporating these assessments into clinical practice can significantly improve patient outcomes by enabling early detection and management of potential complications. Currently we are investigating the predictive capacity of immediate post-operative flow volume changes as predictors of fistula maturation, to help guide options for vascular access in haemodialysis.

11:30 am
Comparative Analysis of Operative Approaches and Outcomes in the Management of High-Flow Arteriovenous Fistulas
Lakmali Anthony
Purpose: High flow associated with dialysis access arteriovenous (AV) fistulas can lead to severe complications such as high output cardiac failure, steal syndrome, and aneurysms. Various techniques have been described to treat high flow AV fistulas with varying success. This study aims to compare these operative techniques and their outcomes in a single centre. Methodology: Flow reduction procedures (banding, proximalisation of arterial inflow (PAI), revision using distal inflow (RUDI), distal revascularisation and interval ligation (DRIL), plication) performed from January 2019 to June 2024 were retrospectively reviewed. Demographics, symptoms, surgical details and outcomes were collected. Results: A total of 21 flow reduction procedures were carried out during the study period. Mean age was 56 years, with 43% of patients being women. Indications for treatment were heart failure (29%), steal (52%), aneurysmal degeneration (5%) and asymptomatic with high flow rates (15%). Surgical procedures included banding (52%), PAI (24%), DRIL (5%), RUDI (5%), and plication (14%). The average reduction in flow volume was 46% for banding and 49% for PAI. Symptom resolution was achieved in 80% for PAI and 100% for all other procedures. Fistula preservation at 6 months was 90% for banding, 80% for PAI, 100% for DRIL, RUDI and plication. Secondary re-intervention was required in 27% patients who underwent banding and 40% of patients after PAI. Indications for re-intervention were fistula thrombosis and stenosis of swing segment. Average time from flow reduction procedure to first intervention was 468 days for banding, 235 days for PAI. Conclusion: Among various options to treat high flow fistulas, banding and PAI are most commonly performed and have high success rates. Based on our results, banding demonstrates superior outcomes compared to PAI in terms of fistula preservation, need for re-intervention and mean time to re-intervention. These findings can inform clinical decisions and optimise patient outcomes.

11:38 am
Management and Outcomes of Vascular Access-Related Hand Ischaemia in Victoria, Australia: A Retrospective Study
Mei Ping Melody Koo
Introduction: Vascular access-related hand ischaemia (ARHI), also known as steal syndrome, is a complication of arteriovenous fistulas for haemodialysis. This study evaluates management strategies and outcomes of patients with ARHI in the contemporary Australian vascular surgery setting. Methods: A

retrospective review was conducted on patients diagnosed with ARHI between 2017 and 2024, in two tertiary centres in Victoria. Data collected included demographics, medications, grade of steal, fistula configuration, volume flow, and operative details. Outcomes assessed were symptom resolution, digital amputation, and fistula preservation. Results: A total of 59 patients were included. The mean age was 59, with a male-to-female ratio of 1.2. Most patients had a brachiocephalic fistula (53%) and presented with grade 4 steal syndrome. Common procedures were fistula ligation (33%) and AVF banding (28%). Symptom resolution was achieved in 61% of patients, while 16% required digital amputation. The fistula was preserved in 68% of cases. Significant predictors for symptom resolution included anticoagulation therapy and grade 2 and 3 steal. The presence of tissue loss or grade 4 steal, and ischaemic heart disease were associated with a higher risk of digital amputation ($p<.05$). High flow steal (>1500 ml/min) showed a lower risk of digital amputation and greater chance of fistula preservation, though not statistically significant. Conclusion: Management of ARHI requires a tailored approach based on symptom severity and fistula characteristics. This study highlights the importance of early detection and appropriate intervention to prevent digital loss. Adherence to guidelines, including surveillance and timely intervention, is crucial in optimising outcomes. Future studies should focus on refining surveillance protocols and identifying predictive factors for better outcomes in steal syndrome.

11:46 am

Management of Arteriovenous Fistula (AVF) and Arteriovenous Graft (AVG) Thrombosis in a Victorian Tertiary Centre

Vaisnavi Thirugnanasundralingam

PURPOSE Arteriovenous fistulas (AVFs) and Arteriovenous Grafts (AVGs) for haemodialysis often develop stenoses leading to thrombosis warranting thrombectomy or alternative dialysis access, which present procedural risks to the patient and increased costs to the hospital. Ultrasound (USS) surveillance can identify features predictive of thrombosis. Our study aimed to analyse factors associated with recurrent AVF/AVG thrombosis and compare the results of endovascular and surgical thrombectomy. METHODOLOGY We reviewed all haemodialysis patients at Monash Health who presented with a thrombosed AVF in 2023-2024 and assessed the outcomes of endovascular versus surgical thrombectomy, rates of early reintervention and factors predictive of recurrent AVF/AVG thrombosis. RESULTS There were 62 AVF/AVG thrombosis events between January 2023-June 2024 for a haemodialysis population of 1744 patients. 14% of patients presenting with a thrombosed AVF/AVG initially underwent endovascular thrombectomy, which was unsuccessful in 6% requiring subsequent surgery. The remaining 86% of patients underwent initial surgical thrombectomy. The 6-month reintervention rate in those who underwent endovascular intervention was 60% compared to 33% in those who underwent surgical thrombectomy. Factors associated with early reintervention included: multiple prior interventions, presence of prosthetic and minimal outflow luminal diameter < 2.5 mm on USS (all $p < 0.05$). 37% of patients who presented with a thrombosed AVF/AVG had a recent USS demonstrating outflow diameter < 2.5 mm or volume flow rate < 600 mL/min. CONCLUSIONS Outflow luminal diameter < 2.5 mm and volume flow rate of < 600 mL/min were predictive of impending AVF/AVG thrombosis. Surgical thrombectomy is more durable compared to endovascular thrombectomy in the management of AVF/AVG thrombosis. A proportion of these patients' presentations may have been preventable by timely correction of problematic stenoses detected on USS surveillance.

11:54 am

Fistula thrombosis in a regional Queensland centre

Mike Wu

Purpose Haemodialysis patients rely on their arteriovenous fistula (AVF) as their lifeline, but there is no agreed-upon surveillance method to prevent thrombosis. In a regional area, performing routine imaging would be difficult due to resource limitations and access barriers. We investigated the incidence of AVF thrombosis in the Townsville region where patients are managed by an escalation pathway triggered by inadequate clearance, high recirculation, or clinical warning signs, without routine universal ultrasound surveillance. Methodology All patients on dialysis who had a functional AVF were identified between Jan 1, 2020 and May 1, 2024. The charts were reviewed and the following data collected: date of fistula creation, date of fistula thrombosis, date of fistula revision and operative details. Patients were placed into two groups for analysis: AVF with vein only, and AVF with graft inserted primarily or during revision surgery. Mann-Whitney U was used compare follow-up between the two groups. Results There were 212 patients with an AVF. There were 198 vein-AVF's, and 14 graft-AVF's. Between 2020 and 2024, there were 619.0 AVF-years of patency in the vein-AVF group with median follow up time of 3.83 years vs 45.8 years of patency in the graft-AVF group with median follow up of 0.601 years ($p<0.0001$). There were 16 episodes of thrombosis in the vein-AVF group vs 9 episodes in the graft-AVF group. Of the graft-AVF group, one patient experienced 4 episodes of thrombosis, two patients experienced 2 and one patient experienced 1. Sixteen patients in the vein-AVF group experienced 1. The overall thrombosis rate was 2.58% per graft-year for vein AVF vs 19.7 % for

graft-AVF. Conclusion Our rate of AVF thrombosis is acceptably low. The Graft-AVF had a significantly shorter follow-up time and was associated with a higher thrombosis rate. Patients with graft-AVF may benefit from closer surveillance.

12:02 pm
The Percutaneous AVF Programme
Manar Khashram

12:14 pm
ROC Curve analysis of peak systolic velocity in transplant renal artery stenosis – identifying clinically significant stenoses which require endovascular intervention
Erwin Yii
Introduction: Transplant renal artery stenosis (TRAS) is a significant complication after renal transplantation. Peak systolic velocities (PSV) >200cm/s have been suggested as the cut-off for suspecting significant stenoses which may require further delineation on angiogram. The aim of our study is to explore the utility of PSV in identifying stenoses which will ultimately require endovascular intervention. Methods: A retrospective cohort study was performed using a database of patients collected from a major Australian tertiary hospital including all renal transplant operations in the last 10 years. Data was analysed using receiver operating characteristic (ROC) curves and the J-Youden statistic to determine optimal cut-off points for patients who required endovascular intervention. Outcomes from angioplasty and stenting were analysed. Results: There were 914 patients included on the transplant database with 52 patients suspected of TRAS. Of these, 12 patients required intervention with 3 undergoing angioplasty only and 9 requiring further stenting. Indications included acute kidney injury, steadily declining renal function or worsening stenosis. ROC Curve analysis yielded PSV, serum creatinine and SBP area under the curve of 0.74 (95% CI 0.59-0.89), 0.65 (95% CI 0.48-0.82) and 0.68 (95% CI 0.52-0.84) respectively. Optimal cut-offs for each parameter was 414cm/s (sens 92%, spec 60%, AUC 0.76), 121.5 (sens 83%, spec 47%, AUC 0.65) and 133mmHg (sens 75%, spec 57%, AUC 0.66). Conclusion: Peak systolic velocity >414cm/s has good predictive value in identifying significant TRAS that require angioplasty or stenting with good outcome.

12:22 pm
Discussion

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20 October 2024

12:45 pm - 1:15 pm
GORE & ASSOCIATES LUNCHTIME SYMPOSIUM: NEW INNOVATIONS AND DEVELOPMENTS IN TREATING CHALLENGING AORTIC ANATOMY (TICKETED EVENT)

Scientific Session - Vascular - Conference Hall 2 - Conference Hall 1

Proudly sponsored by Gore & Associates

12:45 pm
Gore TBE treatment algorithm, American experience to date, lessons learnt.
Sara Zettervall

12:55 pm
First case experience in a Dutch centre, lessons learnt
Kak Khee Yeung

1:05 pm
Q&A

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20 October 2024

1:30 pm - 3:00 pm

CHALLENGE THE EXPERTS

Scientific Session - Vascular - Conference Hall 1 - Conference Hall 2

1:30 pm
Expert Panel: Noel Atkinson, Kak Khee Yeung, Tim Wagner, Kevin Mani, Phil Puckridge and Sara Zettervall

1:32 pm
Thoracic Aneurysm
Geoffrey Ying, Geoffrey Ying

1:44 pm
Extracranial Arterial Thrombus
Jack Archer

1:56 pm
Mesenteric Ischaemia
Myrna Ishak

2:08 pm
TEVAR Complication
Samuel Mithra

2:20 pm
Carotid Body Variant
Jack Archer

2:32 pm
Complex Thrombectomy
Erin Saricilar

2:44 pm
Aortic Dissection
Vaisnavi Thirugnanasundralingam

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20 October 2024

3:30 pm - 5:30 pm
TRAUMA / ONCOLOGY / TECHNOLOGY

Scientific Session - Vascular - Conference Hall 2 - Conference Hall 1

3:30 pm
The VASCUL-AID platform: Using AI to predict cardiovascular disease progression in AAA and PAD patients - Updates and developments
Kak Khee Yeung

3:42 pm
The Emerging Role of Artificial Intelligence in EVAR
Sarah Chew
Purpose: Artificial intelligence (AI) offers potential opportunities for novel methods of management of patients with vascular surgical conditions. This review aims to examine AI's potential role in the management of patients undergoing endovascular repair of abdominal aortic aneurysms (EVAR). Methodology: A comprehensive literature review and online search was conducted to gather information on the current uses of AI in EVAR. Relevant journal articles, reports, and case studies were analyzed to identify AI's current role and potential limitations in its use in patients undergoing EVAR. Results: Various AI-based

models have been developed for EVAR. These include models assessing real-time identification of suitable landing zones during EVAR, prediction of post-EVAR complications, risk estimation during EVAR and stent graft segmentation. The strength of AI is in its ability to analyze vast quantities of clinical information and its ability to continuously improve its performance. Though promising, there are various limitations. The majority of these AI models were trained on small retrospective databases with less than 200 patients. Their performance was also limited when handling atypical images or clinical information that deviated from the dataset that it was trained on. To date, these AI models have not yet undergone external validation or been compared to surgeon judgement in a randomized and prospective fashion. Further research must focus on whether these AI models are superior to surgeon judgement and perception and whether AI can improve outcomes in patients undergoing EVAR. Conclusion: This review demonstrates the current applications of AI in the management of patients undergoing EVAR and its emerging potential. Future development of AI in EVAR must involve larger datasets that are externally validated with a focus on an improvement in patient outcomes.

3:50 pm
Repeatability and agreement of artificial intelligence-assisted automatic segmentation compared with standard semi-automatic segmentation of maximal abdominal aortic aneurysm diameter and volume
Chinmay Sharma

3:58 pm
Prediction of spinal cord ischemia with AI
Kak Khee Yeung

4:10 pm
Augmentation, not Automation: Artificial Intelligence for the Vascular Surgeon through the Lens of the RACS Competencies
Philip Allan
Artificial intelligence (AI) is driving transformation across many fields, and surgery is no exception. Numerous examples have shown that health AI can improve decision making, prevent harm, and reduce spending. Despite this, real-world applications of AI in surgery remain limited. A key barrier is the lack of a common language between surgeons and those developing AI. Moreover, concerns exist that AI will depersonalise healthcare, impair training, and have negative impacts on our healthcare ecosystem. It is not surprising then that in Australia and New Zealand (ANZ), health authorities advocate caution against the use of AI or have yet to develop guidelines. Nevertheless, given the heavy utilisation of technology and imaging in our field, Vascular Surgeons are particularly well-positioned to adopt AI. The Royal Australasian College of Surgeons (RACS) Surgical Competence and Performance Framework is an established structure within which surgical training in ANZ is facilitated. In this narrative review, we use the RACS competencies as a lens to discuss AI as a tool for the Vascular Surgeon. A thematic search was performed to identify papers using the PubMed, EMBASE, PsychInfo, and Google Scholar databases, and appraised within the RACS competencies. Papers were included based on their relevance, and excluded if they were non-peer-reviewed, non-English, or non-contemporaneous. This presentation will provide an overview of the core concepts and applications of AI in surgery, alongside a discussion on the risks of AI to health. Judicious and ethical adaptation of AI is of benefit to patients and may increase the efficiency and sustainability of a lean workforce, but requires the contemporary Vascular Surgeon to understand and lead its responsible implementation.

4:18 pm
Updated management and classification of blunt thoracic aortic injury
Sara Zettervall

4:30 pm
Our Experience in Autologous Vein Extremity Bypass for Trauma
Alik Farber

4:42 pm
ECMO and its complications: vascular operative experience in a high volume ECMO centre over a 2-year period
Joseph Kilby

4:50 pm
Fibroadipose vascular anamoly(FAVA)-The Vascular masquerader
Purpose: Fibroadipose vascular anomaly (FAVA), a recent entry in the nomenclature of vascular

malformations was first introduced by Alomari et al. in 2014 followed by multiple case series around the world.This study,the largest in the world, aims to shine light on this entity which is commonly misdiagnosed and managed suboptimally. Methodology: A retrospective study of 50 patients diagnosed with FAVA at the vascular surgery department at Christian Medical College, Vellore from August 2016 to February 2022 were included in our study.The clinical, radiological, pathological data, procedures performed, and the outcomes were analysed.Patients were followed up for minimum of 6 months clinically and with ultrasound if recurrence was suspected. Results: Patients were initially diagnosed most commonly misdiagnosed as venous malformation in 22 patients. The gender distribution was equal in number with an age ranging from 6 years to 63 years. The calf was involved in majority of the cases.The overlying skin was spared in all cases. Surgical resection provided the maximum relief of symptoms as most of the resections were done after multiple attempts with other modalities especially sclerotherapy. Postoperatively 5 patients had a seroma and 2 surgical site infections which were managed conservatively. No recurrence was noted in the cohort. Conclusion: Fibroadipose vascular anomaly (FAVA), though a recently named pathology, it has evolved rapidly and is no longer a rare entity. To our knowledge this is the largest case series reported in English literature. It is best managed in a multi- disciplinary approach involving vascular surgery, interventional radiology, pathology and occupational therapy. Surgical excision appears to be the best form of treatment. In summary, a proper diagnosis based on clinical findings and imaging is crucial which when followed by appropriate management would improve the outcome.Recent advances like targeting mTOR pathways seem worth exploring.

4:58 pm
Vascular Surgery and Reconstructions in Retroperitoneal Soft Tissue Sarcomas – A Single-Centre Tertiary Experience
Ryan Teh
Purpose To describe involvement of vascular surgery in management and outcomes of soft tissue sarcoma in a state sarcoma service. Methods Prospective data was collected from 2010 to 2022 on patients undergoing resection under the state sarcoma team in Western Australia. Involvement of vascular surgery, length of stay, mortality and graft patency was collected. Tumour type was determined through histopathological analysis. Descriptive analysis was performed, and comparative analysis using chi-squared test and binary logistic regression. Results 129 patients underwent surgery for soft tissue sarcoma, mean age 58.6 years (17-81), predominantly female (51.2%). Majority were de-differentiated liposarcomas (34.9%), well-differentiated liposarcomas (15.6%) and leiomyosarcomas (10.1%). 76.2% of cases required vascular surgery involvement. 10.9% had arterial reconstruction, most for de-differentiated liposarcomas (35.7%), majority (71.4%) with polytetrafluoroethelene (PTFE) graft. 20.2% had venous reconstructions, majority for leiomyosarcomas (30.8%), with 69.2% PTFEs. Mean length of stay was 19.6±16.9 days. Inpatient mortality was 2.3% and 1-year mortality 9.3%. Each increment in age was associated with 2.86 times increase 1-year mortality rate (p=0.009). Both arterial and venous reconstructions were not associated with 1-year mortality. 12 month arterial and venous graft patency was 57.1%, and 69.2% respectively. Patients on apixaban had 100% (n=2) arterial graft patency at 1-year, rivaroxaban 40% (n=2) and warfarin 66.7% (n=2). Venous graft patency was 100% for apixaban (n=4), 66.7% (n=8) rivaroxaban, and 75% (n=3) warfarin. Conclusion There is significant vascular surgical involvement in soft tissue sarcoma resection, with arterial and venous reconstructions. 1-year mortality and graft occlusion rate remain high, with further investigations needed to evaluate effectiveness of various grafts and anticoagulation modalities and its effect on long term patency.

5:06 pm
Effect of background music on STress Responses Amongst Undergraduates and Surgeons performing Simulated Surgical tasks: A randomised cross-over interventional trial (STRAUSS)
Anantha Narayanan
High stress may diminish a surgeon's performance in the operating theatre (OT) and lead to a chronic stress phenomenon. Music is perceived to reduce stress in the OT, however the psycho-physiological effects of music on intra-operative stress in inexperienced and experienced operators is incompletely understood. The effect of music on the psychological (Six-Item State-Trait Anxiety Inventory [STAI-6] and Surgical Taskload Index [SURG-TLX]) and physiological (cardiorespiratory, cerebral perfusion, electrodermal activity) responses was determined to a simulated surgical task (carotid patch-angioplasty) in 15 medical students (MS) and 12 vascular surgeons (VS) under stressing conditions in a randomised crossover design. Comparative analysis was performed by paired two-tailed t-tests and ANOVA. The VS group made fewer errors, were quicker and rated their skill higher, though there was no effect of music on performance. There was a main effect on SURG-TLX scores with an increase of 30.2 (20.2-40.1) from baseline and STAI-6 scores 3.0 (1.7-4.3). HR, MCA Vm, RR, $PETCO_2$ and SNS index were increased, while EDA and PNS index decreased during the task, indicative of a physiological stress response, though listening to music did not attenuate these responses. There was a modest change in composite measures of heart rate variability (HRV) indicating higher sympathetic activity in the presence of music, however there was no difference in psychological or other

physiological measure. Future research directions would be to explore the clinical significance of the HRV difference or consider alternative research methodology.

5:14 pm
Novel applications of MRI in endoleak detection post-AAA repair
Kak Khee Yeung

5:24 pm
Closing Remarks
David Goh