1. Management of Neonatal Limb Ischaemia: Lessons from the last decade.

*Presenter: George Lane. Leeds Teaching Hospitals, Leeds, UK.*

AIMS: To identify treatment strategies and outcomes in neonatal patients with neonatal limb ischaemia (NLI) and design an evidence-based management algorithm to inform a national guideline.

METHODS: Single-centre retrospective study of all neonates with limb ischaemia from 2012 to 2022. Patients were identified through the BadgerNet Neonatal Database and the local Theatre Management System. Primary outcomes were patient survival and limb salvage rate. Secondary outcomes were short-term and long-term complications.

RESULTS: Nineteen neonates were included; 13 males and 6 females. The median birth weight was 2267g (IQR 850-2873). The median gestational age was 33 weeks (IQR 25-36.5). There were 9 upper and 10 lower limbs affected. Doppler ultrasound confirmed 14 had thromboses of which 11 were arterial and 3 venous. Eight cases were associated with central or peripheral lines. Overall, one patient with an extensive arterial thrombus required thrombolysis and another required brachial artery reconstruction with interposition vein graft. Twelve patients were treated with heparin; stopped in one case due to concern about intracranial bleeding. One patient died due to transposition of their great arteries. Total limb salvage rate was 17 of 19. One further patient required amputation of their fingers. Two neonates had short-term complications; a large thigh haematoma and wound dehiscence. One neonate required scar revisions twice.

CONCLUSIONS: An early MDT approach and pharmacological treatment with anti-coagulation and vasodilators is sufficient for successful management of NLI in vast majority of cases. A small subset of patients may require surgery. We present our novel algorithm for management of NLI.

1. Casting Motion to Mobilise Stiffness (CMMS) is an Effective and Efficient Technique in the Treatment of Stiff Hands.

*Presenters: Kylie O’Grady/Emma Carr, St. Vincent’s University Hospital, Dublin*.

Objectives
To demonstrate that Casting Motion to Mobilise Stiffness (CMMS) is an effective and efficient technique in the treatment of stiff hands.

Method
One of the greatest rehabilitation challenges is to restore digital motion and functional use in a stiff hand. Many patients fall into an unremitting cycle of transient improvements in stiffness, intermittent pain, swelling and lengthy treatment episodes when traditional techniques of splinting and exercise are applied. 2 Certified Hand Therapists undertook an innovative online training course in the application of CMMS, receiving mentoring from a therapist in South Africa. The CMMS technique was then trialled on a range of different patients over a year long period. All patients presented with an abnormal movement pattern, reduced range of motion and dysfunction in their day to day lives.

Results
25 Patients were treated with the CMMS technique between 2021-22. All patients regained a normal movement pattern. 90% of patients had improved function (DASH) and ROM. Average length of time spent in cast was 4-6 weeks and patients required face to face therapy appointments on average once every 2 weeks.

Conclusions
Chronic hand stiffness can be a debilitating and life altering condition. Many patients require multiple procedures to improve range of motion but despite this a portion never regain full functional movement. This case series demonstrates that the CMMS technique is an effective and efficient conservative treatment option in the management of stiff hands.

1. Toxin for Treating Raynaud’s Conditions in Hands (The TORCH Study): A Systematic Review.

*Presenter: Ellen Geary, St. Vincent’s University Hospital, Dublin.*

Introduction
Raynaud’s disease of the hands is a complex disorder resulting in inappropriate constriction and/or insufficient dilation in microcirculation. When unresponsive to medical therapy, the syndrome becomes a significant problem for patients, impairing their quality of life. However, a potential breakthrough in treatment could be found in botulinum toxin type-A (BXT-A).

Aims
The aim of this systematic review is to critically evaluate all existing studies exploring the management of primary and secondary Raynaud’s disease with botulinum toxin type-A.

Methods
A comprehensive literature search was performed as per PRISMA guidelines, using the Medline/PubMed database and Cochrane Collaboration. Analysis was conducted on the primary outcomes of each study, including visual analogue scale (VAS) score, healing of digital ulcers, number of exacerbated episodes, disabilities of the arm, shoulder, and hand (DASH) scores, temperature of digits and arterial flow velocity. All relevant information was collected by two independent reviewers.

Results
Our search strategy identified 287 research articles, 95 of which were relevant to the question eligible for screening, 39 were read in full and 18 studies were deemed eligible for inclusion. After statistical analysis, a random effects model illustrated the probability of VAS score improvement with the use of botulinum toxin type-A at 81.95% (95% CI [74.12–87.81] p=0.19, heterogeneity I2=26%) and the probability of digital ulcer healing with the use of botulinum toxin type-A at 79.37% (95% CI [62.45-89.90] p=0.02, heterogeneity I2=56%).

Conclusion
This study illustrated that BTX-A appears to be an effective management strategy for primary and secondary Raynaud’s disease.

1. Injection Therapy: An Advanced Practice Occupational Therapist Role.

*Presenter: Olga Hill, St. James’s Hospital, Dublin.*

Background:
In 2018 St. James’s Hospital Occupational Therapy (OT) Department commenced a waiting list initiative model to triage, assess and treat elective orthopaedics and plastic patients with hand and wrist pathology. Patients with trigger digit (TD) or de Quervains (dQ) were discharged post conservative treatment or listed with the consultant for injection therapy (IT) or surgical input. In 2021 OT implemented IT to fulfill the full complement of non-surgical care for TD and patients with dQ.
Aim:
To clear consultant’s current injection, wait list for TD & dQ
To develop individual service pathways for patients under orthopaedics, plastics and the Emergency Department (ED) with TD or dQ.
To improve wait times for IT and thereby improve patient outcomes.
To demonstrate the effectiveness of an Occupational Therapy Advanced Practice (AP) role.
Method:
Completion of IT module at RCSI in December 2021.
Results:
A total of 42 patients were seen for IT by OT. 21 (50%) patients had reduction of symptoms with IT.
The majority of patients seen for IT had symptoms greater than 6 months, affecting patient outcomes.
Conclusion:
OT has reduced waiting times for IT in a cost effective manner while freeing up consultant surgeon time.
This OT service development has completed all aspects of non-surgical care for patients with TD and dQ.
Wait times for IT for TD or dQ is now 8 weeks.
Implications for practice:
OT AP is demonstrated through leadership, further competency development, improvement evaluation and evidencing the impact of the service.

1. Excision of Paediatric Limb Soft Tissue Sarcomas and Early Reconstruction with Free Tissue transfer: Experience from a UK Tertiary Children’s Hospital.

*Presenter: Grainne Bourke, Leeds Teaching Hospitals, Leeds, UK.*

INTRODUCTION

Soft tissue sarcomas are uncommon, accounting for 4-7% of malignancy in children. The aim of this study was to investigate the outcomes following sarcoma excision and early reconstruction with free tissue transfer in children.

METHODS

This was a single centre retrospective study based at a UK tertiary children’s hospital. All children from 2010 that underwent excision of a limb soft tissue sarcoma and reconstruction with free tissue transfer were included. Primary outcome measures were patient survival, cancer recurrence, flap loss, and complications.

RESULTS

Fourteen patients were included; 9 male and 5 female. Median age at time of surgery was 7 years (IQR 3-9). Eight patients had a sarcoma affecting the upper limb. Fibrosarcoma was seen in 3 patients and was the commonest type. Free flaps used were groin (n=8), gracilis (n=4), ALT (n=1), and parascapular (n=2). Three patients received post-op chemoradiotherapy and 1 post-op radiotherapy. Short term complications included 1 haematoma washout, 1 flap loss, and 1 tip necrosis of the flap. On long term follow up, 1 patient has recurrence, 1 has leg length discrepancy, and 1 has neuropathic type ankle pain. Overall survival rate is 14/14.

DISCUSSION

Soft tissue reconstruction with free tissue transfer following sarcoma excision in children is a safe and reliable technique. It affords the surgeon the opportunity to perform a wide excision, ensure oncological clearance, and provide robust soft tissue cover. Free functioning muscle transfers can also help to restore movement after tumour resection.