Case study of an older person with traumatic brain injury: from Greece to Glasgow, complicated by infection control protocols

Denise Carrigan, Registered Dietitian and Claire McGeehan, Occupational Therapist
West of Scotland Major Trauma Centre, Queen Elizabeth University Hospital, Glasgow, NHS Greater Glasgow and Clyde

Introduction

The average age of Major Trauma (MT) patients in Scotland is now 70 years, with falls from standing the most common mechanism of injury (STAG Report, 2024). Older adults frequently present with complex medical, cognitive, and functional needs. Hyper Acute Major Trauma In-Reach Team facilitates rehabilitation for patients who have sustained single system injuries with Category A rehabilitation needs following a traumatic mechanism. The multidisciplinary team (MDT) provide quality patient centred ,early, intensive rehabilitation, however this can be significantly impacted by stringent infection control restrictions.

Case study

This case outlines the delivery of hyper-acute multidisciplinary rehabilitation to an older adult with traumatic brain injury repatriated to Scotland under strict isolation measures. Demonstrating how the team collaboratively worked to successfully navigate infection control restrictions, to provide effective early assessment and intensive rehabilitation, supporting the patient's goal of returning home to live as independently as possible.

Intervention

Patient Profile
- 83 year old gentleman
- Previously independent in all mobility & activities of daily living
- Retired; completed a law degree post retirement
- Strong community involvement; enjoyed bridge

Past Medical History

Left great toe amputation (melanoma), mechanical aortic valve, CKD stage 3, aortic stenosis, COPD, gout

Incident
- Fall backward from standing onto a coffee table while on a cruise
- Presented unwell 2 days post incident
- Intubated on-board ship & airlifted to critical care in Greece

Injuries and Acute Management
- CT: Left subdural haematoma (SDH) with midline shift
- Left craniectomy and evacuation of SDH
- Prolonged ICU stay with persistent neurological deficits
- Tracheostomy inserted due to slow ventilator wean
- Repatriated to Queen Elizabeth University Hospital (QEUH) 5 weeks after injury

Screening and Rehabilitation Needs
- Patient Categorisation Assessment Tool (PCAT): 33/50 - Rehabilitation Category: A
- Injury Severity Score (ISS): 25
- Clinical Frailty Scale (CFS): 3

Comprehensive MDT rehabilitation needs identified from screening.

The infection: Candida Auris; treated as high risk in Scotland as not prevalent due to climatic factors.

Initial presentation:
- Tracheostomy
- Nil by mouth
- Unable to move all 4 limbs independently
- Hoist for all transfers
- Disorientated & unable to follow commands
- Dependent for all aspects of personal care

Results

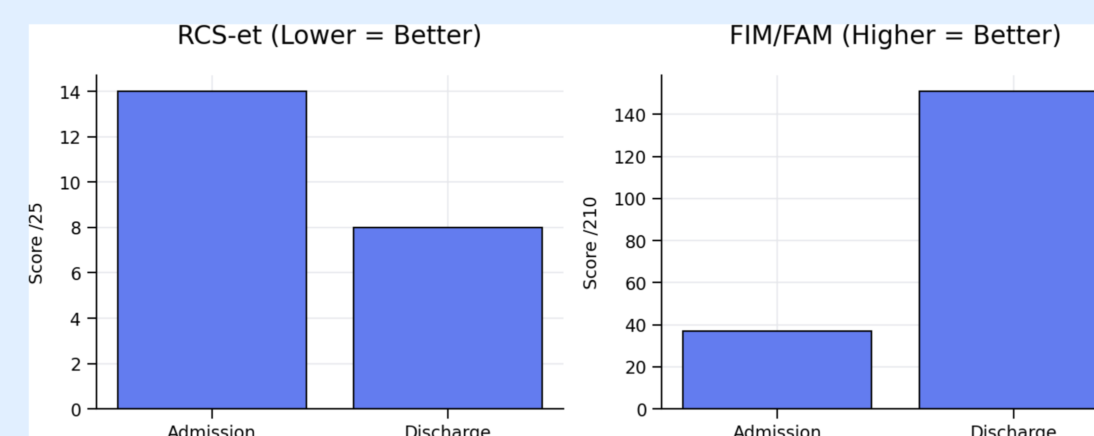
The Restrictions –

Staff attended weekly update meetings with microbiology & infection control. This facilitated education and discussion around importance of seeing patient throughout the day – initial advice was to see patient at the end of the day.

What we did to overcome the challenges presented –

- Excellent & clear communication
- Allocated key worker
- Advocacy for patient & family
- Joint therapy sessions
- Structured goal setting with coordinated timetabling
- Regular family update meetings
- Provision of single patient use equipment, appropriate for long term isolation
- Input from appropriate specialities including geriatric medicine, supporting effective management of medical complexities to optimise rehabilitation and Interventional Radiology for insertion of gastrostomy
- Staff education to ensure patient centred approach to care

Outcome measures:



Marked improvement observed between admission and discharge across both rehabilitation complexity (RCS-et: 14→8) and functional measures (FIM/FAM: 37→151), indicating significant rehabilitation gains.

Therapy input

Discipline	Hours	Sessions
Clinical Neuro Psychology	3.25	4
Dietitian	40	26
Occupational Therapy	115.75	47
Physiotherapy	92	55
Rehab Support Worker	87.5	93
Speech & Language Therapy	27.5	24
TOTALS	366	249

Outcome

The patient was discharged home after 105 days at QEUH. At discharge, he was fully orientated, independently transferring, and mobilising with a Zimmer frame. A care package was in place for personal care, medication administration, and gastrostomy feeds. He continues to progress, now mobilising independently without aids and tolerating sips of water and small amounts of soup at risk following recent Fiberoptic Endoscopic Evaluation of Swallowing (FEES). He remains engaged in daily swallowing exercises.

Key Learning points

Early hyper-acute rehabilitation is achievable with infection control protocols.
Education and collaboration with Infection Control teams are essential.
Flexible scheduling enables clinically appropriate therapy delivery.
Older MT patients with complex needs can benefit significantly from early specialist rehabilitation.

Conclusion

This case demonstrates that adaptive MDT working, proactive planning, and close interdisciplinary collaboration can overcome infection control barriers and enable effective hyper-acute rehabilitation for complex older MT patients.

Acknowledgements

We thank our patient for consenting to share their story, and acknowledge the MDT for supporting the patient's goal of returning home to live as independently as possible.