



The 65th ASH Annual Meeting Abstracts

POSTER ABSTRACTS

901.HEALTH SERVICES AND QUALITY IMPROVEMENT - NON-MALIGNANT CONDITIONS

Therapeutic Apheresis in Rural and Regional Settings: A Single-Centre 5-Year Experience

Jun Yen Ng¹, Savisha Fernando, MD², Lisa Phipps, MBBS, MSC, FRACP³, Charmaine Wong, MBBS,FRACP,FRCPA⁴, Karen Fogo, BNSC, Grad Cert Nephrology Nursing⁵, Donna Crameri², Douglas Stuart Lenton, MBBS, FRACP, FRCPA⁶

¹Haematology, Orange Health Service, Orange, Australia

²Orange Health Service, Orange, Australia

³Nephrology, Orange Health Service, Orange, Australia

⁴Haematology, Orange Health Service, Orange, AUS

⁵Nephrology, karen.fogo@health.nsw.gov.au, Orange, Australia

⁶Haematology, Orange Health Service, Orange, AUS

Introduction

Therapeutic apheresis (TA) is an important treatment modality used in the emergency management of many life-threatening diseases. However, there is limited local accessibility in many rural and regional areas necessitating long-distance transfer to large regional centers or metropolitan hospitals. This is expensive; isolates patients from their families; and may result in treatment delays. TA using renal replacement therapy machines may be an alternative. However, this is expensive, time-consuming for this indication and less effective. We outline our experience and outcomes of TA in a regional hospital over 5 years.

Methods

Single-center retrospective review of TA performed between 2017-2022. Patient demographics, indications and complications of TA are reported.

Results

Orange Hospital is a 220-bed teaching hospital and referral center in Western New South Wales (NSW) Local Health District, Australia, a geographically large rural and remote health district which provides health care for approximately 250-300,000 patients. There is on site specialty physicians representing nephrology, hematology, gastroenterology, neurology, pulmonology, medical and radiation oncology, palliative care, geriatrics, infectious diseases, and intensive care. A well-staffed and equipped blood-bank is on-site with a large outpatient hemodialysis unit.

Anecdotal evidence demonstrated a need for a local TA service. It was estimated, based on historical data concerning known local patients and transfers to metropolitan areas, that the expected annual workload would be approximately 100 procedures with annual new patient numbers of 5-10.

The unit began operation on 17/02/2017, and in the period until 1/1/2022, 760 procedures in 36 patients have been performed (table 1). The median age of patients was 56 years (48-78), and most were female.

There were only five major adverse events in three patients giving a major complication rate of 0.65%: one patient developed endocarditis due to a line infection; another patient developed a line infection; one patient developed hypotension required intensive care and a central line associated thrombosis. All patients recovered from their complications.

Discussion

We present our experience establishing a TA service in a regional hospital and our operational experience over five years. The estimated service need has been at least 50% over that initially expected. Despite the extra activity, the service has been financially self-sufficient with significant savings in non-clinical costs, mainly in patient transfer.

There is a great deal of interest currently in rural health care provision where significant illness poses great challenges to service delivery, patients, and their families. Transfer of patients for treatment has significant psych-social and economic morbidity. The distances involved often make it difficult for families to visit their loved ones and provide support, while staying at accommodation near metropolitan hospitals can be very expensive. Coupled with difficulty in obtaining beds in metropolitan centers, treatment locally is a very attractive option.

The authors believe strongly that many treatments currently viewed as "metropolitan only" can be delivered safely and more efficiently locally, and that the main barriers to increasingly complex care in rural services are: a lack of awareness of the level

of care that can be delivered in a rural setting; and a metropolitan centric mindset that is largely driven by traditional models of care, poor resourcing of rural health care, and inertia. Our experience is that with very modest resourcing, adequately trained staff, and good business models and care pathways TA can be safely and sustainably provided in a rural setting. To our knowledge, Orange Hospital has the only TA unit in rural NSW and probably Australia. Local availability of the service has greatly improved accessibility for patients.

Conclusions

Rural and regional areas are suitable locations for therapeutic apheresis provided they are adequately resourced. Availability of this service enables management of a variety of life-threatening conditions locally. This helps to reduce social and economic costs and allows timely delivery of care. Our experience demonstrates that a clinically and economically viable service in the rural setting can be provided with excellent safety outcomes.

Disclosures No relevant conflicts of interest to declare.

Table 1: Patient demographics and indications for therapeutic apheresis

Characteristics	Patients (n=36)
Average age (years)	58 (18-86)
Females % (numbers)	58.3 (21)
Indication for therapeutic plasma exchange	%/Number
• Hyperviscosity (multiple myeloma and Waldenstrom macroglobulinemia)	22.2 (n=8)
• Myasthenia gravis	16.7 (n=6)
• Thrombotic microangiopathy	11.1 (n=4)
• Vasculitis	8.3 (n=3)
• Chronic inflammatory demyelinating polyneuropathy	8.3 (n=3)
• Atypical haemolytic uraemic syndrome	5.5 (n=2)
• Anti-glomerular basement membrane disease	5.5 (n=2)
• Catastrophic antiphospholipid syndrome	2.8 (n=1)
• Neuromyelitis optica	2.8 (n=1)
• Antibody-mediated pulmonary fibrosis	2.8 (n=1)
• Focal segmental glomerulonephritis	2.8 (n=1)
• Acute renal transplant rejection	2.8 (n=1)
• Guillain-Barre Syndrome	2.8 (n=1)
Indication for therapeutic cytapheresis	
Leukapheresis/Chronic myeloid leukaemia	2.8 (n=1)
Plateletpheresis/Essential thrombocythemia	2.8 (n=1)

Figure 1

<https://doi.org/10.1182/blood-2023-177897>

Downloaded from http://ashpublications.net/blood/article-pdf/142/Supplement_1/3693/2199742/blood-295-main.pdf by guest on 08 June 2024