Service Priorities and Programmes

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Therapeutic Plasma Exchange in Treatment of Autoimmune Neurological Disorders - a local regional hospital experience

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Introduction

Therapeutic plasma exchange (TPE) is a well-established treatment for many autoimmune neurological disorders. Its advantage lies in its rapid onset of action, by direct removal of pathogenic auto-antibodies. However, access to this treatment modality may be difficult. Close collaboration between the Neurology Team and Haematology Nurse Specialist in Pamela Youde Nethersole Eastern Hospital (PYNEH) has made TPE an accessible treatment option in our center.

Objectives

To evaluate the effectiveness of therapeutic plasma exchange in treatment of autoimmune neurological disorders

Methodology

All patients with neurological disorders who required TPE between October 2011 and January 2015 in PYNEH were retrospectively reviewed. Data were collected on demographics; methodology, indication, and treatment details of TPE; complication and mortality rate; and functional outcome, measured by change in modified Rankin Scale (mRS) 3 months after TPE compared with premorbid.

Result

Results: 26 subjects were identified. The mean age was 55.07, with a female preponderance (57.69%). TPE was performed by the Spectra Optia or Haemonetic cell separator. Indications for TPE included Guillain-Barrè syndrome (n=6), myasthenia gravis (n=4), autoimmune encephalitis (n=5), neuromyelitis optica (n=7), multiple sclerosis (n=1), Miller Fisher syndrome (n=1) and myelitis of other causes

(n=2). 22 patients received intravenous immunoglobulin or steroid therapy prior to TPE. 4 received TPE as first-line treatment. 116 exchanges were performed in total, with a mean of 4.46 sessions per patient, mean duration per session was 95.6 minutes and a mean processed plasma volume of 3705.7mL per cycle. TPE was well tolerated. Hypotension and hypocalcaemia were common, but responded well to replacement therapy. No complications or mortality arose from TPE. 1 patient was still in rehabilitation at the time of writing. 18 of the 25 remaining subjects (72%) had mRS change of <2. Conclusions: TPE is an effective and safe treatment in autoimmune neurology diseases. In view of the increasing awareness and expanding spectrum of autoimmune related neurological diseases, it is worth to invest in training more nurse specialists who specialize in therapeutic apheresis to make TPE more easily accessible.