

Wessex Plasma Therapy Appeal

A large number of diseases affecting brain, spinal cord, peripheral nerve and muscle are known to be caused by antibodies (known as auto-antibodies) that can trigger life-threatening illness and severe, permanent neuro-disability. Rapid, effective treatment of patients is critical to enable good recovery.

The antibodies responsible for damage to the nervous system in these disorders are part of the plasma fraction of whole blood. Plasma exchange (PLEX) is an extra-corporeal procedure where blood (which consists of blood cells and plasma) is taken out of the body through a needle or previously implanted catheter, and the plasma is removed from the blood by a cell separator. The blood cells are then returned to the patient along with replacement donor plasma. The patients' own plasma, containing the disease-causing auto-antibodies, is discarded.

The neurological diseases caused by auto-antibodies are frequently devastating. Patients with Neuromyelitis Optica (NMO), Myasthenia Gravis (MG) and Guillain-Barre syndrome (GBS) can develop severe paralysis and life-threatening breathing difficulties within a matter of a few hours. Encephalitis triggered by auto-antibodies can lead to confusion, seizures and neuro-psychiatric symptoms over just a few days. Without rapid removal of antibodies by plasma therapy, there is a risk of permanent (irreversible) neurological damage. Plasma therapy has been shown to be a vital, life-saving first treatment during emergency admission. In addition, plasma therapy can be used to treat patients with long-standing antibody-mediated disease who have not responded well to standard oral drugs.

The current procedure for plasma therapy at the Wessex Neurological Centre involves a Baxter Prismaflex machine designed for use in critically-ill patients in an intensive care setting. Treatment with the Prismaflex machine requires placement of a catheter into one of the large central veins either in the groin or in the neck limiting the availability of plasma therapy to patients admitted to the Neuro-intensive care (NICU). Plasma therapy therefore cannot be given easily to in-patients on the neurology wards or to day-case patients.



Baxter Prismaflex – currently in use on NICU at Wessex Neurological Centre.

There has been rapid technological improvement in plasma therapy. The new Spectra Optia machine (manufacturer - Terumo BCT) can now deliver plasma therapy not only via a central venous catheter, for critically-ill patients, but also via needles placed in peripheral veins at the elbow, allowing treatment of patients by the bedside on the neurology ward and day-case unit.



Wessex Plasma Therapy appeal for new Spectra Optia machine

This year's appeal is to fund a new Spectra Optia (plasma therapy) machine for the Wessex Neurological Centre. The new machine will allow staff at the Wessex Neurological Centre to continue to treat critically-ill patients on NICU suffering from life-threatening neurological disease with the latest technology. In addition, the new machine will enable the Wessex Neurological Centre to establish a Plasma Therapy Unit allowing clinicians to treat day-case and neurology ward patients from across the region living with long-term conditions such as Myasthenia Gravis and inflammatory neuropathies.

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