Infosheet

Plasmapheresis

What is plasmapheresis?

Also called plasma exchange, plasmapheresis is a process to remove plasma from the blood. Plasma is the fluid part of blood and contains immunoglobulins and other proteins. Plasmapheresis is therefore a way of removing paraprotein from the blood in myeloma.

Why is plasmapheresis used in myeloma?

The best way of reducing paraprotein levels in the long-term is with effective chemotherapy or similar treatment to reduce the myeloma cells that are producing the paraprotein. However, chemotherapy takes time to act and sometimes it may be important to reduce the paraprotein level rapidly.

Some people with myeloma have problems with hyperviscosity (a condition where the blood is thicker than normal). Symptoms of hyperviscosity may include visual disturbances, dizziness, and headaches. This usually happens in patients who have very high levels of paraprotein. It is important to reduce the viscosity quickly. Plasmapheresis is very effective in reducing the plasma viscosity but usually needs to be repeated two to three times per week until the chemotherapy takes effect.

It is thought that plasmapheresis may also help patients with renal failure due to high levels of free light chain (Bence Jones protein). Many people with myeloma experience some degree of kidney failure. About 15% to 20% of patients with myeloma produce incomplete immunoglobulins, containing only the light chain portion of the immunoglobulin (also known as Bence Jones protein or BJP). In excess this immunoglobulin fragment is particularly likely to damage the kidney. Removing the BJP quickly by plasmapheresis may improve the chances of recovery of kidney function. Again, the procedure needs to be carried out two to three times per week until the chemotherapy takes effect.

How is plasmapheresis performed?

Blood is taken from a vein in the patients arm, using a small plastic tube or cannula; it is then passed through a machine called a cell separator.

The separator works either by spinning the blood at high speed to separate the cells from the fluid or by passing the blood through a membrane with pores so small that only the fluid part of the blood can pass through.

The plasma is discarded and the cells are returned via another cannula, along with a fluid to replace the plasma.

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Charity no. SC 026116
National Myeloma Week
21 to 28 June

Medication to keep the blood from clotting (an anticoagulant) is given through a vein during the procedure. The blood is removed and returned at the same rate so that only a small amount of blood is outside the body at any one time. The whole procedure may take up to two or three hours.

It can be performed as an out-patient or in hospital; the choice will depend on whether the patient needs to be in hospital for other reasons. It is important that a trained and experienced expert performs this procedure.

What are the potential risks and complications?

Plasmapheresis can be uncomfortable but is not usually painful. Side-effects are uncommon. Some people may feel light headed or dizzy. Plasmapheresis can affect the level of calcium in the body, causing numbness or a tingling sensation. These effects usually pass quite quickly and can be treated. It is common to feel tired after the procedure so if the patient is being treated as an out-patient it may be a good idea to take someone who can help with transport home.

The future

Hyperviscosity and kidney damage are two complications that can add to the burden of myeloma. It is important to find the best way to prevent and treat these complications. Ongoing studies will give doctors a greater understanding of how plasmapheresis can help people with myeloma.

The UK Myeloma Forum and the Renal Association are conducting a clinical study (the MERIT study) to evaluate the effectiveness of plasmapheresis in people with newly diagnosed myeloma and acute renal failure.

For further information about the MERIT study, contact Myeloma UK's **Myeloma Infoline** on **0800 980 3332**.

About this Infosheet

The information in this Infosheet is not meant to replace the advice of your medical team. They are the people to ask if you have questions about your individual situation.
All Myeloma UK's publications are extensively reviewed by patients and healthcare professionals prior to publication.

Other information available from Myeloma UK

Myeloma UK has a range of Essential Guides, Infoguides and Infosheets available, covering many areas of myeloma, its treatment and management. To order your free copies, contact the **Myeloma Infoline** on **0800 980 3332**. This information is also available 24/7 on our website at www.myeloma.org.uk.

If you would like to talk to someone about any aspect of myeloma, its treatment and management, call the **Myeloma Infoline** on **0800 980 3332**. Your call will be answered by Myeloma Nurse Specialists who are supported by medical and scientific advisors.
The Myeloma Infoline is open from Monday to Friday, 9am to 5pm, and is free to phone from anywhere in the UK. From outside the UK, call +44 131 557 3332 (charged at normal rate).

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Issue date: **August 2008**