Therapeutic Plasma Exchange

Introduction

This leaflet provides information about a procedure called Therapeutic Plasma Exchange. It explains what the procedure involves and describes the benefits and possible risks.

You will have the opportunity to discuss with your doctor the reasons why you need plasma exchange and how it might help before you consent to the treatment.

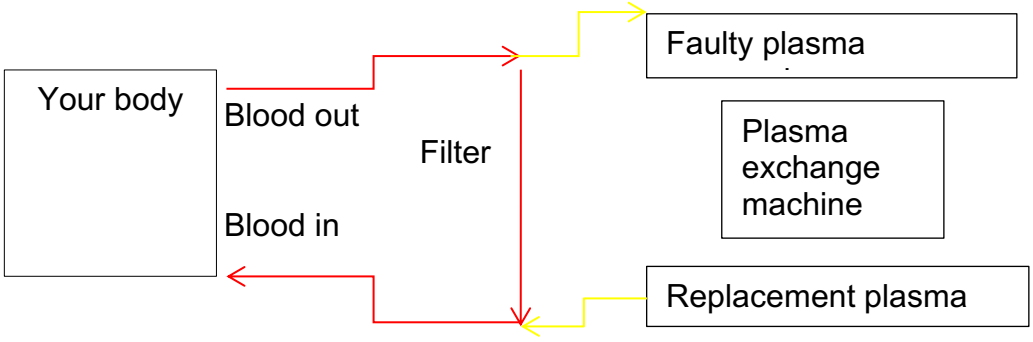
What is Plasma?

Plasma is a straw coloured fluid that is the liquid part of blood. It helps the flow of blood (red blood cells, white blood cells and platelets) and carries proteins and other substances around the body. Plasma is mainly made up of water and contains other substances including:

- Dissolved minerals
- Proteins (including antibodies) which help fight infections and clotting substances which help control bleeding
- Hormones

What is Therapeutic Plasma Exchange?

Therapeutic Plasma exchange is a procedure that filters and removes plasma from the blood and replaces (exchanges) it with new plasma. The plasma can be replaced with either fresh donor plasma or purified human albumin solution which is the liquid part of plasma. The plasma that is filtered and removed will contain harmful antibodies which may be contributing to your illness.



Why is therapeutic plasma exchange needed?

In some conditions the body's immune system produces harmful antibodies. These harmful antibodies attack healthy cells and tissues. The removal of these antibodies can help you to recover. Removing harmful antibodies can also help to treat some renal disorders, such as rejection after organ transplantation

Some neurological diseases may also require treatment with plasma exchange such as; Guillain-Barre Syndrome, Myasthenia Gravis and Neuromyelititis Optica. However there may be other reasons you may require plasma exchange on the recommendation of your doctor.

What happens during a therapeutic plasma exchange?

Before plasma exchange can be carried out a special central venous access device (also called a line) will need to be inserted in order to access your blood. For more information about the line, please see the leaflet ‘having a haemodialysis line’.

If plasma exchange is required long term then a fistula may be created in the arm. As this provides easy access to your blood stream and reduces the risk of infections. This is made during a surgical procedure. For more information about the fistula, please see the leaflet ‘having a fistula for haemodialysis’.

Your doctor will discuss with you how many plasma exchange treatments you are likely to need. The procedure is normally done daily or every other day and the line will usually stay in place for 5-7days.

Plasma exchange will be carried out on the haemodialysis unit by specially trained nurses who will monitor and look after you throughout the treatment. Before the procedure starts a blood test will be taken to check your calcium, antibody levels and routine blood borne virus screen. (Please see the leaflet ’’blood borne virus screening’). Sterile tubing set is used to pump your blood around a machine and through a special plasma filter. The filter removes the plasma which is then collected and discarded. New replacement plasma fluid is then infused into the blood as the red and white blood cells are returned to you.

As the blood in the tubing set can clot a drug called heparin is added to the tubing set to prevent this from happening and you will have a calcium gluconate infusion to prevent your calcium levels dropping.

How long does the procedure take?

Plasma exchange takes about two hours and you will be required to be next to the machine until the procedure is finished. You may want to bring something to read with you or listen to some music. You will be able to eat and drink normally during the procedure.

Plasma exchange can be undertaken daily or every other day for approximately 5-10 days. Your doctor will let you know how many treatments you will need. Your nurse looking after you will let you know when you need to return for your next exchange.

Are there any risks associated with therapeutic plasma exchange?

The most frequently encountered complication of therapeutic plasma exchange is an allergic reaction to the replacement plasma or the plasma filter. Medication will be given if this should happen.

Other possible side effects during the treatment include low blood pressure, dizziness, nausea, feeling cold due to plasma being removed or you may experience a tingling sensation in your fingers and lips. This could be due to calcium levels in your blood being too low. However the nurse looking after you will be checking your levels during the procedure.

The nurse will also be checking your blood pressure, pulse and temperature throughout the procedure.

There is also an increased risk of infection due to the central venous access device (line). It is therefore important that your line is kept free from germs at all times. To reduce the risk of infections we use special protective dressings to cover the exit site and sterile gauze to wrap the line ends as well as putting an antibacterial solution into the line itself. Keep the protective dressing on at all times and do not remove it. The nurses will look after the dressing for you when you have your plasma exchange. Other ways to help reduce the risk of infection are to avoid close contact with people who have coughs, colds, diarrhoea or vomiting.

If you experience any of the following please let your doctor or nurse know as soon as possible as it may indicate you have an infection:

- Feeling hot and having a temperature above normal
- Feeling shivery, shaky and generally unwell
- Redness, swelling or oozing around the line

When will the line be removed?

The line is normally removed once all the plasma exchange sessions have been completed. However if your line is also being used for haemodialysis treatment then the line may need to remain in place for longer. Please remind one of the nurses or doctors about your line so they can explain the plan.

Donated blood products will be used in the procedure. There is a very small chance that some diseases could be passed on in these products. However to reduce the risk all these products are heat-treated and screened according to recommendations from the National Blood Transfusion Service www.blood.co.uk by the central blood bank.

Where can I find further sources of information?
Further information can be obtained from NHS Choices www.nhs.uk
Useful numbers

Ward 301 Acute haemodialysis unit QEHB	0121 371 3096/3097
Glaxo Dialysis unit Heartlands Hospital	0121 424 1160/1157

Accessibility

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