



Radiology department

Thrombolysis

Introduction

This leaflet tells you about the procedure known as thrombolysis. It explains what is involved and lists the possible risks. This is not a substitute for informed discussion between you and your doctor, but this information is a starting point for such a discussion.

What is thrombolysis?

Thrombolysis means breaking up blood clots. Once a clot starts to form in a blood vessel, it may carry on getting bigger until the whole vessel is blocked. It is possible to dissolve the clot by injecting a special “clot busting” drug into the artery or vein, directly into the clot. This can lead to improvement in blood flow.

Why do I need thrombolysis?

You are likely to have had a CT scan or an angiogram, a special x-ray examination of the blood vessels, which has shown a blockage in an artery or vein. If nothing is done about the blood clots, these may cause severe and permanent damage to your circulation. The benefit to you is that we hope to be able to unblock the vessel and restore venous drainage.

The doctors in charge of your case and the radiologist doing the thrombolysis have assessed the situation and feel this is the best treatment for you. This will be discussed fully with you and we will ask you for your consent before the procedure.

Who will be doing the thrombolysis?

Radiologists are trained doctors who have expertise in using x-ray equipment and in interpreting the images produced. They look at these images on a screen while carrying out the procedure.

What are the risks of thrombolysis?

Thrombolysis is a beneficial procedure leading to improvement in blood flow. However, there are some risks and complications that can arise.

- There may be a haematoma (bruise) around the site where the needle has been inserted. This is quite normal. If this becomes a large bruise, there is a risk of it getting infected, and this would then require treatment with antibiotics.

- Very rarely, some damage can be caused to the artery or vein by the catheter and this may need to be treated by surgery or another radiological procedure.
- Clot-busting drugs have to be very powerful to work, so there is a risk that bleeding will occur elsewhere. For example, if you have a duodenal ulcer, it is possible that this might start bleeding. If this happened, it would be necessary to have further treatment.
- Very rarely, bleeding can occur in the brain and cause a stroke
- However, the risks associated with not treating your blocked artery or vein are felt to be greater than the risks of bleeding elsewhere.
- Sometimes the blood clot may be so extensive that the clot-busting drug may simply not dissolve it all away.

Despite these possible complications, the procedure is normally safe, and is usually carried out with no significant side effects at all.

Where will the procedure take place?

In a special “screening” room which is adapted for specialised procedures in the radiology department (x-ray department).

What to tell the doctor

It is important to tell the doctor **before the biopsy** if you are taking any medication to prevent blood clots such as warfarin, heparin, dalteparin (Fragmin), aspirin or clopidogrel. We normally ask you not to take aspirin or clopidogrel for one week before your procedure as this prevents the blood from clotting normally. Please check with your Christie doctor first. You can contact the radiology department on 0161 446 3325.

How do I prepare for the thrombolysis?

You need to be an inpatient in the hospital. You will be asked not to eat for four hours before the procedure, though you may drink water. You may receive a sedative to relieve anxiety. The staff will ask you to put on a hospital gown. As the procedure is generally carried out using the big artery or vein in the groin, we will also ask you to shave this area.

If you have any allergies or if you have an ulcer, you **must** let your doctor know. If you have previously reacted to intravenous contrast medium (the dye used for kidney x-rays and CT scanning) then you **must** also tell your doctor about this.

What happens during thrombolysis?

The procedure starts off in exactly the same way as an angiogram, and if you have already had this performed, you will know what to expect.

- You will lie on the x-ray table, generally flat on your back. A needle will be put into the vein in your lower arm, so that you can be given a sedative or painkillers if needed. You may also have monitoring devices attached to your chest, around your arm and finger, and you get oxygen through small tubes in your nose.

- The radiologist will keep everything as sterile as possible, and will wear theatre gown and gloves. The skin near the puncture site, either the arm or groin will be swabbed with antiseptic, and then most of the rest of your body covered with theatre towels.
- The skin and deeper tissues over the artery or vein will be anaesthetised with local anaesthetic, and then a needle will be inserted into the artery or vein. Once the radiologist is satisfied that this is correctly positioned, a guide wire is placed through the needle into the artery or vein. Then the needle is withdrawn allowing the small plastic tube or catheter, to be placed over the wire and into the artery or vein.
- ◆ The radiologist will use the x-ray equipment, and small amounts of dye to make sure that the catheter, still on the wire, is moved into the right position, very close to the blockage in the artery or vein. Then the wire will be withdrawn and the thrombolytic (clot busting) drug will be injected down the catheter and into the blood clot. The radiologist will check progress by injecting contrast medium to show how much the clot has dissolved.

Although all of the clot is sometimes dissolved at the first attempt, generally the catheter has to be left in the artery or vein and attached to an infusion pump, so that injection of the clot-busting drug can be continued for up to 24 hours.

Will it hurt?

You will be awake during the procedure. You may feel some discomfort in the skin and deeper tissues during the injection of the local anaesthetic. After this the procedure should not be painful. There will be a nurse, or another member of clinical staff, standing next to you and looking after you. If the procedure does become uncomfortable, you should tell the staff. As the contrast medium passes around your body, you may get a warm feeling, which some people find unpleasant. However, this soon passes off.

How long will it take?

Every patient's situation is different, but as a guide, expect to be in the radiology department for about an hour and a half.

What will happen afterwards?

You will be taken back to your ward on a trolley. Nurses on the ward will carry out routine observations, such as your blood pressure and pulse at regular intervals. They will also look at the puncture site(s) to make sure there is no bleeding. You will need to stay in bed for as long as the catheter stays in the artery or vein. You will usually stay in hospital for a few days.

The radiologist needs to check on progress, and will arrange for you to come back to the radiology department at regular intervals. By injecting a small amount of dye down the catheter it is possible to tell how much of the clot has dissolved.

You may require several trips to the X-ray department to check on progress and sometimes an underlying narrowing is revealed once the clot has cleared which may be treated at the time by angioplasty or stent.

What happens next?

This all depends on where the blockage was, and how successful the thrombolysis has been. Your doctor will discuss this with you.

If you have any problems or worries, please contact:

From 9am to 5pm:	Radiology nurse, on 0161 446 3325 or X-ray department on 0161 446 3320
Out of hours and weekends: for emergencies	Ring The Christie on 0161 446 3000 and ask for the on-call radiologist

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The Christie Patient Information Service December 2011 Review December 2014
CHR/XRD/213-04/02.09.03

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Details of the sources used are available, please contact Patient.Information@christie.nhs.uk