Patient Information Undergoing Insertion of a Vena Cava Filter

Directorate of Clinical Radiology

Introduction

This leaflet tells you about the procedure known as insertion of a vena cava filter, explains what is involved and what the possible risks are. It is not meant to replace informed discussion between you and your doctor, but can act as a starting point for such a discussion.

If you are having the vena cava filter inserted as a pre-planned procedure, then you should have plenty of time to discuss the situation with your consultant and the radiologist who will be inserting the vena cava filter. If you need the vena cava filter inserted as an emergency, then there may be less time for discussion, but none the less **you should have had sufficient explanation before you sign the consent form.**

What is a vena cava filter?

A vena cava filter is a small, metal device about an inch long, shaped rather like the spokes of an umbrella. The filter is placed in the vena cava, which is the large vein in the abdomen, which brings blood back from the legs and pelvis, towards the heart. If there are blood clots in the veins in the legs or pelvis, these could pass up the vena cava and into the lungs. The filter will trap these blood clots and prevent them entering the lungs and causing problems.

Why do I need a vena cava filter?

Other tests that you have had done have shown that you have clots in the veins in your legs or pelvis, and that there is a significant risk of these passing into the lungs. Generally, these problems can be treated effectively with blood thinning drugs, called anti-coagulants, but in your case it is felt that a further method of dealing with the blood clots is required.

Who has made the decision?

The consultant in charge of your case, and the radiologist inserting the vena cava filter will have discussed the situation, and feel that this is the best treatment option. However, you will also have the opportunity for your opinion to be taken into account and if, after discussion with your doctors, you do not want the procedure carried out, then you can decide against it.

Who will be inserting the vena cava filter?

A specially trained doctor called a radiologist. Radiologists have special expertise in using x-ray equipment, and also in interpreting the images produced. They need to look at these images while carrying out the procedure.

Where will the procedure take place?

In the x-ray department, in a special "screening" room, which is adapted for specialised procedures.

How do I prepare for insertion of a vena cava filter?

You need to be an in-patient in the hospital. You will be asked not to eat for four hours beforehand, though you may be told it is alright for you to drink some water. You may receive a sedative to relieve anxiety. You will be asked to put on a hospital gown. As the procedure is generally carried out using the big vein in the groin, you may be asked to shave the skin around this area.

If you have any allergies, 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 actually happens during insertion of a vena cava filter?

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

The radiologist will keep everything as sterile as possible, and will wear a theatre gown and operating gloves. The skin near the point of insertion, probably the groin, will be cleaned with antiseptic, and then most of the rest of your body covered with a theatre towel.

The skin and deeper tissues over the vein will be anaesthetised with local anaesthetic, and then a needle will be inserted into the vein. Once the radiologist is satisfied that this is correctly positioned, a guide wire is placed through the needle, and into the vein. Then the needle is withdrawn and a fine plastic tube, called a catheter, is placed over the wire and into the vein. This catheter has the filter attached to it.

The radiologist uses the x-ray equipment to make sure that the catheter and the wire are moved into the right position, and then the wire is withdrawn, and the filter can be released from the catheter, and left in place in the vena cava.

The catheter will then be removed and the radiologist will press firmly on the skin entry point for several minutes to prevent any bleeding.

Will it hurt?

Some discomfort may be felt in the skin and deeper tissues during 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 for you, then they will be able to arrange for you to have some painkillers through the needle in your arm.

You will be awake during the procedure, and able to tell the radiologist if you feel any pain, or become uncomfortable in any other way.

How long will it take?

Every patient's situation is different, and it is not always easy to predict how complex or how straightforward the procedure will be. Generally, the procedure will be over in about half an hour, but you may be in the x-ray department for about an hour altogether.

What happens afterwards?

You will be taken back to your ward on a trolley. Nurses on the ward will carry out routine observations, such as taking your pulse and blood pressure, to make sure that there are no problems. They will also look at the skin entry point to make sure there is no bleeding from it. You will generally stay in bed for a few hours, until you have recovered. You may be allowed home on the same day, or kept in hospital overnight.

Are there any risks or complications?

Vena cava filter insertion is a safe procedure, but there are some risks and complications that can arise. There may occasionally be a small bruise, called a haematoma, around the site where the needle has been inserted, and this is quite normal. If this becomes a large bruise, then there is the risk of it getting infected, and this would then require treatment with antibiotics.

Very rarely, some damage can be caused to the vein by the catheter, and this may need to be treated by surgery or another radiological procedure. There is a possibility that the filter will actually cause some blockage of the vena cava, the large vein that brings food back from the legs to the heart, and because of this there may be some swelling of the legs. As with any mechanical device, there is also the possibility that the filter will eventually fail to work properly. Despite these possible complications, the procedure is normally safe, and is carried out with no significant side effects at all.

Finally…

Some of your questions should have been answered by this leaflet, but remember that this is only a starting point for discussion about your treatment with the doctors looking after you. **Make sure you are satisfied that you have received enough information about the procedure, before you sign the consent form.**

Insertion of a vena cava filter is considered a safe procedure, designed to prevent the serious complications that can develop from blood clots. There are some slight risks involved, and although it is difficult to say exactly how often these occur, they are generally minor and do not happen very often.

For further information contact:-

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or

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This leaflet has been prepared by the British Society of Interventional Radiology (BSIR) and the Clinical Radiology Patients' Liaison Group (CRPLG) of the Royal College of Radiologists.