Venous thrombosis in pregnancy and after birth

Information for you

Published September 2008

Royal College of Obstetricians and Gynaecologists

Setting standards to improve women's health

What is venous thrombosis?

Thrombosis is a blood clot in a blood vessel (a vein or an artery). This information is about a thrombosis that occurs in a vein – the blood vessels that take blood towards the heart and lungs.

A deep vein thrombosis (DVT) is a blood clot that forms in a deep vein of the leg, calf or pelvis. If the clot moves to the lung, it is called a pulmonary embolus.

What are the symptoms of a DVT during pregnancy?

The symptoms of a DVT usually occur in only one leg and include:

- a red and hot swollen leg
- swelling in your entire leg or just part of it
- pain and/or tenderness – you may only experience this when standing or walking or it may just feel heavy.

Seek advice immediately from your doctor or midwife, if you notice one or more of these symptoms.

During pregnancy, swelling and discomfort in both legs is common and does not always mean there is a problem. Always ask your doctor or midwife if you are worried.

Why is a DVT serious?

The danger of a DVT is that the blood clot may break off and travel in the blood stream until it gets stuck in another part of the body, such as in the lung (pulmonary embolus).

The symptoms of a pulmonary embolus may include:

- sudden unexplained difficulty in breathing
- tightness in the chest or chest pain
- coughing up blood (haemoptysis)
- feeling very unwell or collapsing.

Seek help immediately if you experience any of these symptoms.

Although a pulmonary embolus is rare, it can be life-threatening. The risk of developing a pulmonary embolus once a DVT has been diagnosed and treated is extremely small.

Who is at risk of venous thrombosis?

Pregnant women are ten times more likely to develop venous thrombosis than women who are the same age and not pregnant. Venous thrombosis related to pregnancy can occur at any stage of pregnancy and for six weeks after birth. This is due to the changes from being pregnant.

Additional risks for developing a venous thrombosis in pregnancy are when you:

- have had a previous venous thrombosis
- have a condition called thrombophilia, which makes a blood clot more likely
- are over 35 years of age
- are overweight – body mass index (BMI) over 30
- are carrying more than one baby (multiple pregnancy)
- have severe pre-eclampsia (see RCOG Patient Information **Pre-eclampsia: what you need to know**)
- have just had a caesarean delivery
- are immobile for long periods of time, for example, after an operation or when travelling for four hours or longer
- are a smoker.

How is venous thrombosis diagnosed during pregnancy?

DVT

Your doctor will examine your leg and may offer you an ultrasound scan of your leg to show where the clot is. If no clot is seen but you are still having symptoms, the scan may be repeated after one week.

Pulmonary embolus

The tests may include:

- a chest X-ray (this can also identify common problems which could be the cause of your symptoms, such as a chest infection)
- a CT scan (specialised X-ray) of your lungs
- a VQ scan (ventilation perfusion) of your lungs. This needs a drip into a vein in your arm
- an ultrasound of both your legs to look for an existing blood clot which may not have caused you any symptoms.

Are there any risks with having the tests?

The chest X-ray, CT scan and VQ scan use radiation (X-rays). You may be concerned about the risk of these tests to the baby. The chest X-ray uses a very small dose of radiation and the baby will be shielded. The risk to your baby of developing cancer in childhood after a VQ scan is extremely rare (1 in 280,000).

There are small risks with CT and VQ scans and these need to be weighed up against the risk to mother and baby of an undiagnosed venous thrombosis. A CT scan gives a higher dose of radiation to your breasts than a VQ scan and the lifetime risk of breast cancer may be increased. The risk may be increased by up to 13.6% with a background risk of 1 in 200.

What is the treatment for venous thrombosis?

As soon as your doctor suspects you have a venous thrombosis, you will be advised to start on treatment with an injection of heparin (an anticoagulant) to 'thin the blood'. There are different types of heparin. The most commonly used in pregnancy is 'low-molecular-weight heparin' (LMWH).

For most women, the benefits of heparin are that it:

- works to prevent the clot getting any bigger so your body can gradually dissolve the clot
- reduces the risk of a pulmonary embolus
- reduces the risk of another venous thrombosis developing
- lowers the risk of long-term symptoms developing in the leg, known as 'post-thrombotic syndrome' (see **What happens after birth and can I breastfeed?**).

What does heparin treatment involve?

Heparin is given as an injection under the skin at the same time(s) every day. The dose is worked out for you according to your weight before you became pregnant. You (or a family member) will be shown how and where in your body to do the injections. You will be provided with the needles and syringes (usually already made up) and you will be advised on how to store and dispose of these. You will have regular check-ups, including blood tests, as an outpatient. You will probably not need to stay in hospital.

How long will I need to take heparin?

Treatment is usually recommended for the remainder of your pregnancy and for at least six weeks after the birth. The minimum treatment time is three months.

Contact your doctor if you experience any worrying symptoms when you are taking heparin (such as chest pains, unexpected bruises, a sudden change in your health). Also contact your doctor if you have any heavy bleeding during this time.

What else can help?

- Stay as active as you can.
- You will be prescribed a special stocking (graduated elastic compression stocking) which helps to reduce the swelling in the leg.
- If you need pain relief, ask your doctor or midwife.

Are there any risks to me and my baby from heparin?

Low-molecular-weight heparin cannot cross the placenta to the baby and so is safe to take when you are pregnant.

There may be some bruising where you inject which will usually fade in a few days. One or two women in every 100 (1–2%) will have an allergic reaction when they inject. If you notice a rash after injecting, you should inform your doctor so that the type of heparin can be changed.

What should I do when labour starts?

Most women with a DVT continue with their pregnancy normally. If you think that you are going into labour, do not take any more injections. Phone your hospital immediately and tell them that you are on heparin treatment. They will advise you.

If the plan is to induce labour, you should stop your injections 24 hours before the planned date. An epidural injection (given into the space around the nerves in your back) cannot usually be given until 24 hours after your last injection. Alternative pain relief options will be discussed. An individual plan will be made with you.

What if I have a planned caesarean delivery?

Your last heparin injection should be 24 hours before the planned caesarean delivery (operation to deliver your baby). The heparin will usually be re-started within 3 hours of the operation.

What happens after birth and can I breastfeed?

Treatment should be continued for at least six weeks after birth. There is a choice of treatment after birth of continuing with injections of heparin or using warfarin tablets. Your doctor will discuss your options with you.

Both heparin and warfarin are safe to take when breastfeeding.

After birth, you will usually be given an appointment with your GP, obstetrician or haematologist. At your appointment the doctor will:

- ask about your family history of thrombosis and discuss tests for a condition which makes thrombosis more likely (thrombophilia). These should be done ideally before any future pregnancies.
- discuss your options for contraception (you should be advised not to take any contraception that contains estrogen, for example, the 'combined pill')
- discuss future pregnancies: you will usually be recommended heparin treatment during and after your next pregnancy
- give you information about a compression stocking: it is recommended that you should wear this on the affected leg for two years.

A glossary of all medical terms is available on the RCOG website at **www.rcog.org.uk/index.asp?PageID=1107**.

Sources and acknowledgements

This information is based on the Royal College of Obstetricians and Gynaecologists (RCOG) guideline *Thromboembolic Disease in Pregnancy and the Puerperium: Acute Management* (published by the RCOG in February 2007). This information will also be reviewed and updated if necessary once the guideline has been reviewed. The guideline contains a full list of the sources of evidence we have used. You can find it online at: **www.rcog.org.uk/resources/Public/pdf/green_top_28_thromboembolic_minorrevision.pdf**

Clinical guidelines are intended to improve care for patients. They are drawn up by teams of medical professionals and consumer representatives who look at the best research evidence available and make recommendations based on this evidence.

This information has been developed by the Patient Information Subgroup of the RCOG Guidelines and Audit Committee, with input from the Consumers' Forum and the authors of the clinical guideline. It has been reviewed before publication by women attending clinics in Salisbury, Paisley and Bolton. The final version is the responsibility of the Guidelines and Audit Committee of the RCOG. The RCOG consents to the reproduction of this document providing that full acknowledgement is made.

A final note

The Royal College of Obstetricians and Gynaecologists produces patient information for the public. This is based on guidelines which present recognised methods and techniques of clinical practice, based on published evidence. The ultimate judgement regarding a particular clinical procedure or treatment plan must be made by the doctor or other attendant in the light of the clinical data presented and the diagnostic and treatment options available.