NHS

National Institute for Clinical Excellence

Coil embolisation of ruptured intracranial aneurysms

Understanding NICE guidance – information for people considering the procedure, and for the public

January 2005

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Coil embolisation of ruptured intracranial aneurysms
Understanding NICE guidance – information for people considering the procedure, and for the public

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Contents

About this information

This information describes the guidance that the National Institute for Clinical Excellence (NICE) has issued to the NHS on a procedure called coil embolisation of ruptured intracranial aneurysms. It is not a complete description of what is involved in the procedure – the patient's healthcare team should describe it in detail.

NICE has looked at whether coil embolisation of ruptured intracranial aneurysms is safe enough and works well enough for it to be used routinely.

To produce this guidance, NICE has:

- looked at the results of studies on the safety of coil embolisation of ruptured intracranial aneurysms and how well it works
- asked experts for their opinions
- asked the views of the organisations that speak for the healthcare professionals and the patients and carers who will be affected by this guidance.

This guidance is part of NICE's work on 'interventional procedures' (see 'Further information' on page 10).

About coil embolisation of ruptured intracranial aneurysms

An aneurysm is the medical name for what happens when a section of a blood vessel starts to bulge out like a balloon. An intracranial aneurysm is one that is inside the skull. Usually the cause is unknown but people with genetic causes of weak blood vessels are more likely to develop aneurysms.

If an intracranial aneurysm bursts, it causes what's known as a subarachnoid haemorrhage. This is the medical term for a leakage of blood into the space around the brain. Subarachnoid haemorrhages are serious and can be fatal.

Embolisation is a procedure that can be used on burst aneurysms. It aims to stop or greatly reduce the blood flow and prevent any more abnormal bleeding. It involves putting something into the aneurysm to make the blood in it clot.

The standard way of carrying out embolisation to treat intracranial aneurysms involves skull surgery to 'clip' the affected blood vessels. Intracranial aneurysm embolisation using what's known as the coil technique involves treating the aneurysm from inside the blood vessel itself. This means that there's no need for an operation through the skull.

In the procedure, a thin tube containing a small coil on a wire is put into a large blood vessel, usually in the patient's groin. The doctor then moves the tube up the blood vessel until it reaches the skull, using X-rays as a guide. The coil is placed inside the aneurysm and the tube is then removed. More than one coil is usually needed to fill the aneurysm.

How well it works

What the studies said

The results from a good-quality study showed that the risk of dying or becoming dependent as a result of disability was lower among people who had had coil embolisation compared with those who'd had skull surgery for a burst intracranial aneurysm.

Currently, people who've had the coil technique haven't been followed-up in studies for a long-enough period to allow all the risks or problems to show up.

What the experts said

The experts believed the coil embolisation technique to be better than surgical clipping in the short term. But they said that it's not yet known how long the effects of the treatment will last.

Risks and possible problems

What the studies said

In the studies NICE looked at, some of the people who'd had coil embolisation had problems as a result of the procedure. These included puncture of the aneurysm, the formation of a blood-filled swelling in the area (known as a haematoma), and more bleeding from the aneurysm. In one group of 403 patients, 11 had perforation, 10 had clots form, and in 2 patients, the coil moved from its position in the aneurysm.

What the experts said

The experts believed embolisation using the coil technique to be safer than skull surgery. But they said that the procedure has a risk of death and stroke. The experts also said that, after the procedure, patients should be monitored over time, as there is a small risk that the aneurysm could bleed again.

What has NICE decided about coil embolisation of ruptured intracranial aneurysms?

NICE has considered the evidence on coil embolisation of ruptured intracranial aneurysms. It has recommended that when doctors use it for people with ruptured intracranial aneurysms, they should be sure that:

- the patient understands what is involved and agrees (consents) to the treatment, and
- the results of the procedure are monitored.

NICE has also said that people with subarachnoid haemorrhage need to get specialist care quickly. Clear arrangements should be in place so that the right doctors and healthcare professionals are involved in treatment and care of the patient.

What the decision means for you

Your doctor may have offered you coil embolisation of ruptured intracranial aneurysms. NICE has considered this procedure because it is relatively new. NICE has decided that, for people with ruptured intracranial aneurysms, the procedure is safe enough and works well enough for use in the NHS. Nonetheless you should understand the benefits and risks of the coil technique before you agree to it. Your doctor should discuss the benefits and risks with you. Some of these may be described above.

Further information

You have the right to be fully informed and to share in decision-making about the treatment you receive. You may want to discuss this guidance with the doctors and nurses looking after you.

You can visit the NICE website (www.nice.org.uk) for further information about the National Institute for Clinical Excellence and the Interventional Procedures Programme. A copy of the full guidance on coil embolisation of ruptured intracranial aneurysms is on the NICE website (www.nice.org.uk/IPG106guidance), or you can order a copy from the website or by telephoning the NHS Response Line on 0870 1555 455 and quoting reference number N0799. The evidence that NICE considered in developing this guidance is also available from the NICE website.

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