Headache after Anaesthetic

Many people have an epidural or spinal injection for surgery or childbirth. A certain type of headache can occasionally develop after an epidural or spinal injection. This is called a post-dural puncture headache.

An epidural injection is given into the space that surrounds your spinal cord (called the epidural space). A spinal injection is given directly into the fluid that surrounds your spinal cord (called the cerebrospinal fluid). The injection can be a local anaesthetic or a medicine to relieve pain.

What causes the headache?

Your brain and spinal cord are surrounded by fluid. The fluid is called the cerebrospinal fluid (CSF).

- For an epidural, a needle is used to inject local anaesthetic just outside the membrane that surrounds the spinal cord (this membrane is called the dura). If the needle accidentally passes through the dura, a small hole is made. CSF can leak out through the hole.
- When a spinal injection is given, a very fine needle is deliberately inserted through the dura. The hole made by a spinal needle is very small and no CSF usually leaks out. But sometimes the hole is big enough to cause some leakage of CSF.

If too much fluid leaks out through the hole in the dura, the pressure in the rest of the fluid around the brain is reduced. This causes a typical headache, which is called a post-dural puncture headache. If you sit up, the pressure around your brain is reduced even more. Therefore, sitting or standing often makes the headache worse. On the other hand, lying flat will often improve this type of headache.

Although the hole in the dura will usually seal over in a number of weeks, it is not usually a good idea to wait for this to happen. The brain is cushioned by the CSF around it. If the headache is left untreated, this cushioning effect is not present and bleeding into or around the brain (a subdural haematoma) may occasionally occur. A fit (seizure) can also happen but this is rare. Therefore, it is very important to treat a post-dural puncture headache.

How often does this happen?

This type of headache is very uncommon. Somewhere between 1 in 100 and 1 in 500 people having an epidural or spinal injection will develop a post-dural puncture headache.

Young patients and women having the spinal or epidural for childbirth are more likely than other people to have a post-dural puncture headache.

What kind of headache is it?

A post-dural puncture headache is an unusual and specific kind of severe headache. It can often be felt at the front or the back of the head. It is worse when sitting or standing and it gets better when lying down flat. There may also be neck pain, sickness and a dislike of bright lights.

Some patients describe it as like a very bad migraine. It is most likely to start between one day and one week after you have the spinal or epidural injection.

Other causes of severe headache after childbirth

If you have a severe headache after having a baby, there are other causes of severe headache that your doctors need to consider. Some of these headaches are very serious and require immediate treatment.

You should contact a doctor immediately if you have a severe or persistent headache after childbirth. If you also have any drowsiness or confusion, or you are being sick (vomiting) then this is a medical emergency.

What are the treatment options for the headache?

Initial treatment

- Lying flat as much as you can will help to relieve the headache.
- You should take a simple pain-relieving medicine, such as paracetamol. You can take ibuprofen as well.
Drink plenty of fluid. Caffeine drinks such as tea, coffee or cola are especially helpful. You should avoid heavy lifting and straining.

What are my choices if the headache persists?

Although the hole in the dura will usually seal over in a number of weeks, it is not usually advisable to wait for this to happen.

The brain is cushioned by the CSF around it. If the headache is left untreated, this cushioning is not present and it is occasionally possible for bleeding to occur into or around the brain (a subdural haematoma). Very occasionally, a fit (seizure) can happen.

A post-dural puncture headache is often treated with an epidural blood patch.

What is an epidural blood patch?

Some of your own blood is injected into your back. The aim is that the blood seals the hole in the dura and stops the leak of fluid. Great care is taken to clean your arm and take blood in a fully clean (sterile) manner. This reduces the risk of infection. Blood is carefully injected into your back by using an epidural needle, placed near to the hole in the dura.

The blood will clot and so seal the hole that has been made in the dura. As the fluid leak is stopped, the pressure around the brain will increase and the headache should improve.

What if I still have a headache?

In about 2 in every 3 people who have this kind of headache, the blood patch will cure the headache within 24 hours. If the headache continues, or if the headache returns, you may be advised to have another blood patch.

What risks are associated with a blood patch?

- A blood patch may cause local bruising on the back where the injection has been done.
- A blood patch can occasionally cause backache and stiffness which can last a few days. Epidurals and blood patches do not cause long-term backache.
- There is a small chance that another accidental dural puncture could occur when the blood patch injection is done.
- Nerve damage, infection or bleeding into the back are very rare complications of epidurals, spinals and blood patches.

Get immediate medical help if any of the following occur after you have a blood patch:

- Difficulty passing urine.
- Severe back pain.
- Loss of sensation in your back or legs.

Further reading & references

- Headache after a spinal or epidural injection: Royal College of Anaesthetists, February 2017

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