

Understanding Meningioma



What is a Meningioma?

The meninges are protective membranes around the brain and spinal cord. A meningioma is a tumour of the meninges.

The central nervous system (CNS) is made up of the brain and spinal cord. A lump or tumour forms when cells, which normally grow in a controlled and orderly way, are disrupted and continue to divide.

A tumour may be either benign or malignant. Most meningiomas are benign. A benign tumour can continue to grow but the cells do not spread from the original site.

Malignant meningiomas are extremely rare. When the cells invade and destroy surrounding tissue, they are termed or called a malignant tumour. A malignant tumour may spread to other parts of the brain.

The most common sites of a meningioma are the cerebral hemispheres of the brain, made up of the four lobes. However a meningioma can start in any part of the brain or spinal cord.

Meningiomas are more common in middle-aged or elderly adults, and more common in women than men. Meningiomas make up nearly 1 in 5 of all primary brain tumours.

Causes of a meningioma

Rare genetic syndromes and radiation exposure have been linked to an increased risk of meningioma, but no cause is found in the majority of cases. This is an area of on going research.

Symptoms

The main symptoms of a meningioma, which are slow growing tumours, arise from increased pressure within the skull (raised intracranial pressure). The increased pressure may be caused by swelling around the tumour itself or due to a blockage in the ventricles (fluid-filled spaces of the brain). The blockage can lead to a build-up of cerebrospinal fluid (CSF), which is the fluid that surrounds and protects the brain and spinal cord.

Symptoms of raised intracranial pressure are;

- sickness (vomiting),
- headaches and
- visual problems.

Behavioral changes and differences in personality are general signs of a brain tumour. Epileptic fits can be an early symptom.

Meningiomas can grow in different parts of the brain and symptoms will relate to the area of the brain that is affected:

- A tumour in the frontal lobe of the brain may cause paralysis (inability to move) on one side of the body (hemiparesis).
- More gradual changes affect mood and personality.
- A tumour in the left side of the brain may cause problems with speech; signs include slurring or muddling of words.
- If the temporal lobe of the brain is affected it may cause problems with memory loss. It may also affect coordination.
- A tumour in the parietal lobe of the brain can cause fits (seizures) which often occur in people with a meningioma. It may affect writing and other such activities may be difficult. It may cause Hemiparesis.

Diagnosis

A number of tests and investigations will need to be done so that your doctors can plan your treatment accurately. As much as possible will need to be found out about the type, position and size of the tumour.

Neurological examinations (nerve tests)

To assess any effect of the tumour on your nervous system, you will usually have a neurological examination.

CT (computerised tomography) scan

A CT scan is a painless scan that takes from 10-30 minutes and uses x-rays to build up a three-dimensional picture of the inside of the body. CT scans will be very unlikely to harm you and will not harm anyone you come into contact with, as they only use a small amount of radiation. You will be asked not to eat or drink for at least four hours before the scan.

To allow particular areas to be seen more clearly, most people who have a CT scan are given a drink or injection. The injection may make you feel hot all over. It is very important, before having this, to tell the person doing this test if you are allergic to iodine or have asthma.

MRI (magnetic resonance imaging) scan

This is similar to a CT scan, but uses a strong magnet instead of x-rays. The scan will last for about 30 minutes and during the scan you will be asked to lie very still on a couch inside a long tube. It is painless but loud which can make the scan uncomfortable, and some people feel a bit claustrophobic during the scan. You will be given earplugs or headphones for the noise.

Some people may be given an injection of dye into a vein in the arm, but this usually does not cause any discomfort.

Angiogram

This test involves an injection of a dye to show up the blood vessels in the brain followed by a series of x-rays. A thin, flexible tube (catheter) is inserted into an artery in the groin, arm or neck. The dye is injected through this tube. Your nurse or doctor will explain this test to you in more detail.

Biopsy

This is when a sample of cells may be taken from the tumour and examined under a microscope. This is to confirm the exact type of tumour. Your doctor will discuss with you whether this is necessary in your case, and what the operation involves. A biopsy is rarely necessary as meningiomas can usually be clearly shown by scans.

Consent

It is important before you have any treatment, that your doctor explains to you what the treatment involves and the aims of the treatment, giving you full information about your treatment. You will usually be asked to sign a consent form saying that you give your permission for the hospital staff to give you the treatment. No medical treatment can be given without your consent.

Treatment

The treatment for meningioma depends on a number of things. Your general health and the size and position of the tumour will be factors that your doctor will consider. The results of your tests will enable your doctor to decide on the best type of treatment for you.

A team of specialists known as a multidisciplinary team (MDT) will usually discuss the best plan for your treatment. The team will usually include a doctor who operates on the brain (neurosurgeon), a doctor who specialises in treating illnesses of the brain (neurologist), a doctor who specialises in treating cancer (an oncologist), a specialist nurse and possibly other health professionals, such as a physiotherapist or a dietitian.

There are some risks associated with treatment to the brain and your doctor will discuss these with you.

Steroid drugs may be used to reduce swelling around the tumour caused by raised pressure in the skull. It is important to reduce it before any treatment is given for brain tumours. A tube (shunt) may have to be inserted to drain off the excess fluid, if the raised pressure in the skull is due to a build-up of cerebrospinal fluid (CSF).

Benefits and disadvantages of treatment

The potential benefits for treatment will vary for each person. If you are finding it difficult to decide whether to go ahead with your treatment, you are entitled to ask for more time to think it through.

You are also entitled not to choose the treatment offered. The staff can then explain what may happen if you do not go ahead with it. You don't need a reason to decline treatment but make sure you discuss any specific concerns you may have with the staff.

The Gamma Knife (Stereotactic Radiosurgery)

Stereotactic Radiosurgery is delivered using a machine called the Gamma Knife.

It is given as a single dose of focused treatment, in which nearly 200 hundred of beams of radiotherapy are aimed at the tumour. This is a very accurate treatment and is used mainly for smaller tumours. For more detailed information about this treatment, ask your doctor, nurse or patient support assistant for a patient guide.



Surgery

Surgery is normally the main treatment for meningioma and in many cases the tumour can be removed completely with no complications. Occasionally, the position of a tumour makes it impossible, or too risky, to remove surgically. If surgery is not possible, your doctor will discuss other types of treatment with you.

Radiotherapy



Radiotherapy treatment is the use of high-energy x-rays to destroy the cancer cells. It may be used after surgery for malignant meningioma to reduce the chance of the tumour coming back. It may be used after surgery for benign meningiomas that cannot be completely removed. If surgery is not possible, radiotherapy may be used alone.

Chemotherapy

Chemotherapy is the use of anti-cancer (cytotoxic) drugs to destroy cancer cells. Chemotherapy is very rarely used for treating meningioma although research continues into developing this form of treatment.

Research

Recent research has shown a possible link between meningioma and hormone levels. Trials using hormonal drugs to treat this type of tumour are in the early stages.

Your feelings

You may find the idea of a tumour affecting the brain extremely frightening and upsetting. The brain controls the body, and understandably not being in control is something that can be very worrying. You may experience many different emotions, including anxiety and fear. These are all normal reactions, and are part of the process many people go through in trying to come to terms with their condition.

Many people find it helpful to talk things over with their doctor or nurse, or one of our patient support assistants. Close friends and family members can also offer support.

Additional information

Driving

In some circumstances you may not be allowed to drive for a period of time. If you have had an epileptic fit, the Drivers and Vehicle Licensing Association (DVLA) will not allow you to drive for a year after your last fit. You can then drive again provided you remain well.

If you have a benign meningioma and have not had any seizures, the DVLA requires that you do not drive for at least six months after surgery. Initially, your licence may only be for a short period.

If you drive some vehicles, such as a LGV (large goods vehicle) or a PCV (passenger carrying vehicle) you will not be able to drive for at least five years after surgery. If you have had any seizures you will not be able to drive this type of vehicle until 10 years after your last fit. In some circumstances, it will be permanently recommended that you do not drive these vehicles. You may require a medical assessment before your driving licence is renewed.

It is your responsibility to contact the DVLA. Sometimes they will contact your doctor for a medical report.

References

This section has been compiled using information from a number of reliable sources, including:

[Oxford Textbook of Oncology \(2nd edition\)](#).

Souhami et al. Oxford University Press, 2002.

[The Textbook of Uncommon Cancers \(2nd edition\)](#).

Raghavan et al. Wiley, 2006.

[Cancer in the Nervous System \(2nd edition\)](#).

Levin. Oxford University Press, 2002



St James's Institute of Oncology
- view from Beckett Street



Nova Healthcare
Level 4
Bexley Wing
St James's Institute of Oncology
Beckett Street
Leeds LS9 7TF

Tel: 0113 206 7735 or 0113 206 7751

Email: contact@novahealthcare.co.uk

www.novahealthcare.co.uk

Date of Issue: September 2009

Design by Medical Illustration Services

Leeds Teaching Hospitals NHS Trust

MID code: 2009091424

NOVA/008