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Meningioma Infopack

What is a meningioma?

A meningioma is a type of tumour that grows from the membrane (called the meninges) covering of the brain and spinal cord. These tumours are most commonly found in middle-aged or older people, and in particular in women. (about twice as common in women)

Meningiomas in general are benign tumours, i.e., they are not fast growing, and will not spread elsewhere in the body. They are usually increase by about 2-3mm per year.

Some meningiomas, if very large and causing a lot of pressure on adjacent brain or nerve structures will need to be treated urgently.

Meningiomas tend to commonly grow inward, indenting and causing pressure on the brain or spinal cord. Even when apparently completely removed surgically, a small percentage can have regrowth over subsequent years so follow-up brain scans are usually arranged. You can also have more than one meningioma.

What causes meningiomas?

The cause is usually unknown. These tumours are seen much more commonly in women and may have a relationship with female hormones. Rarely, there is a genetic cause or where there has been radiotherapy to the anatomic area concerned many years previously.

What symptoms may occur?

Symptoms are caused by compression of the adjacent brain. The brain tends to accommodate this compression over time and thus you may have noticed your symptoms appearing gradually over many weeks or months. The symptoms that occur depend on the location and size of the tumour within the brain or spinal cord. Symptoms include:

- gradual worsening headaches,
- blurred or double vision,
- loss of smell and taste,
- seizures,
- personality changes
- weakness in the face, arms or legs

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Sometimes meningiomas cause little or no symptoms and are discovered during a scan carried out for other reasons.

How is a meningioma diagnosed?

Usually, a CT (computerised tomography) scan or MRI (magnetic resonance imaging) scan will be done to find the exact position and size of the tumour. An MRI scan is often needed to allow us to evaluate the tumour in great detail.

However, as and when such a tumour might be operated upon, tumour is sent to the pathologist at the time of surgery to confirm the exact type of tumour. Aswell as confirming a tumour is a meningioma, the pathologist will also grade the meningioma on the basis of its appearance under the microscope. Approximately 90% of meningiomas are 'grade 1' tumours.

One in ten patients with this grade of tumour will have a small local recurrence of their tumour within ten years of surgery. About 10% of meningiomas are 'grade 2/atypical' and will have a higher chance of recurrence over subsequent years as compared to grade 1 tumours. This has a bearing on how frequent follow-up MRI scans are done over the years after surgery. 'Grade 2/atypical' tumours will have an MRI every year. Whereas grade 1 tumours may have scans at longer intervals.

What are the treatment options?

There are several options for your care once a meningioma has beenidentified. The most appropriate option depends on the size and location of the tumour; progression, extent, and reversibility of your symptoms; and your overall general health. Ultimately it is your choice to proceed with treatment once we have ensured that you fully understand the risks and benefits of each treatment option.

The main management options are *observation, surgical removal, and radiation therapy.*

Observation or interval imaging

Small, asymptomatic (i.e., with few or no symptoms or examination findings) meningiomas are often observed and followed with regular MRI scans with increasing scan intervals, e.g., starting with a 6 months gap, then 12 months, 12 months, and subsequently every two years. If the tumour remains unchanged on serial scans over years, no further treatment is required.

MRI is the best way of following meningiomas and does not involve any radiation exposure. Occasionally CT scans are used for interval imaging if MRI cannot be done.

Surgery

In many circumstances the principal form of initial treatment for a meningiomas is surgery. Surgical removal of meningiomas always has some risk, and growth or size of the meningioma or the progression of the symptoms should justify the risk.

Surgery for a meningiomas within the skull involves a craniotomy, which means making a window in the bone in the skull to remove the tumour.

The general risks of cranial surgery include: (1/100 risk)

- 'DVT/PE' - clot in the leg/clot in the lung,
- Infection,
- Stroke (with the possibility of permanent paralysis and also having a small risk to life),
- Brain swelling,
- Epilepsy (2-3/100 risk)

There maybe specific additional risks dependent on the nature and location of the meningiomas.

You should expect to be in hospital for about a week after your surgery. After surgery we will carry out a further scan as an outpatient once you have recovered, usually an MRI around the three month mark. This will allow us to see if there is any tumour still left.

For meningiomas located near the surface of the brain, the tumour is usually completely removed. For meningiomas that are deeply located or adherent to important nerves or blood vessels, complete surgical removal may not be possible. Sometimes we have no choice but to leave a small piece of tumour if is stuck to important nerves or blood vessels. This is done to minimise the chance of complications. Any such remnant of tumour will likely be suitable to the other radiation-based treatment options described below.

Radiation therapy

Radiotherapy, similar to that used in cancers elsewhere in the body, is occasionally used for meningiomas but is not a first line treatment. It is used for malignant meningiomas, which are rare. It may occasionally be used for 'atypical/grade 2' meningiomas when a tumour remnant or a tumour recurrence.

What are the expectations over the long term?

We would expect that the majority of people with a meningioma to be able to have a normal life in terms of quality of life including employment and relationships and also to not have their lives foreshortened.

You will likely require long term imaging follow-up over a number of years either because of the possibility of tumour growth or because there is a small risk of local tumour recurrence if you have had surgical removal initially.

Occasional patients will have additional issues that require assistance such as having to take anticonvulsant medication for epileptic fits. Depending on the meningioma location, a small proportion of patients may have permanent neurologic problems such as loss of smell/taste, visual impairment, limb weakness or numbness, or gait unsteadiness.

Meningiomas and pregnancy

Meningiomas can grow a little more during pregnancy because they are female hormone driven. It is normally safe to become pregnant and have a normal delivery.

Note that if you have been put on an anticonvulsant medication for epilepsy, please discuss this with me prior to planning a pregnancy – it may be necessary to stop the medication.

Meningiomas and driving

If you have been diagnosed with a meningioma, you will not be allowed to drive for a period of time if you have had an epileptic fit, have significant loss of vision, weakness in the arms or legs, episodes of confusion, or have had recent surgery.

Reference: Information from NHS – Royal Hallamshire Hospital, Sheffileld Teaching Hospital NHS Foundation Trust