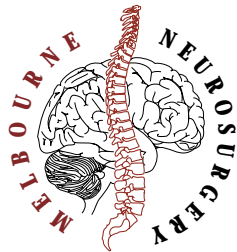


INFORMATION LEAFLET

PRIMARY BRAIN TUMOUR GLIOMA



WHAT IS A PRIMARY BRAIN TUMOUR ?

This is a tumour that has grown from the tissue of the brain. The brain is made up of neurons (nerve cells) and the tissue that support them astrocytes (glial cells). Tumours can arise from either the neurons (neural tumour) or astrocytes (gliomas or astrocytomas). This leaflet is to discuss the common astrocytoma.

What are the types of astrocytoma ?

Astrocytoma	Low grade
Anaplastic Astrocytoma	Intermediate grade
Glioblastoma Multiformae (G.B.M.)	High grade

The astrocytoma can grow either slowly or very quickly and there is a range of growth in between. The slowest growing is the Astrocytoma. The fastest is the G.B.M. The Anaplastic astrocytoma is an intermediate tumour. Within each tumour group there is a range of growth. This means that not all Anaplastic astrocytomas will grow at the same rate. The type of astrocytoma is decided by the Pathologist (he looks at the tissue taken at surgery under the microscope).

IS IT A MALIGNANT TUMOUR ?

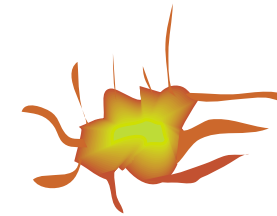
Malignant usually means that the tumour spreads to other parts of the body. The astrocytoma is locally invasive and by the nature of its location behaves like a malignant tumour. It very rarely spreads to other parts of the body.

HOW DO WE KNOW IT IS THERE ?

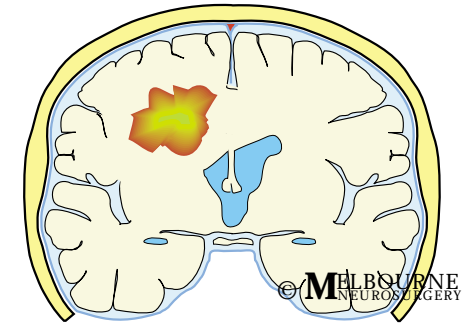
The tumour often causes problems with the brain
You may have had a seizure (fit)
It may be preventing part of the brain working (like a stroke)
It may be causing headaches.

The CAT scan is the first test and shows most tumours. If it does not show on the CAT scan an M.R.I. will be performed. Even when we know there is a tumour on the CAT scan we may still do an M.R.I. (more sensitive) to see how extensive the tumour is.

HOW DOES THE TUMOUR GROW ?



Unlike some tumours that grow as a lump (like a golf ball) the glioma has a tendency to also spread out into the surrounding brain. This can be likened to an octopus and its tentacles.



What normally happens ?

You have normally been seen by your local doctor and he has organised a CT scan otherwise you have presented to the emergency department. If your local doctor discovered the lesion in the brain he will send you for an opinion. At this stage it is only presumed that the lesion is a glioma (it could be infection or something else). Surgery is nearly always needed to find out exactly what the lesion is and the best way to treat it. You may either have a biopsy or total removal of the lesion depending on where it is in the brain.

Firstly you are started on DEXAMETHASONE. This is a steroid drug that will reduce the swelling around the tumour. Some of its' side effects are to make you hungry and also to give you the hiccups. Your symptoms of e.g. headache / weakness usually improve on these. The other drug we give you is an ANTI - EPILEPTIC. This is because the tumour may irritate the brain and cause a seizure (fit). The fit may have been the reason the lesion was found in the first place.

RADIOTHERAPY

If you have not had an M.R.I. then this is organised. If you are not well and need urgent treatment the M.R.I. may be done after surgery and the CAT scan used for the procedure.

After the M.R.I:

(i) If the lesion is near the surface, in a relatively silent area of the brain and can be reached then surgical removal is planned.
(ii) If it is difficult to reach and remove safely then we would plan a stereotactic biopsy (computer guided needle biopsy) to confirm the diagnosis.

Why surgery ?

The first step is to find out what type of tumour you have. The more that we can remove the less there is to treat with other methods.

In the lower grade tumours complete removal may occur with surgery.

If the tumour is large it may be compressing the brain to cause either weakness or drowsiness. Hopefully any weakness that you have is from compression and not invasion of the important parts of the brain.

In the higher grade tumours because of the nature of the tumour and the way it grows the aim is to remove what is safe. The bulk can be removed and this will remove the pressure on the surrounding brain. With this the swelling in the brain goes down substantially. If your weakness is due to pressure this usually gets better in the next few days after the surgery.

The Surgery is usually a Craniotomy and Excision of the tumour (see Operation Leaflet CRANIOTOMY FOR GLIOMA).

After the surgery

For the low grade tumour radiotherapy may not be given but it is usually recommended for the intermediate and high grade tumours. You will be referred to a specialist Radiation Oncologist who will recommend the treatment course. The steroids are usually reduced to a small dose during your radiotherapy and then we try to remove them completely. It is common to remain on your anti-convulsant.

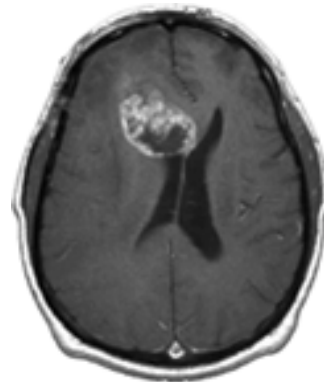
Its aim is to slow down the growth of the tumour. In the low grade tumours it may help with a cure but in the high grade tumours the tumour usually comes back. The radiation causes hair loss/some dizziness and makes you drowsy.

What happens if it comes back after radiotherapy ?

You can have further surgery/chemotherapy/radiosurgery but radiotherapy can only be given once. If the tumour comes back quickly after the surgery/radiotherapy this is a bad sign. You will be followed up with CT scan at about 3 months. The timing of the next scan depends on the results of this. If your symptoms return early the scan is done earlier.

CHEMOTHERAPY

This is offered only after the radiotherapy has failed. You may have further surgery prior to chemotherapy (given by a Medical Oncologist). Some of the treatment may be experimental and you may be offered these when the established drugs fail.



**M.R.I. BRAIN
showing
right frontal
high grade glioma**

Who follows you up ?

Normally everybody involved. If you are stable the Neurosurgeon may have the Oncologist look after you but if there are any problems you will be sent back to the Neurosurgeon. You will probably have three specialists watching your brain.

Neurosurgeon
Medical Oncologist
Radiation Oncologist

And your Local Doctor will be keeping an eye on everything else.

PROGNOSIS

This depends on a few major criteria

The most important is the type of the tumour, the higher the grade the worse the prognosis.

Your age has an effect in certain tumours.

The extent of resection is felt to be important in low grade tumours

The location of the tumour, if it is in an important structure deep in the brain the prognosis is worse.

Some lower grade tumours can change into a higher grade tumour.

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