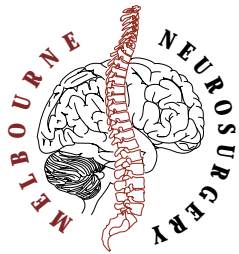


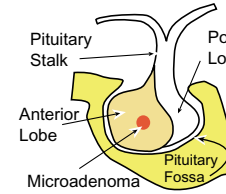
INFORMATION LEAFLET

PITUITARY TUMOUR



WHAT IS THE PITUITARY GLAND ? WHERE DO YOU FIND IT ?

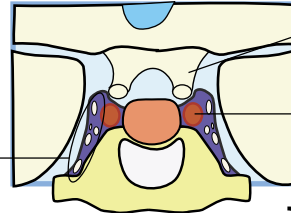
The pituitary gland is a small structure that sits underneath the brain, between the eyes and at the top of the inside of the nose. It is made of two parts; the front part is called the Adenohypophysis and this is because it came from tissue around the mouth when the body was developing, the back part is the Neurohypophysis and this grew down from the brain. It sits in a boney cup called the sella turcica and is surrounded by some important structures.



These are:

OPTIC NERVES (Take vision from the eyes to the brain).

TRIGEMINAL NERVE BRANCHES (Take sensation from the face back to the brain)



OCULOMOTOR NERVE (IIIrd nerve)

ABDUCENT NERVE (6th nerve)

TROCHLEAR NERVE (4th nerve)

} All control eye movements

CAROTID ARTERIES

(supply blood to the brain)

WHAT DOES THE PITUITARY GLAND DO ?

It produces hormones that either directly control or remotely control certain functions in the body. The hormones secreted are:

Adenohypophysis

Prolactin (Pregnancy and Breast Milk)

Growth Hormone (Growth of bones, muscle, etc)

Follicle Stimulating Hormone (Pregnancy/Menstruation)

Luteinising Hormone (Pregnancy/Menstruation)

Adrenocorticotrophic Hormone (Steroid production)

Thyroid Stimulating Hormone (Metabolism/thyroid)

Neurohypophysis

Oxytocin (Pregnancy and Breast Milk)

Anti Diuretic Hormone (Water balance)

WHAT IS A PITUITARY TUMOUR ?

This is where one of the cells in the gland starts growing abnormally and this develops into a tumour. As a general rule these are benign tumours.

HOW ARE THE TUMOURS NAMED ?

By the hormone they produce e.g.

Prolactinoma (prolactin)

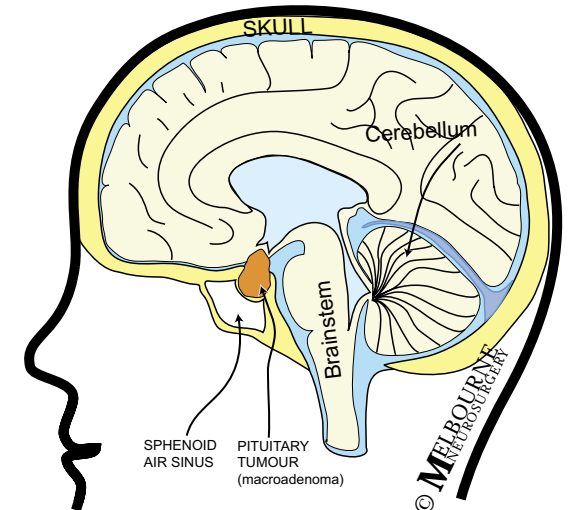
Null cell tumour (no hormone)

By their size

Macroadenoma (outside pituitary fossa)

Microadenoma (<10mm)

Hence a prolactinoma can also be a macroadenoma



HOW CAN THE TUMOUR AFFECT YOU ?

There are four ways the tumour causes problems:

By overproducing a specific hormone.

By compressing other cells in the gland and stopping them producing their hormone.

By pressing on something around the gland as it gets bigger

If you bleed into the tumour you may develop a problem called PITUITARY APOPLEXY

HORMONE OVERPRODUCTION

This produces recognised syndromes e.g.

Excess Growth Hormone

Syndromes - Acromegally in adults
- Gigantism in children
increase in the size of hands / feet / jaw
thickening of the skin / hoarse voice
Coarsening of facial features
Diabetes may develop / Carpal tunnel syndrome
increased muscle but it is weak
The heart enlarges but is also weak
children very tall

Excess ACTH

Syndrome - Cushing's disease
Stimulates production of a type of steroid.
usually microadenoma
easy bruising / bleeding tendency / increased blood pressure
thin skin / muscle becomes weak
bone becomes soft and fractures easily
Develop fat around abdomen and between shoulders
Susceptible to infection
death occurs from infection if untreated

Excess TSH

Syndrome - Thyrotoxicosis
weight loss
fast heart rate
agitation / Heat intolerance

HORMONE UNDERPRODUCTION

Syndrome - Hypopituitarism
lack of energy / low blood pressure
inability to tolerate cold
muscle weakness.
slowed hair growth

PITUITARY APOPLEXY

This when you have a large bleed into the tumour and this may cause
Blindness / or double vision
Severe headache / vomiting / neck stiffness
Possible loss of consciousness

PRESSURE EFFECTS

- Progressive loss of vision from pressure on the nerves from the eyes (optic nerves) This usually occurs as the tumour grows upwards and the side vision goes first.
- Double vision from pressure on the nerves that control eye movements, these sit to the side of the tumour.
- Pressure on the rest of the gland to stop it producing some hormones, each hormone loss has different effects.
- Erosion into the base of the skull may produce a leak of fluid from around the brain into the top of the nose. This may lead to meningitis.
- Headaches
- It may get so big as to block the normal flow of fluid through the brain (called hydrocephalus).

Diagnosis

Initially this is usually considered from your symptoms. The hormone levels are checked with blood and urine tests. Then your pituitary is looked at with a CT and MRI scan. Your doctor will refer you to a specialist when the diagnosis is considered. You are usually managed by

Neurosurgeon
Endocrinologist
Ophthalmologist

HOW IS IT TREATED ?

This depends on how big the lesion is and which hormone it secretes.
If the lesion secretes prolactin then it may be treated with a drug called bromocriptine or cabergoline. These drugs may also be used for a tumours that secrete growth hormone (for this octreotide is used first). These drugs suppress the tumour.

If the tumour is very large you may require surgery. This often occurs if the tumour is pressing on the nerves of vision (optic nerves). There are two types of operation:

Trans sphenoidal resection (via the nose) (see leaflet)
Craniotomy (through the skull) (see leaflet)

This is decided by the surgeon depending on the shape and position of your tumour.

IS SURGERY ALWAYS NEEDED ?

No The aim is to try and treat the tumour with drugs if possible.

A lot of tumours can be treated with STEREOTACTIC RADIOSURGERY (see leaflet). This is usually after the diagnosis is made by checking the blood hormone levels.

CAN THE TUMOUR BE CURED ?

This depends on the type of tumour, its size and which structures it has invaded. As a rule the earlier we locate the tumour the easier it is to treat.

If the tumour cannot be removed with surgery or treated with drugs then Radiotherapy may be required. We prefer to use STEREOTACTIC RADIOSURGERY as this does less damage to the rest of the brain.

FOR ABOVE PROCEDURES SEE THE RELEVANT PROCEDURE LEAFLET

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