

Information sheet 7: Pituitary tumours

The pituitary is a small oval-shaped gland found at the base of the brain below the optic nerve. The gland secretes hormones that control other glands in the body. It secretes a number of hormones such as:

- ACTH, Adrenocorticotrophic Hormone, stimulates the adrenal glands to produce hormones.
- TSH, Thyroid-Stimulating Hormone, stimulates the Thyroid Gland to secrete its own hormone, which is called thyroxine, also known as Thyrotrophin.
- LH, Luteinising Hormone and FSH, Follicle-stimulating Hormone, control reproductive functioning and sexual characteristics. This stimulates the ovaries to produce oestrogen and progesterone and the testes to produce testosterone and sperm.
- PRL, Prolactin stimulates the breasts to produce milk. This hormone is secreted in large amounts during pregnancy and breastfeeding, but is present at all times in both men and women.
- GH, Growth Hormone stimulates growth and repair. Research is currently being carried out to identify the functions of GH in adult life.
- MSH, Melanocyte-Stimulating Hormone. The exact role in humans is unknown, but it increases skin pigmentation in amphibians.
- ADH, Anti-diuretic Hormone, controls the blood fluid and mineral levels in the body by affecting water retention by the kidneys. This hormone is also known as Vasopressin or arginine vasopressin (AVP).
- Oxytocin affects uterine contractions in pregnancy and birth and subsequent release of breast milk.

What is a pituitary tumour?

Pituitary tumours are often known as **adenomas**; this means a benign (non-cancerous) tumour involving glandular material. With an adenoma, cells of the pituitary gland begin to function independently of the normal control by the brain, and slowly increase in number. Adenomas account for more than 95% of all pituitary tumours. We do not know what causes the majority of pituitary adenomas, but they are not caused by stress. Only in very exceptional cases, less than 1%, are they hereditary.

The other 5% of pituitary tumours have many causes. The most common in a very long list are **meningiomas** and **craniopharyngiomas**. All of these tend to cause similar symptoms to pituitary adenomas, although there are some subtle differences. The word 'tumour' covers a lot of different conditions and may often have frightening connotations. The vast majority of pituitary tumours are benign: only *very rarely* (less than 1%) will the tumour be malignant (cancerous).

There are several different types of pituitary tumours. If you do not know, ask your endocrinologist to explain the different types of tumour to you and tell you which one you have.

General symptoms across all conditions

Most of the symptoms are a result of a hormone imbalance and can take a long time to develop:

- Fatigue / lack of stamina
- Menstrual problems (female)
- Mood swings
- Visual Problems

- Headache / head pain
- Hangover type feeling, generally feeling unwell
- Low libido / vaginal dryness
- Loss of hair / pale skin
- Sense of negativity / lack of enthusiasm

Diagnosis

Pituitary tumours are often discovered from a blood test; for example, as a result of routine blood samples taken to investigate infertility. If excessive amounts of hormones are detected in the blood then a **CT scan** or an **MRI scan** will be arranged. The scan will show the exact position of the tumour:

- CT Brain scan (Computed Tomography) is a specialised x-ray. It will take 20 to 30 minutes. An injection into the back of your hand of a contrast agent (dye) may be necessary to give the clearest picture of the tumour.
- MRI Brain scan (Magnetic Resonance Imaging) is a specialised imaging technique that gives very clear pictures of the brain and will show the site and extent of the tumour. It usually takes 30 to 40 minutes and uses magnetism instead of x-rays. People with pacemakers cannot have this test and those with any other metallic implants should inform their specialist well before the test.

Treatment: Your doctor will plan your treatment taking into consideration your general health. In other words, the treatment is planned according to each individual case.

Drugs: Some drugs to shrink the tumour can be given, depending on the hormones being secreted (for example a prolactin secreting tumour can be treated with a drug called Bromocriptine).

Surgery: Is a common treatment for pituitary tumours. The operation is technically easier than for other brain tumours. Generally the surgeon aims to remove the pituitary tumour and leave normal gland behind. If the pituitary gland does not recover then medication will need to be given to replace the missing hormones. This is not a major problem and is usually managed by a doctor called an endocrinologist.

Radiotherapy: This is the use of high energy x-rays to destroy tumour cells. It is often given following surgery. Radiotherapy is usually given as a course of treatments called 'fractions'. This usually means 20-30 treatments, once daily, 5 days a week.

Brain Tumour UK acknowledges information on the Pituitary Foundation's website. <http://www.pituitary.org.uk>

The Pituitary Foundation is at PO Box 1944, Bristol, BS99 2UB, Tel: 0845 450 0376
Support and Information Help Line: 0845 450 0377 or email to helpline@pituitary.org.uk

Please note that the information we give here is intended to provide simply a basis for discussions with your medical team. If you would like further information or support on brain tumours please contact: **Brain Tumour UK, Tower House, Latimer Park, Chesham. HP5 21TU.** Helpline: **0845 450 0386** www.braintumouruk.org.uk

Brain Tumour UK Helpline 0845 4500 386

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