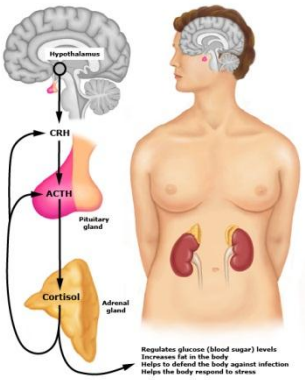
CUSHING'S SYNDROME

Cushing's syndrome is due to overproduction of the hormone cortisol (a glucocorticoid hormone). Cortisol is the main hormones produced by the adrenal glands, which sit on top o the kidneys.

Cortisol is a vital "stress hormone" which helps with the stress response of the body (maintaining Blood Pressure and circulation in times of physical stress), storing fat, fighting infection and regulating blood glucose levels.

Cortisol levels are normally regulated by the hypothalamus and pituitary gland. The hypothalamus sends corticotropin releasing hormone (CRH) to the pituitary gland. The pituitary gland responds by producing several hormones, one of which is ACTH (adrenocorticotropin hormone). ACTH stimulates the adrenal gland to produce cortisol. Cortisol levels help to control the pituitary's production of ACTH.



Causes of Cushing's syndrome

- Drugs
- High ACTH levels due to pituitary disease or secretion from another source. High ACTH stimulates cortisol production (Cushing's disease)
- Adrenal gland disease causing overproduction of cortisol

Symptoms & Signs

- Weight gain, particularly around abdomen, moon-like face, neck/back
- Thin skin, thick stretch marks, easy bruising
- High blood sugar levels/ Diabetes
- High white blood cell count
- Low potassium levels
- Increased hair growth
- Acne
- High blood pressure

- Depressed mood
- Fractures/ osteoporosis
- Infections
- Muscle weakness in arms and legs

Diagnosis

Blood tests may be helpful. 24 hour urine collection for cortisol levels may be required. Saliva sample collected at 11pm before bed may be required. The level of cortisol in the blood/ saliva late at night should be at its lowest. If high at this time, it suggests Cushing's syndrome.

A "dexamethasone suppression test" may then be required. In this test, a tablet of steroids, which should suppress the body's own production of cortisol, is administered. The blood is then tested several hours later. If the cortisol level is not suppressed, it strongly suggests Cushing's syndrome.

CT scans of the adrenals or MRI of the pituitary may be required.

Treatment

Treatment depends on cause but it may include medications, surgery or radiation therapy