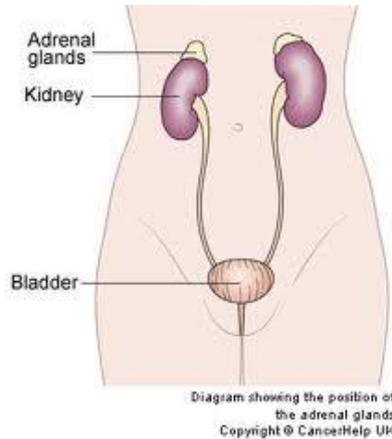


CONN'S SYNDROME (PRIMARY HYPERALDOSTERONISM)

The adrenal glands are located on top of the kidneys.



The adrenal glands produce three types of hormones:

- 1) Glucocorticoid (steroid) hormones. Cortisol is the main of these hormones. 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
- 2) Mineralcorticoid hormones. The main of these is Aldosterone, which helps regulate sodium levels, potassium levels, body fluid balance and blood pressure
- 3) Androgens – testosterone, DHEA and DHEAS. In women, androgens are produced in the adrenal glands and the ovaries. In women, adrenal androgens promote the development of sex characteristics such as underarm and pubic hair. In men, most androgens (eg, testosterone) are produced in the testes. Androgens made by the adrenal glands are not as important for normal sexual function.

Causes

Conn’s syndrome (primary hyperaldosteronism) is due to excessive production of one of these hormones, aldosterone. This can be due to:

- A Non-cancerous tumour (adenoma) in one of the adrenal glands which produces aldosterone – this is the most common cause
- Overproduction of aldosterone with no known cause
- Overgrowth of one or both of the adrenal glands (hyperplasia)
- Inherited syndromes (rare)
- Cancer in the adrenal glands (rare)

Symptoms and signs

Disclaimer: This advice is intended for general information purposes only. It should not be used as a substitute for medical advice, diagnosis or treatment and may not be applicable to individual patients. Always seek the advice and treatment of your own doctor.

As the effects of Conn's syndrome are due to excess aldosterone, most of the effects are seen on blood tests and clinical examination. These include:

- High blood pressure
- Low potassium, requiring potassium tablets to supplement levels
- Alkaline blood
- Sometimes high sodium and low magnesium
- Muscle weakness can occasionally occur

Investigations

Blood tests to measure blood sodium, potassium, and renal function will be measured. Generally aldosterone (and another hormone renin) levels will be checked. You may be required to stop some of your blood pressure medications prior to this test being done as some medications can interfere with results of the test. Your doctor will advise on whether this needs to be done and whether any substitutes are needed.

Depending on the results of the blood tests, your doctor may order either imaging tests, such as a CT scan of the adrenal glands, and/or a more invasive test called adrenal vein sampling. In this test, done by a radiologist under imaging guidance, a tube (catheter) is inserted through the groin and guided into the veins (blood vessels) draining the adrenal glands. This helps to localise which adrenal gland is overproducing aldosterone.

Treatment

Treatment strongly depends on the cause of Conn's syndrome (primary hyperaldosteronism).

Treatment options include

- Surgery
- Medications

The most appropriate option depends on the cause and individual case