# Pituitary Lesions

*By **Ian M. Chapman**, MBBS, PhD, University of Adelaide, Royal Adelaide Hospital*

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Patients with hypothalamic-pituitary lesions generally present with some combination of

- Symptoms and signs of a mass lesion: headaches, altered appetite, thirst, visual field defects—particularly bitemporal hemianopia or the hemifield slide phenomenon (images drifting apart)
- Imaging evidence of a mass lesion as an incidental finding
- Hypersecretion or hyposecretion of one or more pituitary hormones

The most common cause of hypopituitary or hyperpituitary secretion is a pituitary or hypothalamic tumor. A pituitary tumor tends to produce an enlarged sella (sella turcica). Alternatively, an enlarged sella may represent empty sella syndrome.
(Pituitary structure and function and relationships between the hypothalamus and the pituitary gland are discussed in Overview of the Endocrine System.)

## Empty sella syndrome

In this disorder, the sella appears empty because it is filled with cerebrospinal fluid, which flattens the pituitary gland against the wall of the sella. The syndrome may be

- Congenital
- Primary
- Secondary to injury (eg, ischemia after childbirth, surgery, head trauma, radiation therapy)

The typical patient is female (> 80%), obese (about 75%), and hypertensive (30%) and may have idiopathic intracranial hypertension (10%) or spinal fluid rhinorrhea (10%).
Pituitary function in patients with empty sella syndrome is frequently normal. However, hypopituitarism may occur, as may headaches and visual field defects. Occasionally, patients have small coexisting pituitary tumors that secrete growth hormone (GH), prolactin, or adrenocorticotropic hormone (ACTH).
Diagnosis can be confirmed by CT or MRI.
No specific therapy is needed for an empty sella alone.

## Anterior lobe lesions

**Hypersecretion** of anterior lobe hormones (hyperpituitarism) is almost always selective, although occasionally a tumor hypersecretes both growth hormone and prolactin. The anterior pituitary hormones most commonly secreted in excess are GH (as in acromegaly, gigantism), prolactin (as in galactorrhea), and ACTH (resulting in Cushing disease).
**Hyposecretion** of anterior lobe hormones (hypopituitarism) may be generalized, usually due to a pituitary tumor, or is idiopathic or may involve the selective loss of one or a few pituitary hormones.

## Posterior lobe lesions

The 2 posterior lobe hormones are

- Oxytocin
- Vasopressin (antidiuretic hormone [ADH])

In women, oxytocin causes myoepithelial cells of the breast and myometrial cells of the uterus to contract. Oxytocin is present in men but has no proven function.

Deficiency of vasopressin results in central diabetes insipidus. Excess vasopressin secretion results in the syndrome of inappropriate ADH secretion (SIADH).