

Pituitary Gland

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Introduction

Endocrine glands are ductless glands of the endocrine system that secrete their products, and hormones, directly into the blood. The major glands of the endocrine system include the pituitary gland, pancreas, ovaries, testes, thyroid gland, parathyroid gland, hypothalamus and adrenal glands.



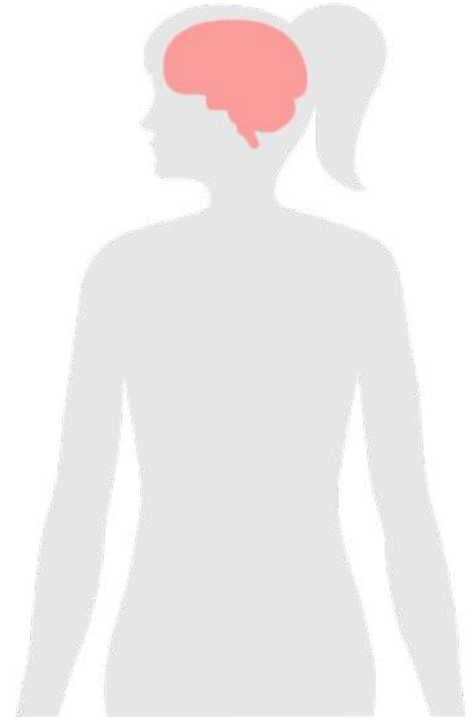
Define pituitary gland

Pituitary or (The Master Gland)

The pituitary, a pea-sized gland at the base of the brain, produces a number of hormones.

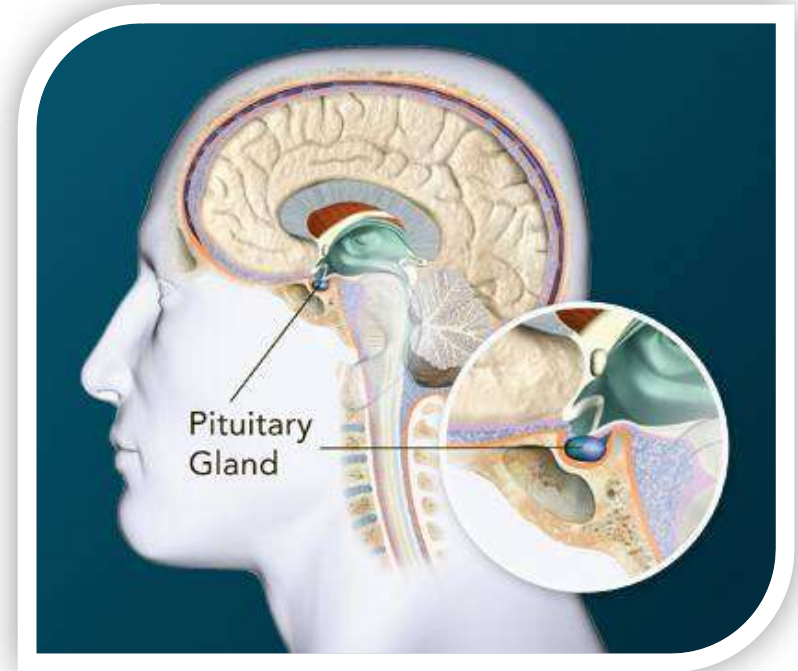
Each of these hormones affects a specific part of the body (a target organ or tissue).

Because the pituitary controls the function of most other endocrine glands, it is often called the master gland.



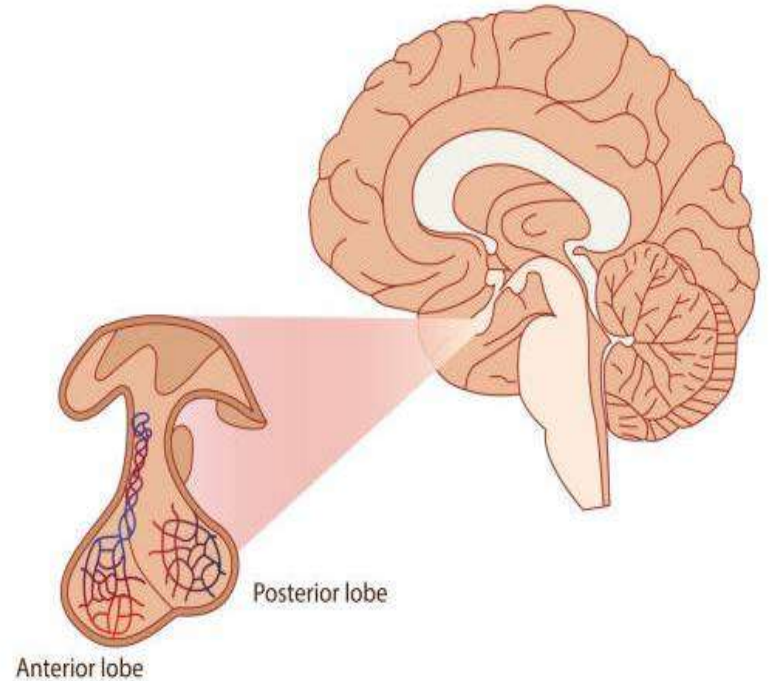
Location and anatomical structure of pituitary gland

The pituitary gland lies at the middle of the base of the skull and is housed within a bony structure called the sella turcica, which is behind the nose and immediately beneath the hypothalamus. The pituitary gland is attached to the hypothalamus by a stalk composed of neuronal axons and the so-called hypophyseal-portal veins.

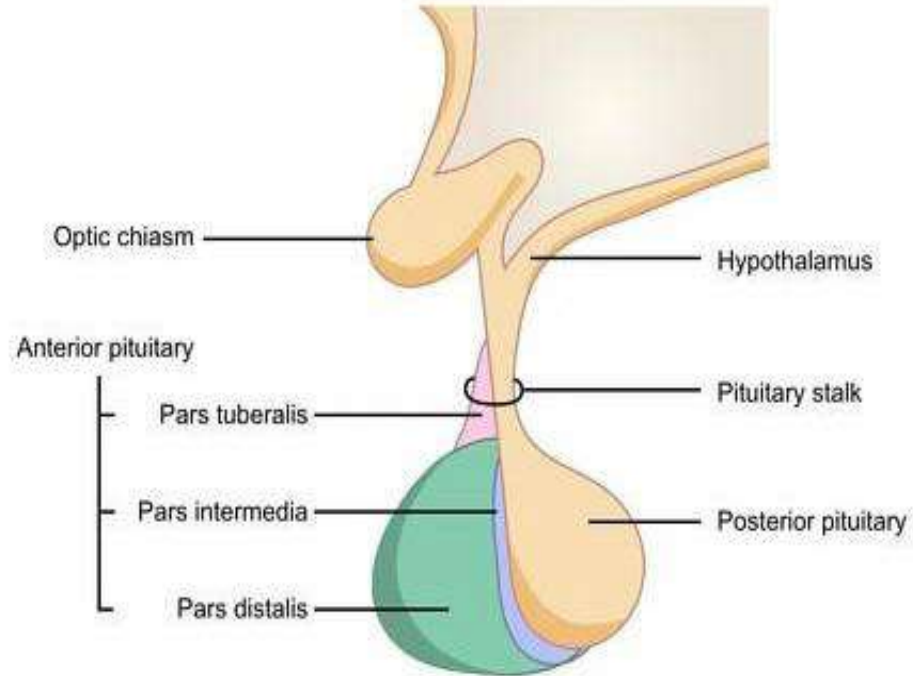


Its weight in normal adult humans ranges from about 500 to 900 mg (0.02 to 0.03 ounce).

In most species the pituitary gland is divided into three lobes: the anterior lobe, the intermediate lobe, and the posterior lobe (also called the neurohypophysis).



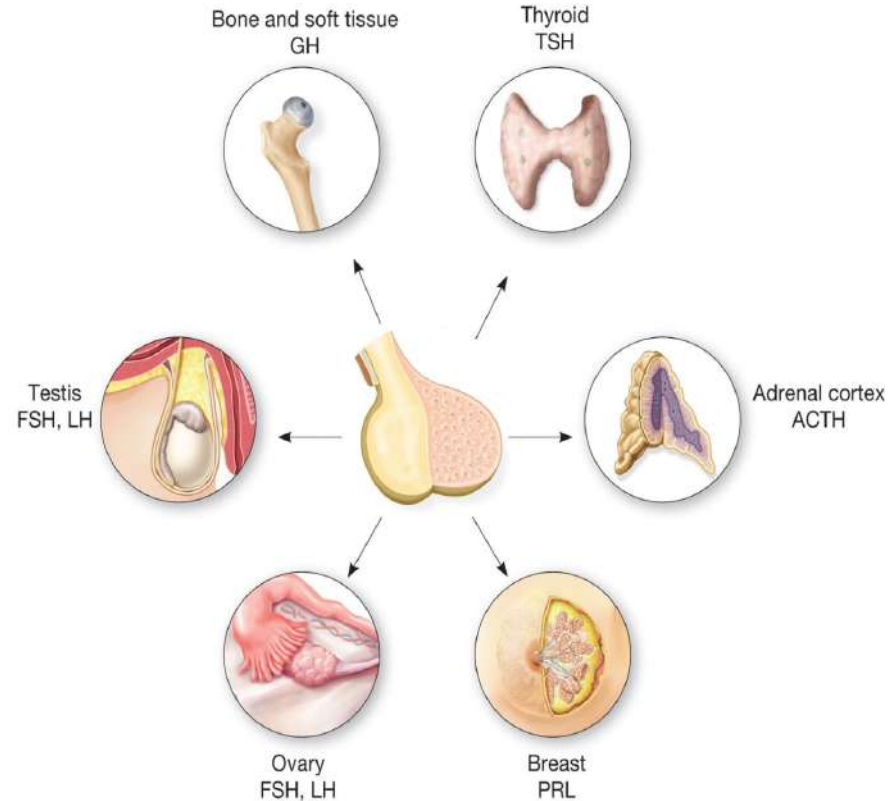
In humans the intermediate lobe exist only as cells dispersed within the anterior lobe. the anterior pituitary contains abundant hormone secreting epithelial cells, the posterior pituitary is composed largely of unmyelinated secretory neurons.



Hormones of The anterior pituitary

1- Thyroid-stimulating hormone (TSH): regulate the body's metabolic rate controlling heart, muscle and digestive function, brain development and bone maintenance.

2- Both luteinizing hormone (LH) and follicle-stimulating hormone (FSH): FSH and LH stimulates the production of estrogens and the growth of egg cells in the ovaries in women and sperm cells in men.



3- Adrenocorticotrophic hormone (ACTH): stimulating the adrenal glands to secrete more cortisol, It also increases production of other hormones such as adrenaline and noradrenaline

4- Growth hormone (GH somatotropin):GH stimulates linear growth in children and helps to maintain bone and other tissues in adults, also affects sleep, food intake and memory.

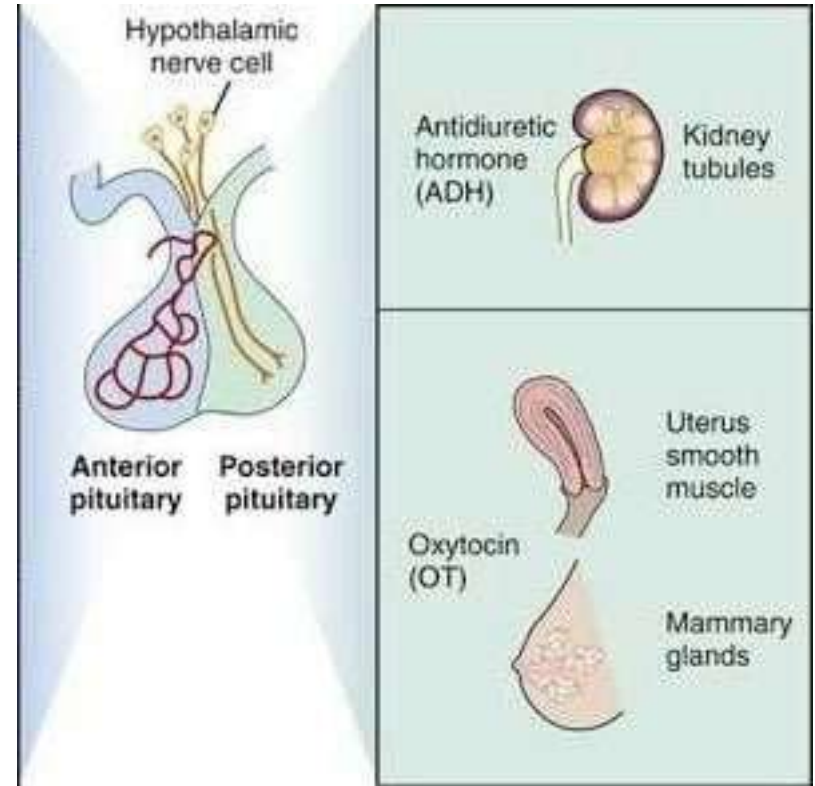
5- Prolactin :-Prolactin stimulates milk production

The posterior pituitary stores two hormones secreted by the hypothalamus for later release.

1- Oxytocin: stimulate contractions of the uterus during labor, to stimulate the ejection of milk during lactation, and to promote maternal nurturing behavior.

2- Antidiuretic hormone (ADH, also known as vasopressin): First, it increases the amount of solute-free water reabsorbed.

Second increases peripheral vascular resistance and raises arterial blood pressure.



Summary

in our presentation we talked about pituitary gland a ductless gland of the endocrine system that lies at the middle of the base of the skull .its called the master of gland because it not only secretes its own hormones, it tells other glands to produce hormones. such as growth hormone and others.

Reference

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Thank you