



Endocrine Block
Anatomy Team
430

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Pituitary gland

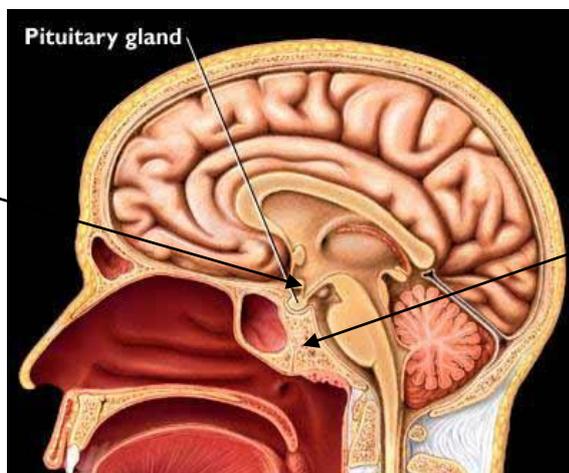
General features of the pituitary gland :

- ❑ It is referred to as the master of endocrine gland. "it secretes variety of releasing and inhibiting hormones"
- ❑ It is a small oval structure of 1 cm in diameter.
It doubles its size during pregnancy

Location of the pituitary gland :

It lies in the **hypophyseal fossa also called "sella turcica"(within middle cranial fossa)** of the body of sphenoid bone, between optic chiasma (anteriorly) & mamillary bodies (posteriorly)

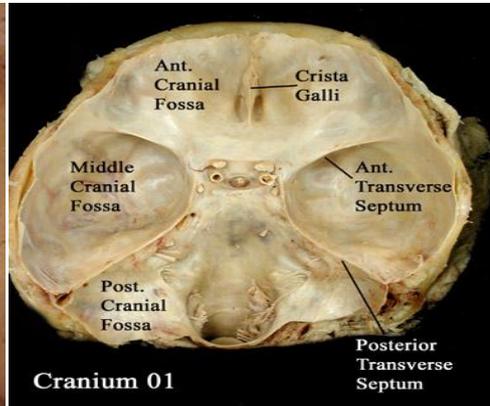
Optic chiasm



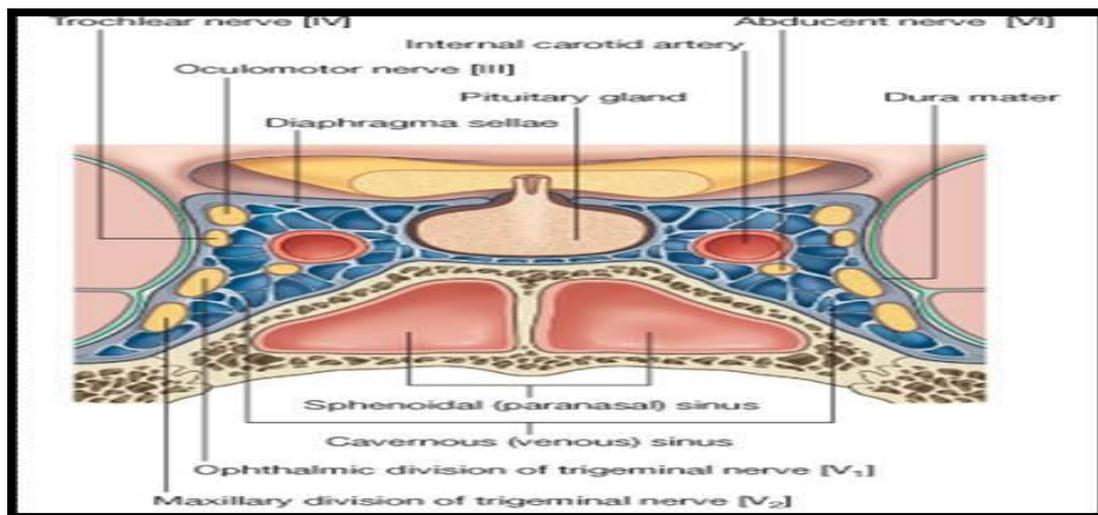
Body of sphenoid

It lies in the middle cranial fossa

It is well protected in sella turcica of body of sphenoid



Relations :



Superiorly : **Diaphragma sellae**"which is a fold of dura matter covers the pituitary gland & has an opening for passage of infundibulum (pituitary stalk) connecting the gland to hypothalamus

Inferiorly : **Sphenoidal air sinuses**

Laterally: **Cavernous sinuses**

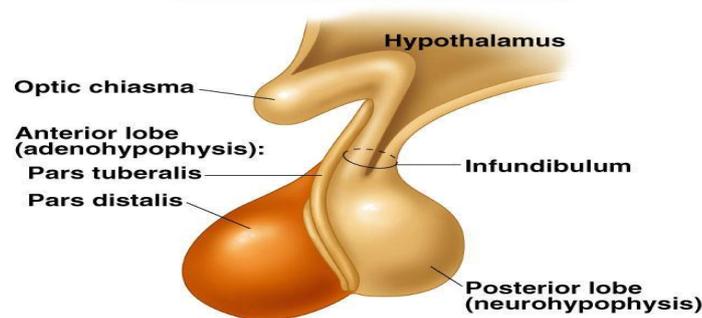
Anterior : **optic chiasma**

Posterior: **mamillary bodies**

SUBDIVISIONS OF PITUITARY GLAND:

The gland is subdivided into:

- 1) **Anterior lobe (adenohypophysis):** true gland, **secretes** hormones
- 2) **Posterior lobe (neurohypophysis):** connected to hypothalamus through hypothalamo-hypophyseal tract, **stores** hormones secreted by hypothalamic nuclei

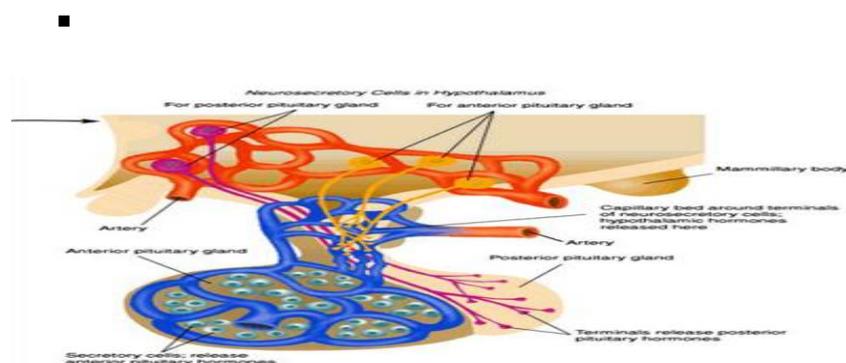


*Anterior lobe: "True gland"

- **Hormone-releasing & inhibiting factors produced by hypothalamus** use hypophyseal portal system of vessels to reach the anterior lobe of pituitary gland

*Posterior lobe :

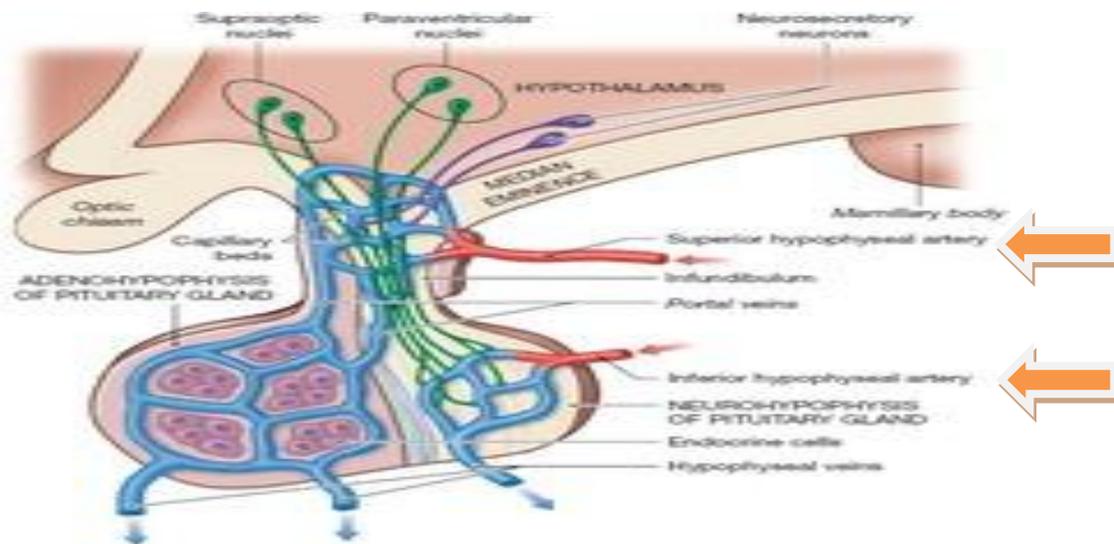
Axons of supraoptic & paraventricular cells of hypothalamus **send their secretion (neurosecretion) to posterior lobe** of pituitary gland through hypothalamo-hypophyseal tract



BLOOD SUPPLY OF PITUITARY GLAND:

ARTERIES: Superior & inferior hypophyseal arteries (branches of internal carotid artery)

VEINS: hypophyseal veins drain into cavernous sinuses.



- The inferior hypophyseal: **supplies posterior lobe of pituitary gland.**
- The superior hypophyseal: **supplies infundibulum** & forms a capillary network from which vessels pass downward & form sinusoids into the anterior lobe of pituitary gland (**hypophyseal portal system**).

Summary:

Pituitary gland is the master of endocrine glands :

Location :	Hypophyseal fossa in the middle cranial fossa
Divisions	Anterior and posterior lobe
Relations :	Superior: diaphragma sellae Inferior: sphenoidal air sinuses Lateral:cavernous sinuses Anterior: optic chiasma Posterior: mamillary bodies
Arterial supply	Superior and inferior hypophyseal arteries
Venous drainage :	Hypophyseal veins to cavernous sinuses

MCOQ's

1-Which one of the following structures is superior to the pituitary gland?

- 1) Optic chiasma
- 2) **Diaphragma sellae**
- 3) Mammillary bodies
- 4) Sphenoidal air sinuses

2-Which one of the following venous sinuses drains hypophyseal veins?

- 1) Superior sagittal
- 2) **Cavernous**
- 3) Transverse
- 4) Sigmoid

3- Which of the following is the correct location of the pituitary gland?

- 1) **hypophyseal fossa in the middle cranial fossa**
- 2) anterior cranial fossa
- 3) posterior cranial fossa
- 4) Not of from above

4- what is the arterial supply of pituitary gland?

- 1) superior thyroid artery
- 2) inferior thyroid artery
- 3) **superior and inferior hypophyseal artery**
- 4) Non of above