Histology Team 431

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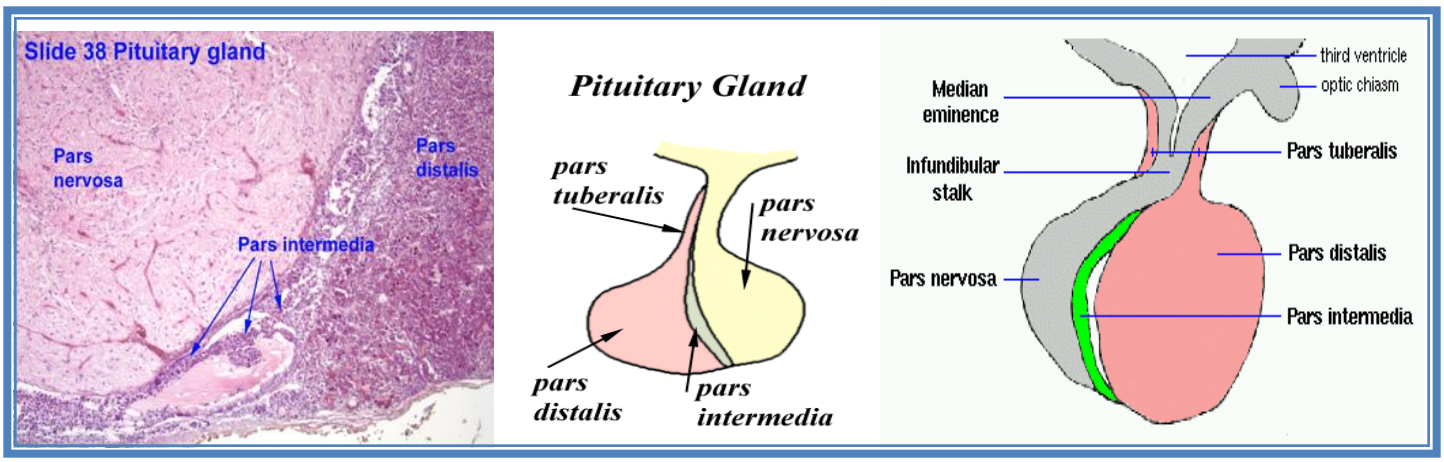
PITUITARY GLAND

COMPONENTS OF PITUITARY GLAND

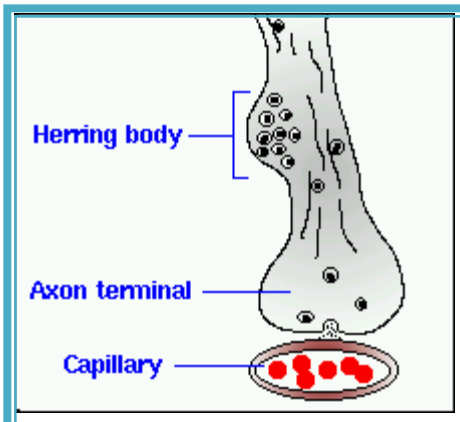
ADENOHYPOPHYSIS CEREBRI (anterior or glandular pituitary)	NEUROHYPOPHYSIS CEREBRI (posterior or neural pituitary)
1- Pars Distalis (pars anterior) 2- Pars Tuberalis 3- Pars Intermedia	1- Median eminence 2- Infundibulum: Neural (Infundibular) Stalk 3- Pars Nervosa

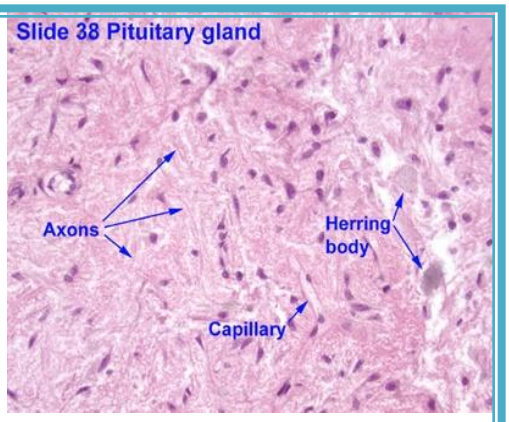


Pars Distalis (pars anterior)	Pars Nervosa
Two types of parenchymal cells: **1-Chromophils:** a- Acidophils: 1- Somatotrophs (GH cells). 2- Mammotrophs (Prolactin cells which control the milk production). b- Basophils: 1- Thyrotrophs (TSH Cells) 2- Gonadotrophs (Gonadotropic cells FSH, LH acting on testes & ovaries) 3- Corticotrophs (ACTH cells) **2- Chromophobes(pale cytoplasm):** a- stem cells. b- degranulated chromophils. c- degenerated cells	**1- Unmyelinated axons** of secretory neurons situated in supraoptic & paraventricular nuclei (i.e. Axons of hypothalamhypophyseal tract). Pars nervosa doesn't contain neuranal cell bodies. **Function:** **Storage** & release of: a- Vasopressin (ADH) b- Oxytocin (responsible for milk ejection). **2- Fenestrated blood capillaries.** **3-HERRING BODIES:** The two hormons secreted by the axons are stored in the herring bodies which are distentions of the axons in pars nervosa. **4- Pitucytes:** Are glial-like cells in p. nervosa that have nemerous cytoplasmic proscesses. They support the axons. **Note: No secretory or neuronal cells** in pars nervosa. P.nervosa release 2 hormons but doesn't contain **secretory cells.**

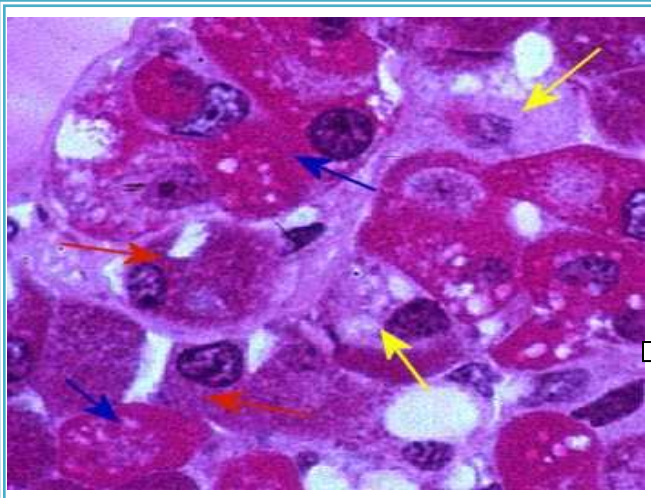
The term **chromophobe**, refers to histological structures which do not stain readily, and thus appear more relatively pale under the microscope—hence their "fear" ("phobia") of "color" ("chrome").

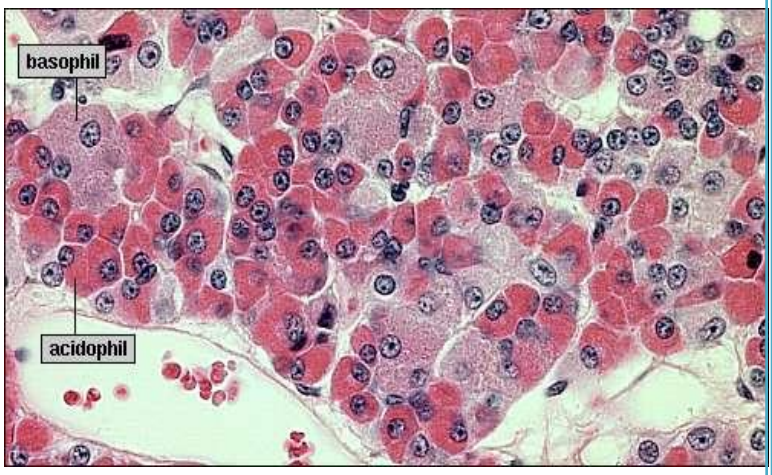
A **chromophil** biological cell is a cell which is easily stainable.





PARS NERVOSA





Blue arrow: acidophils
Red arrow: basophils
Yellow arrow: chromophobes

PARS DISTALIS

BLOOD SUPPLY:

1- **Superior Hypophyseal Arteries (Rt & Lt):** To median eminence & neural stalk. Then eventually forms the 1ry capillary network found in the median eminence. These capillaries join together & form the hypophyseal portal veins which beak into 2ry blood capillaries.

2- **Inferior Hypophyseal Arteries (Rt & Lt):** Mainly to pars nervosa, They are **Not participating** in hypophyseal portal circulation.

QUESTIONS

1-Which one of the following cells is a chromophobe cell?

A- Gonadotropic cells.
B- Stem cells.
C- Prolactin cells.
D- TSH cells.

2-Neurohypophysis cerebri contains which one of the following?

A- Pars tuberalis.
B- Pars intermedia.
C- Median eminence.
D- Pars distalis.

Answers,

1-B , 2-C