PITUITARY GLAND

Objectives:

By the end of this lecture, the student should be able to describe

1. **The microscopic structure of the different parts of the pituitary gland in correlation with their functions.**
2. **The hypophyseal portal circulation; components and significance.**

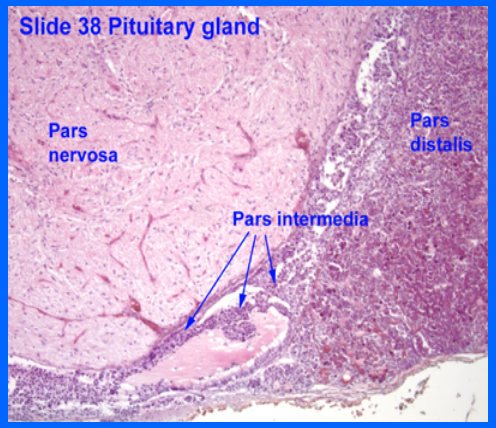
COMPONENTS

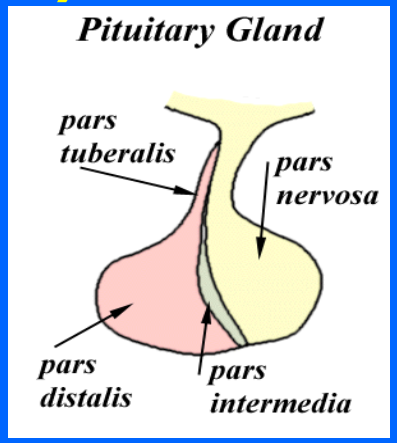
(A) ADENOHYPOPHYSIS CEREBRI:

1- Pars Distalis (pars anterior)

2- Pars Tuberalis

3- Pars Intermedia





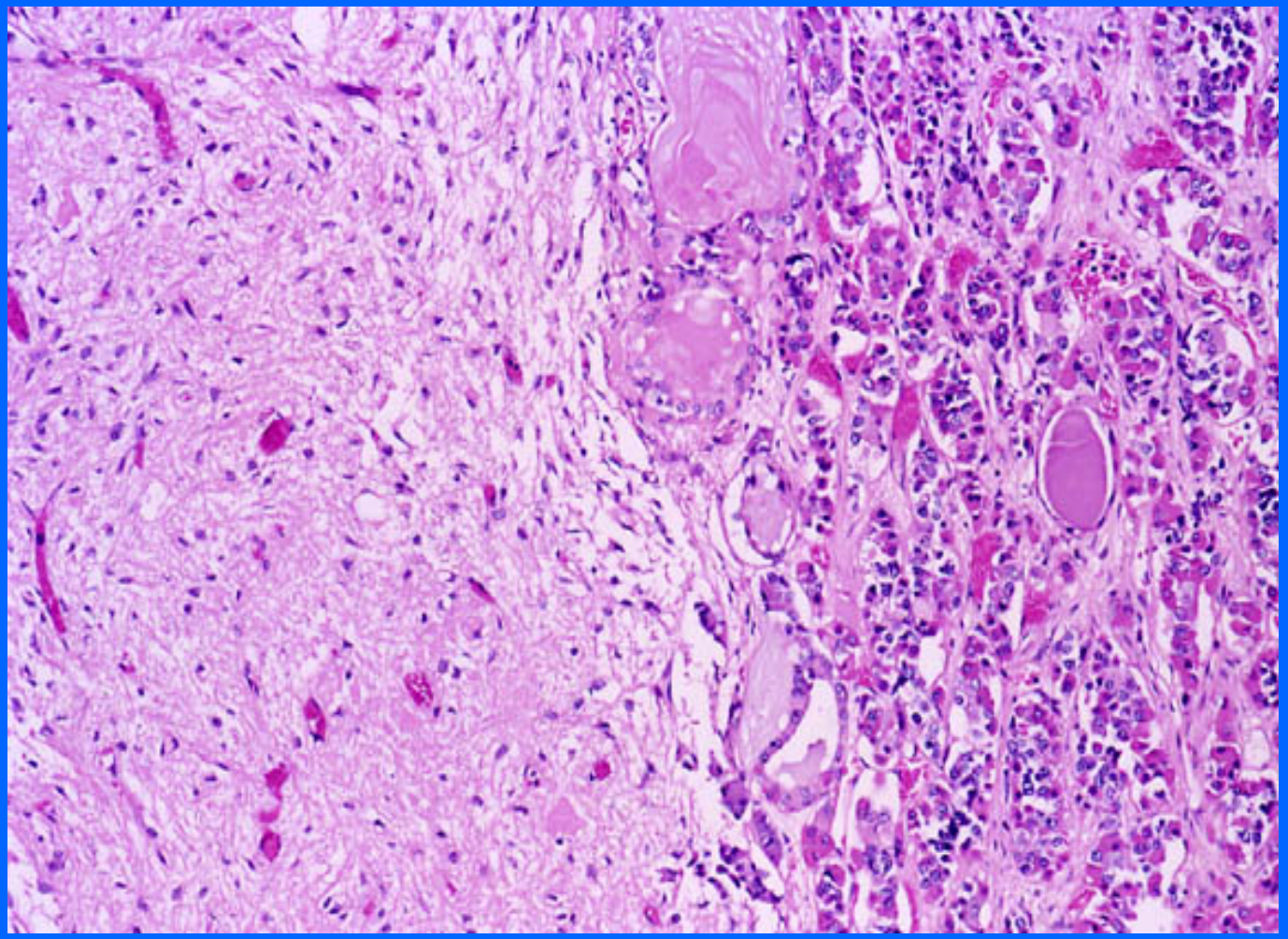
(B) NEUROHYPOPHYSIS CEREBRI:

1- Median eminence

2- Infundibulum: Neural (Infundibular) Stalk (stem)

3- Pars Nervosa

PITUITARY GLAND



NEUROHYPOPHYSIS

(A) PARS NERVOSA

CONTENTS:

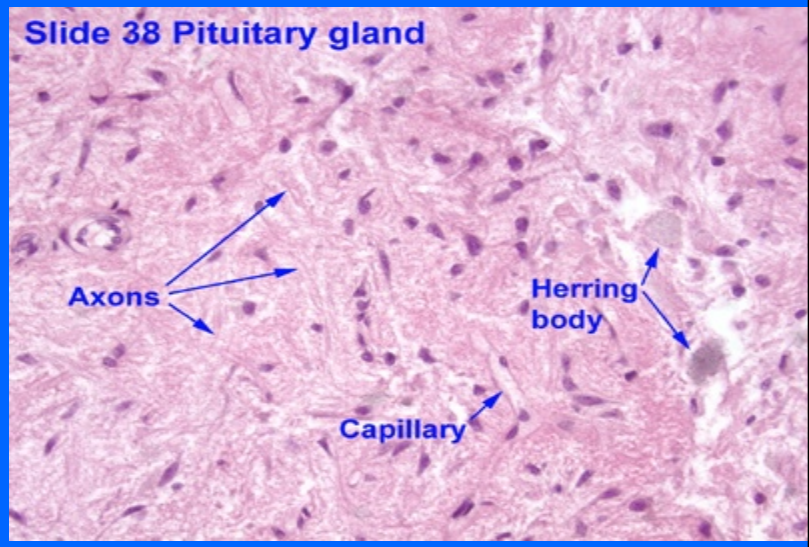
1- Unmyelinated **axons** of secretory neurons situated in supraoptic & paraventricular nuclei (i.e. Axons of hypothalamohypophyseal tract).

Function:

Storage & release of:

a- Vasopressin (ADH); ***by supraoptic nuclei***

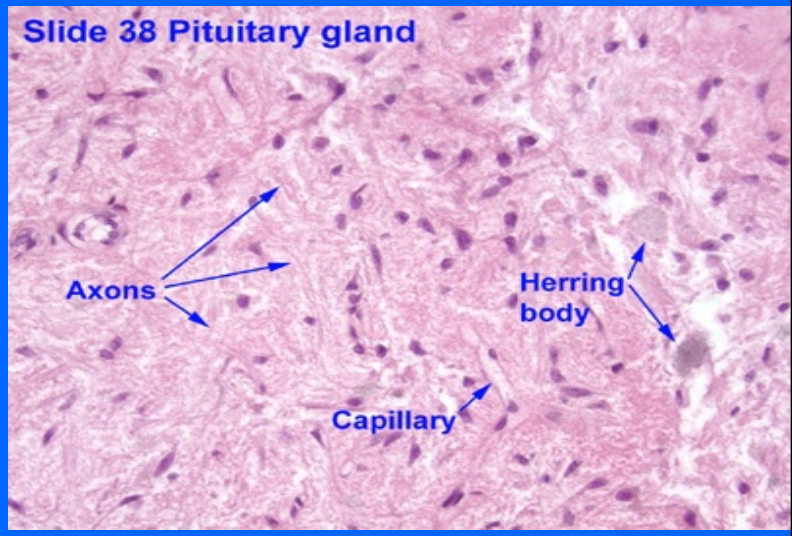
b- Oxytocin; ***by paraventricular nuclei***



2- **Fenestrated blood capillaries.**

3. HERRING BODIES:

- Are distentions of the axons in p. nervosa.
- Representing accumulation of neurosecretory granules at axon termini and along the length of the axons in p. nervosa.



4. Pituicytes:

Are glial-like cells in p. nervosa.

Structure:

Have numerous cytoplasmic Processes.

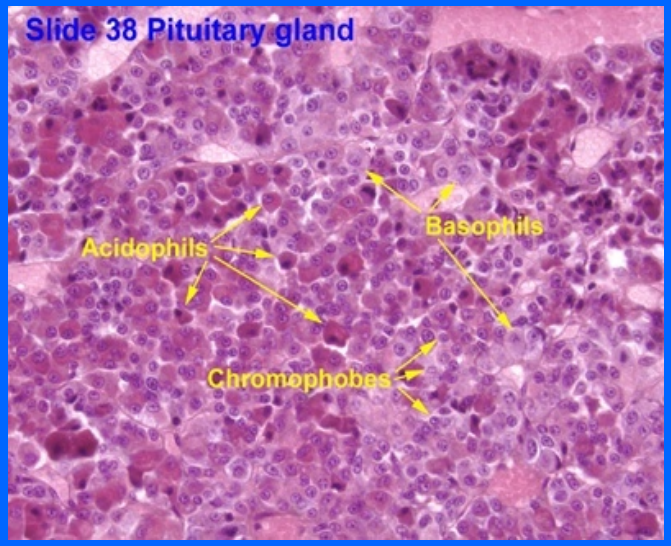
Functions:

Support the axons of the p. nervosa.

N.B. **No secretory or neuronal cells** in pars nervosa.

PARS DISTALIS:

Types of parenchymal cells:



(1) Chromophils:

a- Acidophils:

1- Somatotrophs (GH cells).

2- Mammotrophs (Prolactin cells):

Increase during lactation.

b- Basophils:

1- Thyrotrophs (TSH Cells)

2- Gonadotrophs (Gonadotropic cells) (FSH, LH)

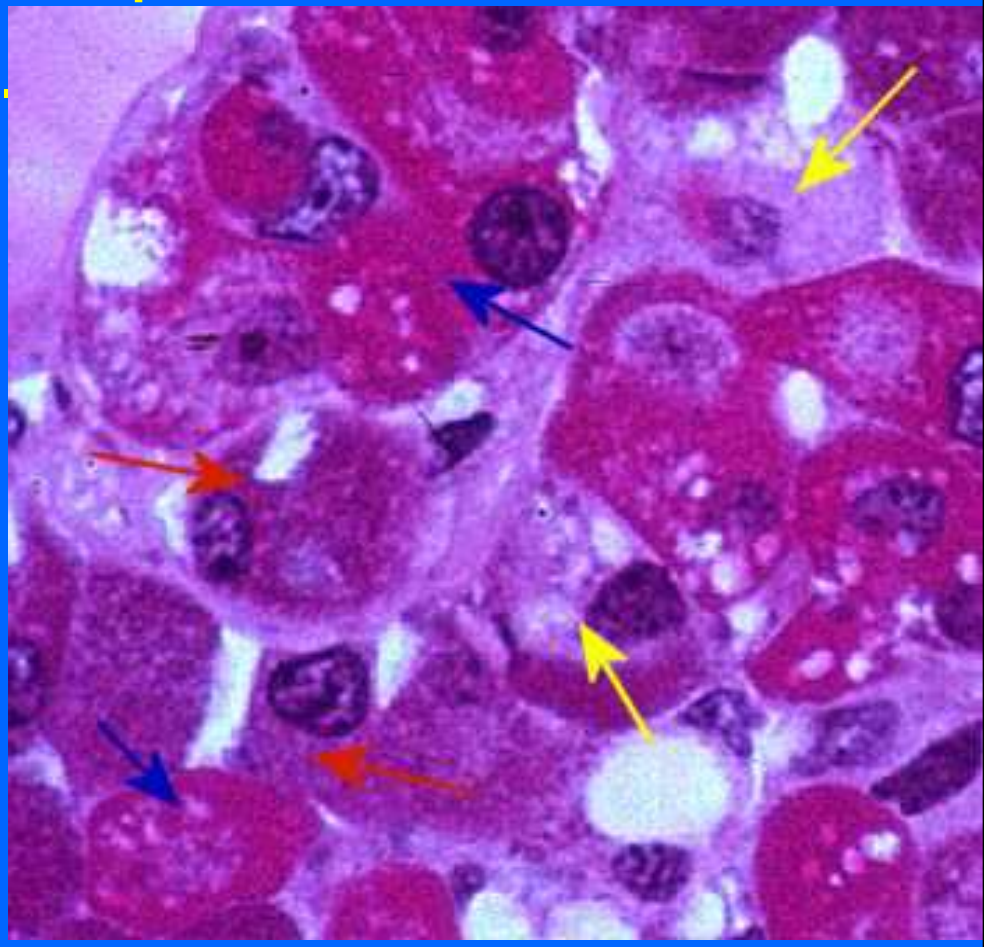
3- Corticotrophs (ACTH cells)

(2) Chromophobes: may represent:

1- stem cells.

2- degranulated chromophils.

3- degenerated cells.



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

BEST WISHES