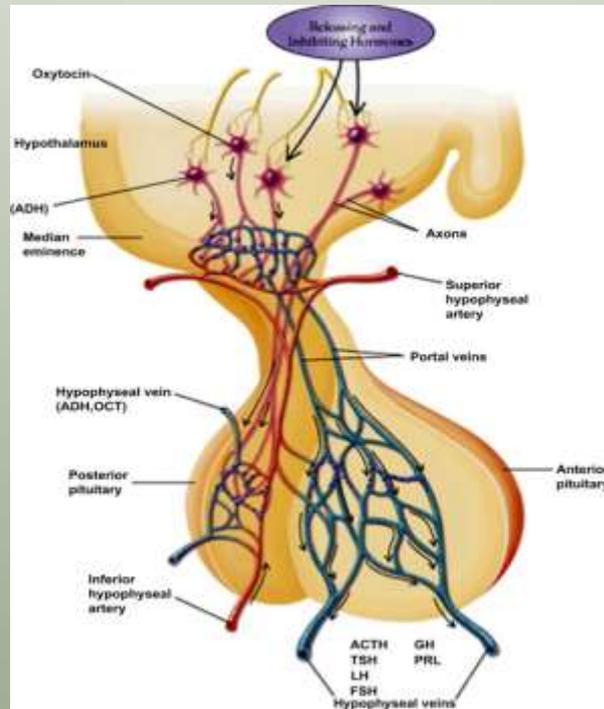
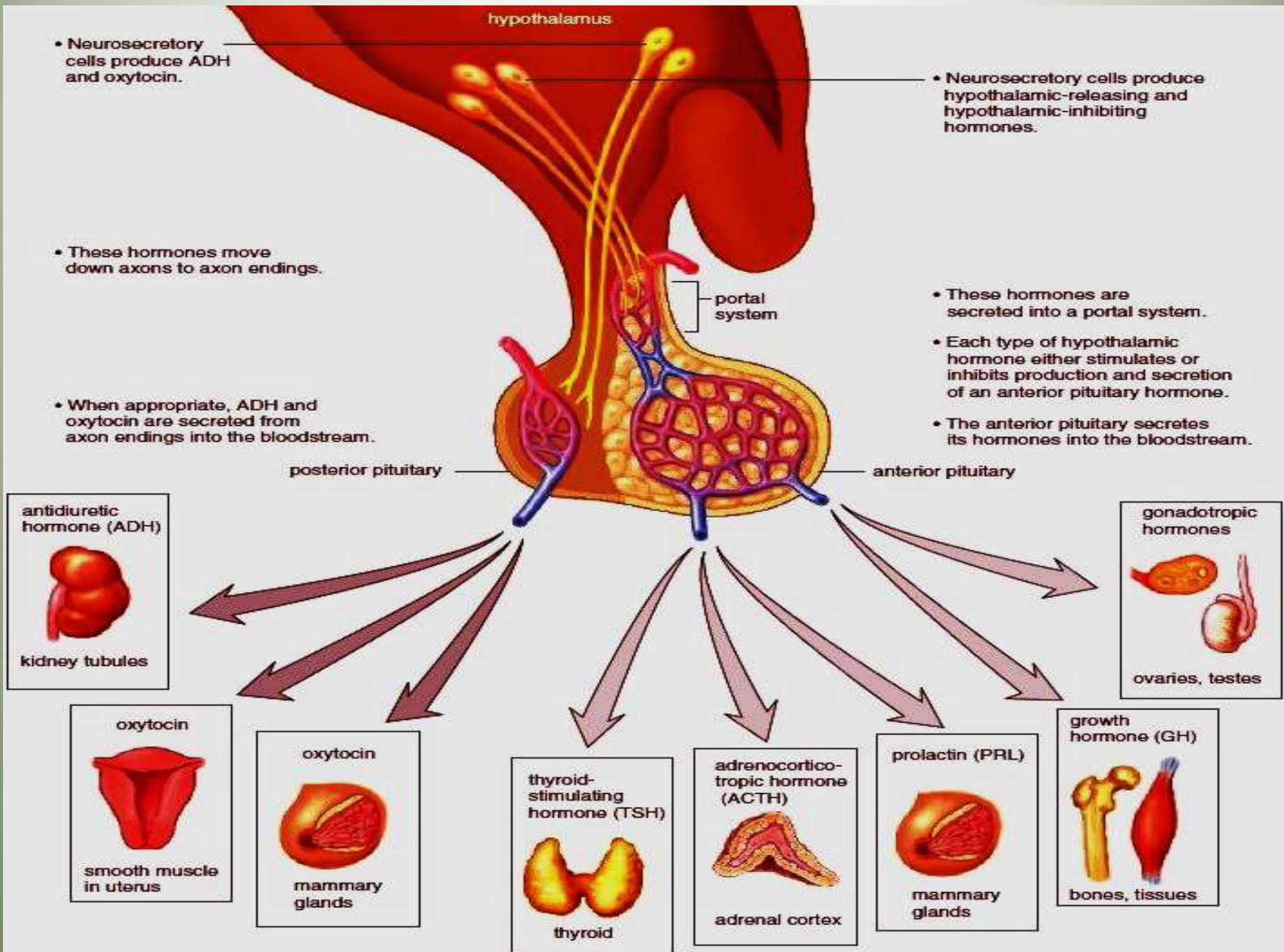




1. HYPOTHALAMIC PITUITARY RELATIONSHIP.



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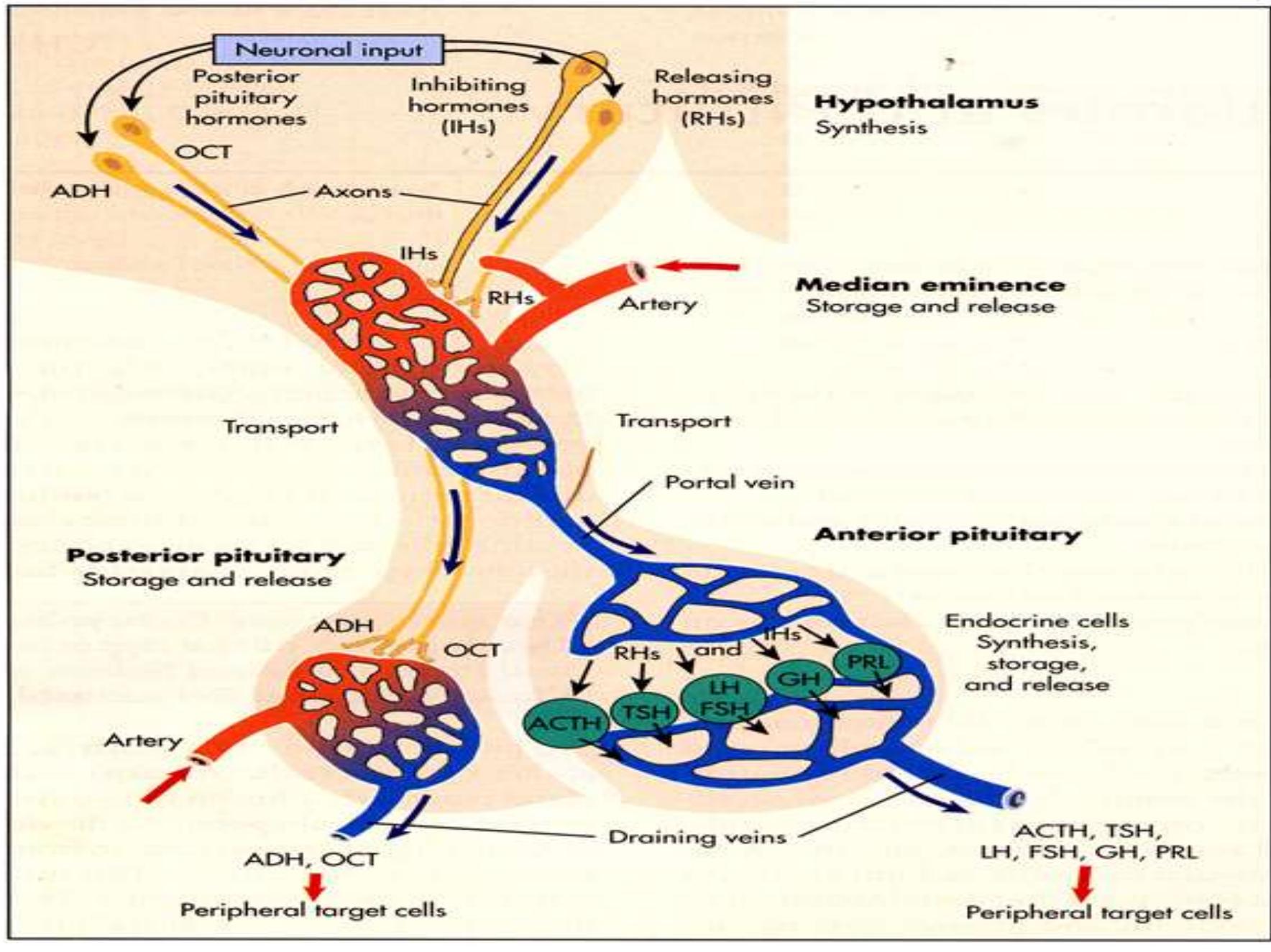
Hypothalamo - Hypophyseal Portal System

The arteries which supply the median eminence (lower most portion of the hypothalamus) are divided in its substance to form like primary capillary plexus and then coalescing to form the hypothalamic- hypophyseal portal vessels which pass downward along the hypophyseal stalk to supply the anterior pituitary sinuses.

Secretion of Hypothalamic neurosecretory substances in the median Eminence :

The neurons originating in various parts of the hypo-thalamus send fibres into the median eminence and tuber cinereum which secretes a small polypeptide hormones (hypothalamic hormones or neurosecretory substances) that are absorbed into the hypothalamic-hypophyseal portal capillaries to be carried to the adenohypophysis . They control the release of adenohypophyseal hormones . They are called releasing or inhibitory factors according to their function :

- Thyrotropin Releasing Factor (TRF) .
- Corticotropin Releasing Factor (CRF) .
- Somatotropin Releasing Factor (SBF) .
- Somatostatin (Growth hormone inhibiting factor) .
- Gonadotropin Releasing Factor (GRF) .
- Luteotropin (Prolactin) Inhibitory Factor (LIF) .
- Melanostatin (Melanocyte Stimulating hormone release Inhibitory Factor).



Somatostatin hormone

- It is a growth hormone release inhibiting factor.

It has been located in tissues other than the hypothalamus e.g. the pancreatic islets.

-When given parenterally it blocks the effect of TRH (thyrotropin releasing hormone) and suppresses the release of Growth hormone , prolactin , insulin and glucagon hormones .

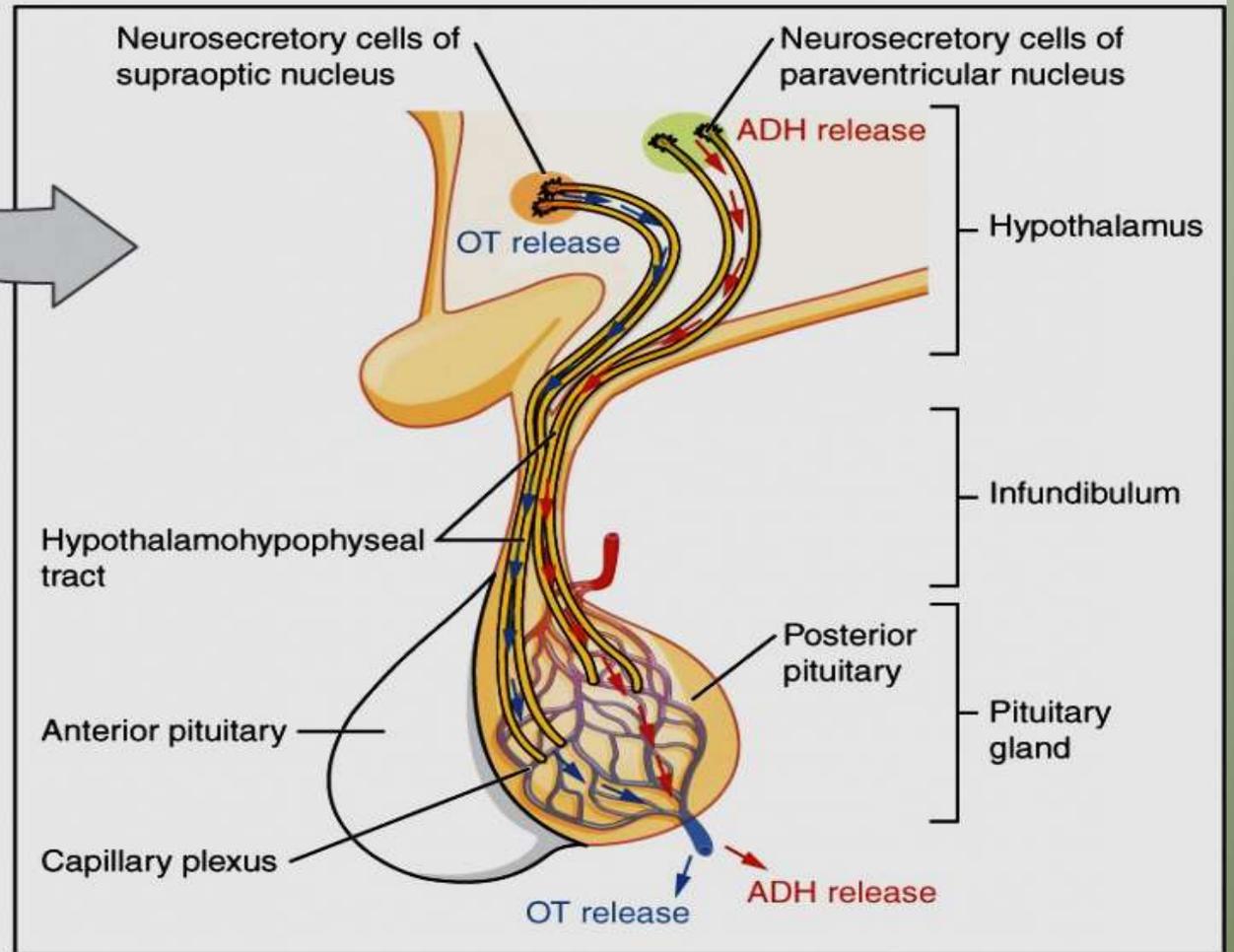
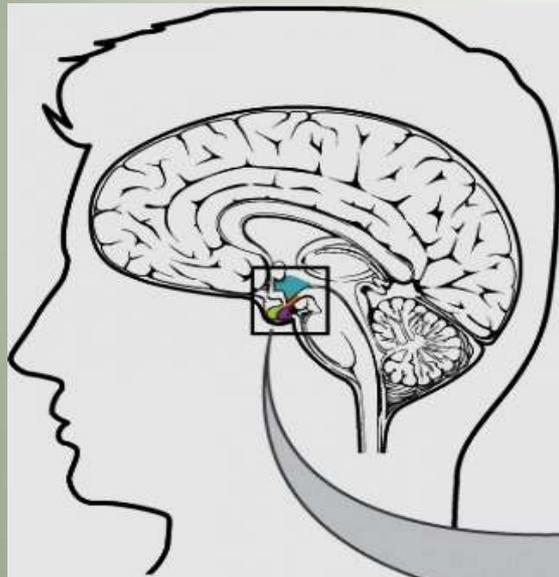
-**The posterior pituitary** is actually an extension of the neurons of the para-ventricular and supra-optic nuclei of the hypothalamus.

The cell bodies of these regions rest in the hypothalamus, but their axons descend as the **hypothalamic–hypophyseal tract** within the infundibulum, and end in axon terminals that comprise the posterior pituitary .

The posterior pituitary is highlighted. Two nuclei in the hypothalamus contain neurosecretory cells that release different hormones. The neurosecretory cells of the **para-ventricular** nucleus release **oxytocin** (OT) while the neurosecretory cells of the **supra-optic** nucleus release **anti-diuretic hormone** (ADH). The neurosecretory cells stretch down the infundibulum into the posterior pituitary. The tube-like extensions of the neurosecretory cells within the infundibulum are labeled the hypothalamo-hypophyseal tracts. These tracts connect with a web-like network of blood vessels in the posterior pituitary called the **capillary plexus**. From the capillary plexus, the posterior pituitary secretes the OT or ADH into a single vein that exits the pituitary.

Neurosecretory cells in the **hypothalamus** release oxytocin (OT) or ADH into the posterior lobe of the pituitary gland. These hormones are stored or released into the blood via the capillary plexus.

The posterior pituitary gland does not produce hormones, but rather **stores** and **secretes** hormones produced by the hypothalamus. The paraventricular nuclei produce the hormone oxytocin, whereas the supra-optic nuclei produce ADH. These hormones travel along the axons into storage sites in the axon terminals of the posterior pituitary. In response to signals from the same hypothalamic neurons, the hormones are released from the axon terminals into the bloodstream.



Thank You