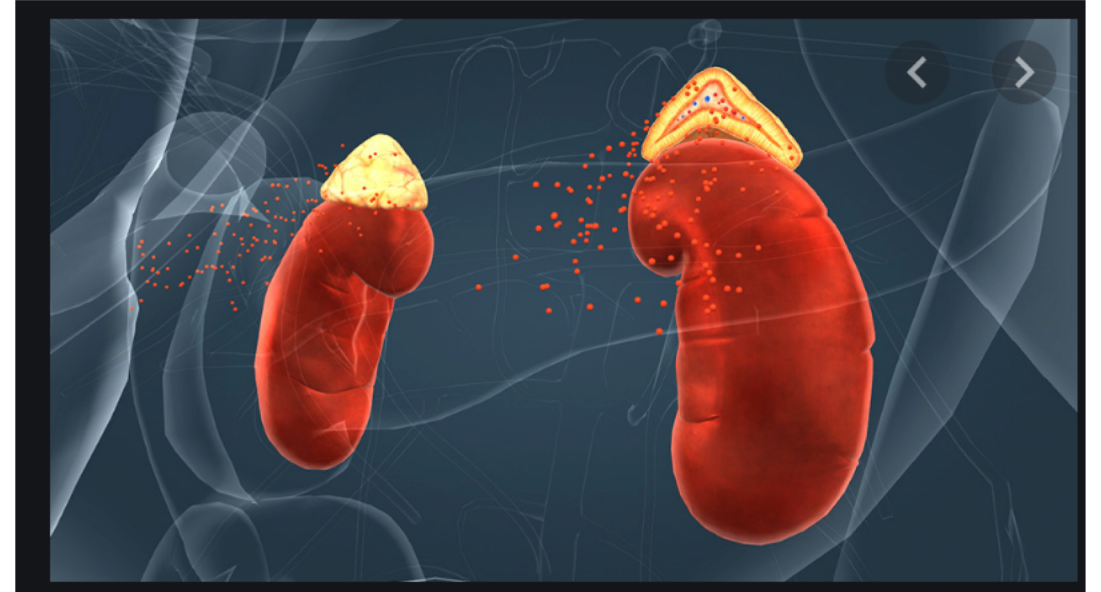


Pharmacology  
Pharmacy Department  
4<sup>th</sup> Stage



Corticosteroids

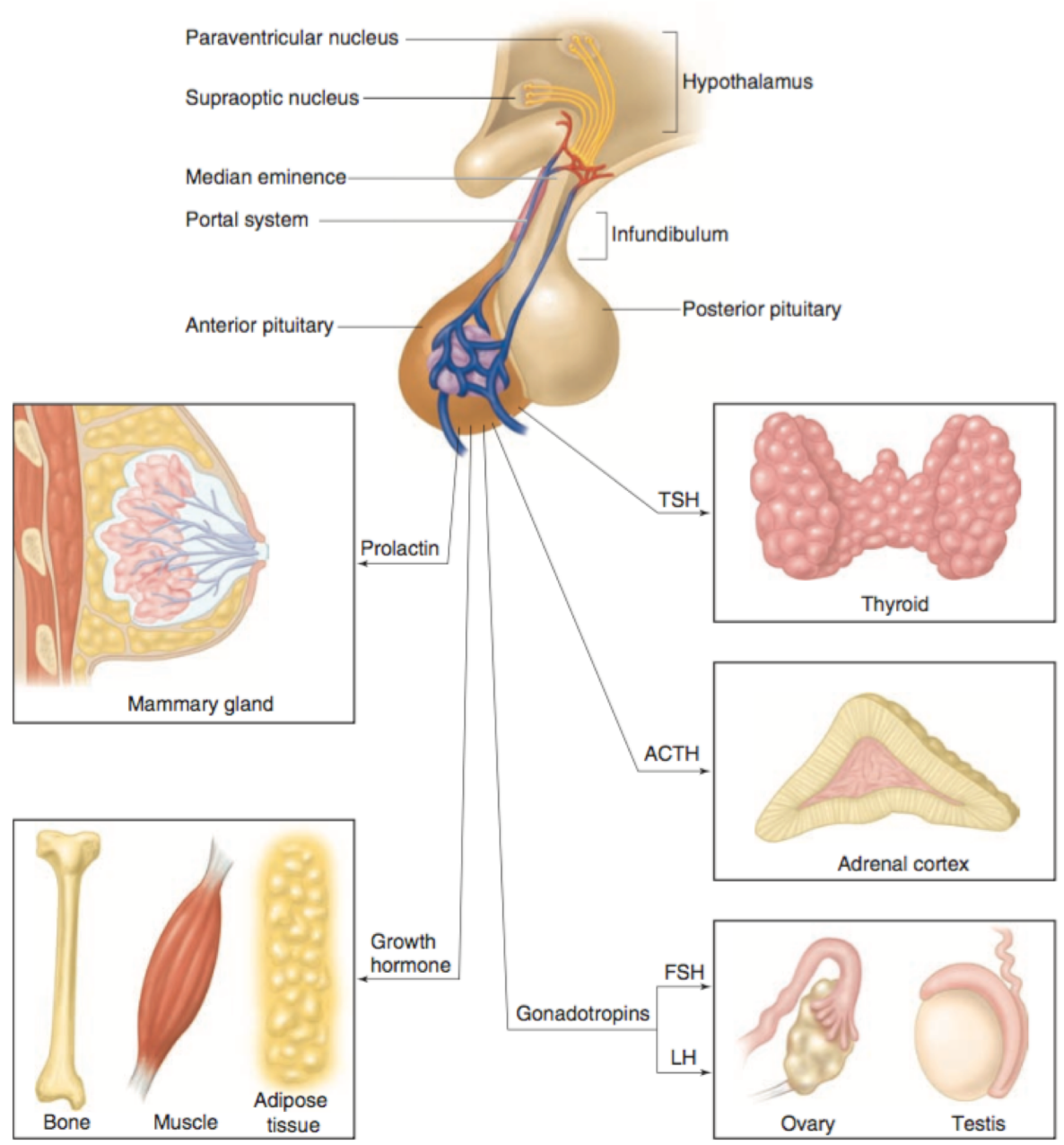
Dr. Ali Al-Athari

- Overview:

- The **neuroendocrine system, which is controlled by the pituitary and hypothalamus**, coordinates body functions by transmitting messages between individual cells and tissues.
- This contrasts with the nervous system, which communicates locally through electrical impulses and neurotransmitters directed through neurons to other neurons or to specific target organs, such as muscle or glands. Nerve impulses generally act within milliseconds. **The endocrine system releases hormones into the bloodstream, which carries chemical messengers to target cells throughout the body.**
- **Hormones have a much broader range of response time than do nerve impulses, requiring from seconds to days, or longer, to cause a response that may last for weeks or months.**
- The two regulatory systems are closely interrelated. For example, in several instances, the release of hormones is stimulated or inhibited by the nervous system, and some hormones can stimulate or inhibit nerve impulses.

- **HYPOTHALAMIC AND ANTERIOR PITUITARY HORMONES:**

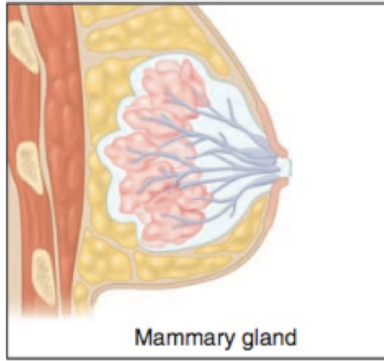
- The hormones secreted by the hypothalamus and the pituitary are all peptides or low molecular weight proteins that **act by binding to specific receptor sites on their target tissues.**
- **The hormones of the anterior pituitary are regulated by neuropeptides that are called either “releasing” or “inhibiting” factors or hormones. These are produced in the hypothalamus, and they reach the pituitary by the hypophyseal portal system.**
- The interaction of the releasing hormones with their receptors results in the activation of genes that promote the synthesis of protein precursors. The protein precursors then undergo posttranslational modification to produce hormones, which are released into the circulation.
- **Each hypothalamic regulatory hormone controls the release of a specific hormone from the anterior pituitary.**



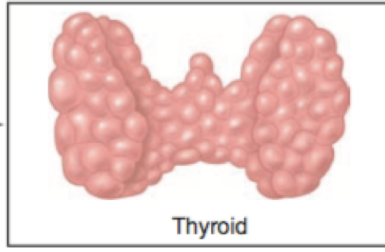
Paraventricular nucleus —  
 Supraoptic nucleus — Hypothalamus

Median eminence —  
 Portal system — Infundibulum

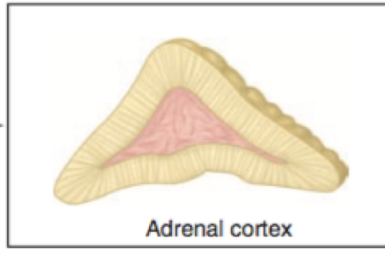
Anterior pituitary —  
 Posterior pituitary —



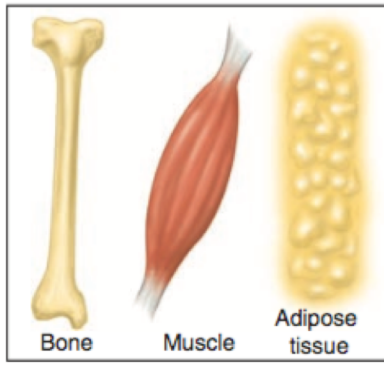
Prolactin



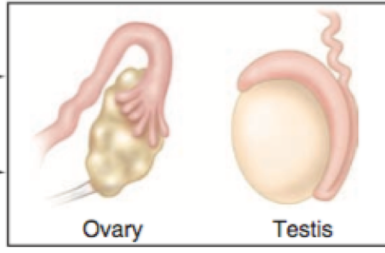
TSH



ACTH



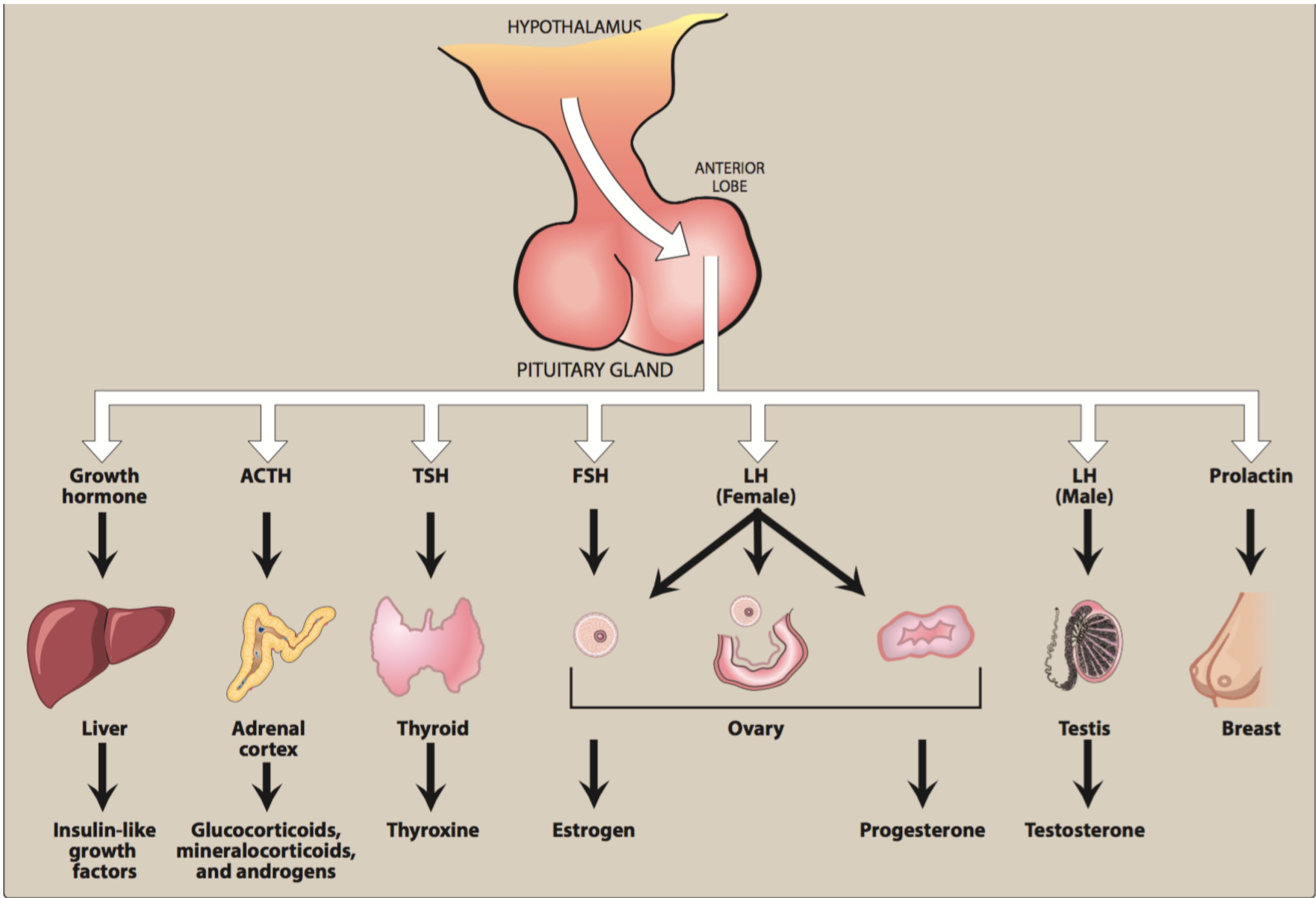
Growth hormone



Gonadotropins

FSH

LH



Thank  
you!