

ENDOCRINE GLANDS

- Endocrine glands are ductless glands & are composed of epithelial cell in which hormones are manufactured and stored.
- Endocrine glands are referred as glands of internal secretion.
- B'cuz the hormones are secreted directly into the blood/lymph.
- A hormone can be defined as a discrete chemical substance that is secreted into the body fluids by an endocrine gland.
(Hormones are made up from protein)
- The cell, tissue, organs on which a hormone has an effect is called the largest cell, largest tissue and largest organ.

→ THE HORMONES AND THEIR GLANDS :-

i) Pituitary glands / master glands / hypophysis :-

- extremely small gland, located at the base of brain and is connected to hypothalamus.
- Release any hormone.
- Two lobes each secret specific hormones.
- Posterior lobe also called neurohypophysis
(Because of its direct connection with the hypothalamus of the brain.)
- Responsible for secretion of antidiuretic hormone (ADH) or

i) vasopressin function:- water reabsorption from the collecting tubules of kidney.

- Other hormone from neurohypophysis is (oxytocin) function:-
- Stimulating of milk ejection & contraction of pregnant uterus.
- Anterior lobe, also called adenohypophysis
- it secretes

1) Growth hormone (GH), Somatotropin (STH) function - Stimulates growth and development

2) Thyroid stimulating Hormone (TSH)

function:- stimulates the production & release of the glucocorticoid hormone ^{thyroid} from the adrenal cortex.

3) follicle stimulating hormone (FSH)

function - promotes growth of the ovarian follicle in the spermatogenesis.

4) Adrenocorticotrophic Hormone (ACTH) or (Corticotropin)

function - stimulate the production & release of the glucocorticoid hormone from the adrenal cortex.

5) Luteinizing hormone (LH) or lutrophin.

function - Stimulates

- ovulation
- formation of the corpus luteum
- hormone secretion in (♀ female)
- Stimulates secretion of interstitial cell in male (♂)

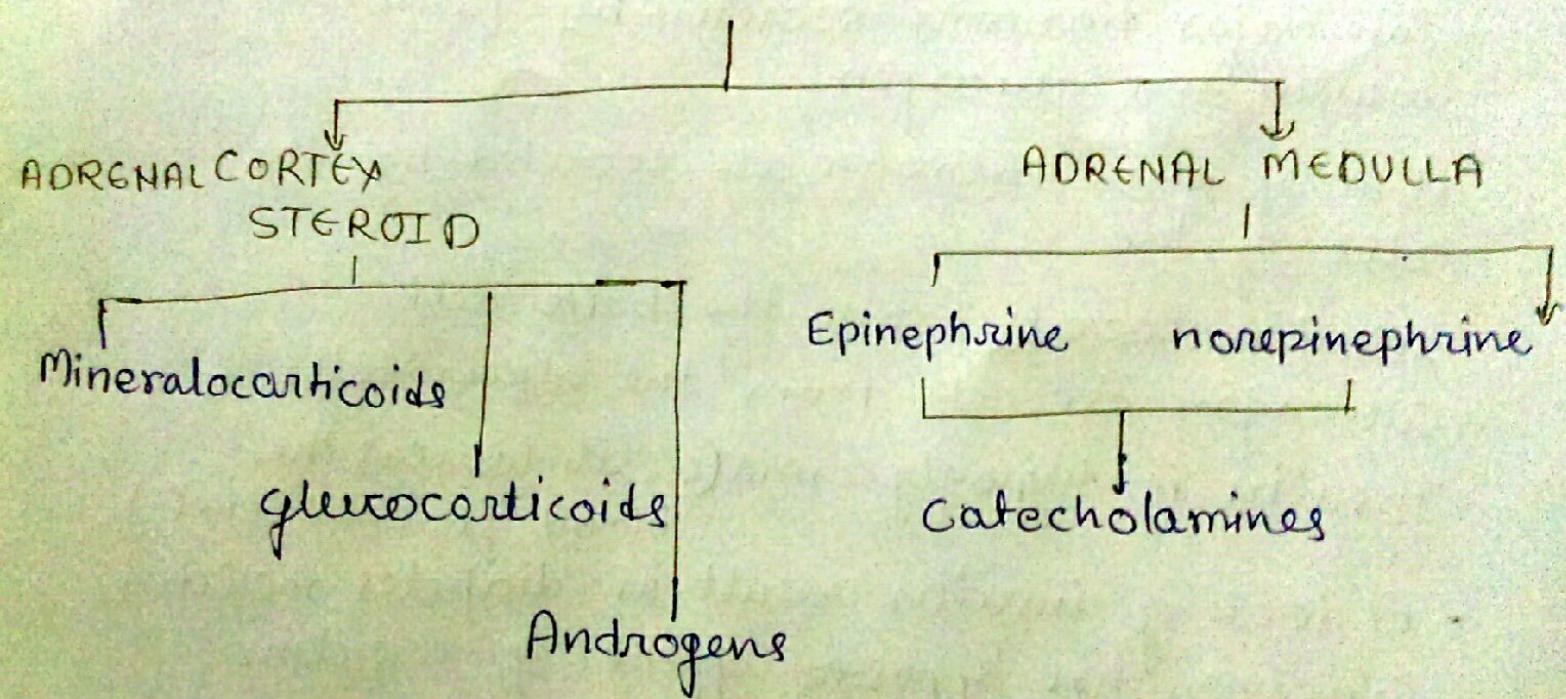
c) Prolactin (PRL)

function - stimulates secretion of milk after pregnancy.

d) Endorphine.

function - Related to relief of pain & production of euphoria

(ii) ADRENAL GLANDS :-



ADRENAL GLANDS -

- located on top of the kidney
- A.G. are two separate endocrine glands
- Adrenal Medulla inner portion
- Adrenal cortex outer portion
- Adrenal me

- ADRENAL MEDULLA - Influence of sympathetic nervous system.
- It secretes epinephrine and norepinephrine
- Those two hormones are called catecholamines.
- ADRENAL CORTEX Secretes nearly about forty hormones belong to the class steroid.

(iii) PANCREAS:-

- Two major hormones secreted by pancreas are insulin and glucagon.
- Both of these hormones are secreted by the cells of the .
- Insulin secrets from the beta cell
- Glucagon secretes from the alpha cells
- Insulin is hypoglycemic (i.e. it lowers the blood glucose level)
- A lack of insulin result in diabetes mellitus.
- Glucagon has opposite effect of insulin.

(iv) THYROID GLANDS :-

- Located on the upper part of the trachea, just below the larynx.
- Hormones are thyronin and triiodothyronine.
- also a hormone called calcitonin
- Both thyronin & triiodothyronine require small amount of iodine (1mg/ week) for their formation.

v) PARATHYROID GLANDS -

- Tiny glands embedded in the dorsal surface of the thyroid gland.
- Parathyroid hormones (PTH) with calcitonin, regulate the calcium equilibrium in the body.
- (PTH) cause more calcium to be absorbed from the digestive track.

vi) OVARIES AND TESTES :-

- ovaries (female ♀) and testes (male ♂) produce the sex hormones androgens in the male and estrogens (estradiol) and progesterone in the female.