GLANDULAE ENDOCRINAE

ENDOCRINE: The endo refers to inside / The crine means the secret

What is the differences between exocrine and endocrine glands ?

The system regulates body activities in order to maintain homeostasis. The gun of endocrine organs are hormones. The hormones consists of special chemicals that are secreted by endocrine glands and given to blood circulation directly.

We have many endocrine glands in the body.

*** The hypothalamus is an area that the neural control center for all endocrine systems.

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The hormones are released directly into the circulatory system to be carried towards distant target organs. The major endocrine glands include;

- Gl.pituitaria (Hypophysis)
- Gl.pinealis (Epiphysis)
- Gl.thyroidea
- Gl.parathyroidea
- Gl.adrenalis

- Pancreas, Ovarium, Testis, Placenta

- Thymus, Ren, Hepar

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Gl.pituitaria

- Pituitary gland (hypophysis) is a protrusion off the bottom of the hypothalamus at the base of the brain. The hypophysis rests upon the hypophysial fossa of the sphenoid bone.
- Hormones secreted from the pituitary gland regulates the working of other endocrine glands and help control: growth, blood pressure, certain functions of the sex organs, thyroid glands and metabolism as well as some aspects of nursing, pregnancy, childbirth, water/salt concentration, temperature regulation and pain relief.
- Adenohypophysis

  TSH,

  ACTH,

  FSH, LH,

  GH, Prolactin
- Neurohypophysis

  ADH,

  Oxitosin,

  Vasopressin

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Gl.pinealis

- The pineal gland – pineal body is a small endocrine gland, shape resembles a tiny pine cone, and it is located in the epithalamus, near the center of the brain, between the two hemispheres.
- It produces melatonin, a serotonin derived hormone, which affects the modulation of sleep patterns in both seasonal and circadian (daily) rhythms.

Gl.thyroidea

- The thyroid is one of the largest endocrine glands in the body, and consists of two connected lobes. It is found in the anterior neck, below the laryngeal prominence
- It releases the thyroid hormones Thyroxin ve Calcitonin. Thyroxine regulates the metabolic activity and energy. Calcitonin is the antogonist of parathormone which reduces Ca in the blood.

Gl.parathyroidea

- The parathyroid glands are small endocrine glands in the neck that produce parathyroid hormone. The animals usually have four parathyroid glands, variably are located behind the thyroid, although considerable variation exists.
- Parathyroid hormone (PTH) and calcitonin (one of the hormones made by the thyroid gland) are essentials for Ca reabsorbtion. They have key roles in regulating the amount of calcium in the blood and within the bones.

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Gl.adrenalis

- The adrenal glands (also known as suprarenal glands) are endocrine glands that produce a variety of hormones for regulating the body activity such as blood pressure, electrolyte balance, gonads activity, and autonomic functions etc...
- They are found above the kidneys.
- Each gland has an outer cortex which produces steroid hormones (cortisol and aldosterone) and an inner medulla which secretes adrenalin and noradrenalin.

Endo-exocrine Glands

- Pancreas – Insulin, glucagon ; control glucose level in blood
- Ovarium – Ostragen, progesteron are related with female characteristics
- Testis – Testesteron, Androgens are related with male characteristics
- Placenta – Prostaglandins are essentials for the pregnancy

Secondary Glands

- Thymus : Thymosin; builds a resistans to diseases for helping of white blood cells re-production
- Kidney : relases erythropoietin which stimulates red blood cells production
- Liver : Heparin
- Stomach : Gastrin