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Changing your Tomorrow

SUBJECT:BIOLOGY
CHAPTER:7
CHAPTER NAME: CONTROL AND COORDINATION.
PERIOD-4

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Hormones in animals

- The hormones in animals are produced by the endocrine glands, and they too play an important role in control and coordination.Hormones are chemical substances that control and coordinate activities of living organisms and also their growth.

Exocrinegland

- **Exocrine glands** are **glands** that secrete substances onto an epithelial surface by way of a duct. Examples of **exocrine glands** include sweat, salivary, mammary, ceruminous, lacrimal, sebaceous, and mucous.

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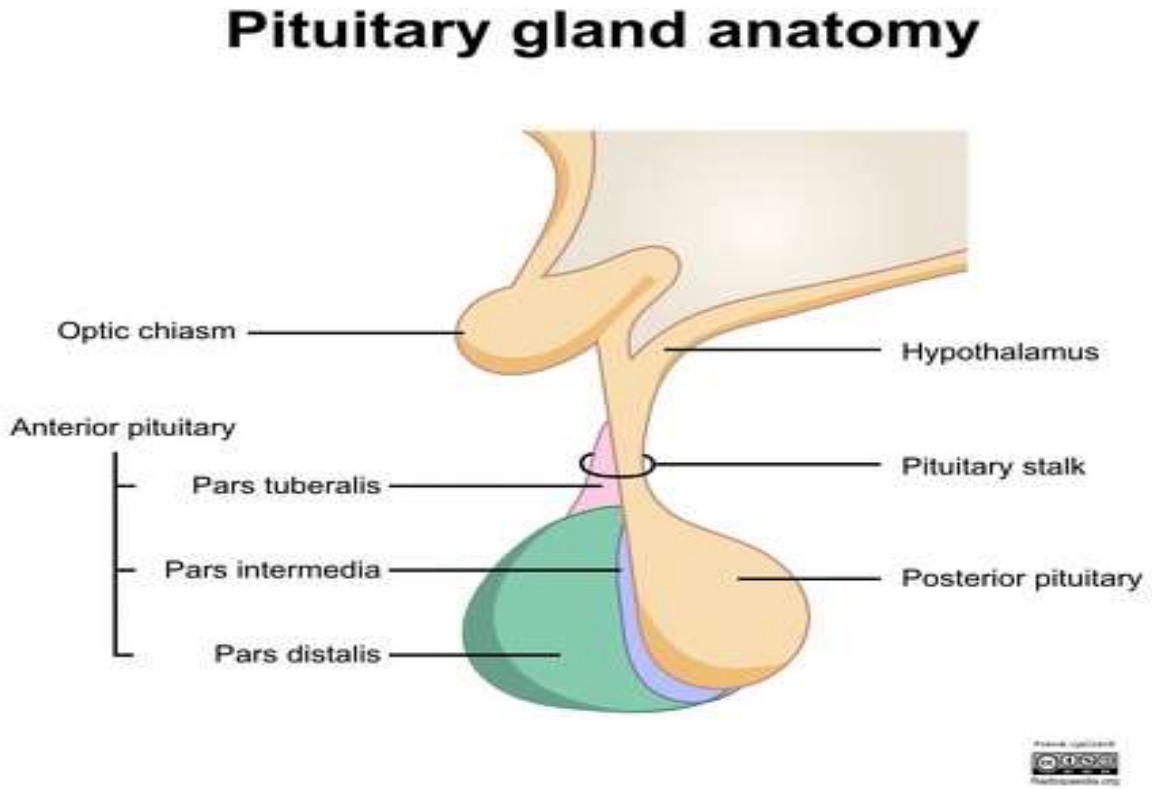
Endocrine glands

- Thevarious endocrine glands in humans are hypothalamus, pineal gland, pituitary gland, thyroid gland, parathyroid glands, thymus, pancreas, adrenal glands, ovary (in female) and testis (in males).

Pituitary

- Pear shaped structure
- Growth hormone
- Hyper secretion-gigantism
- Hypo secretion-dwarfism



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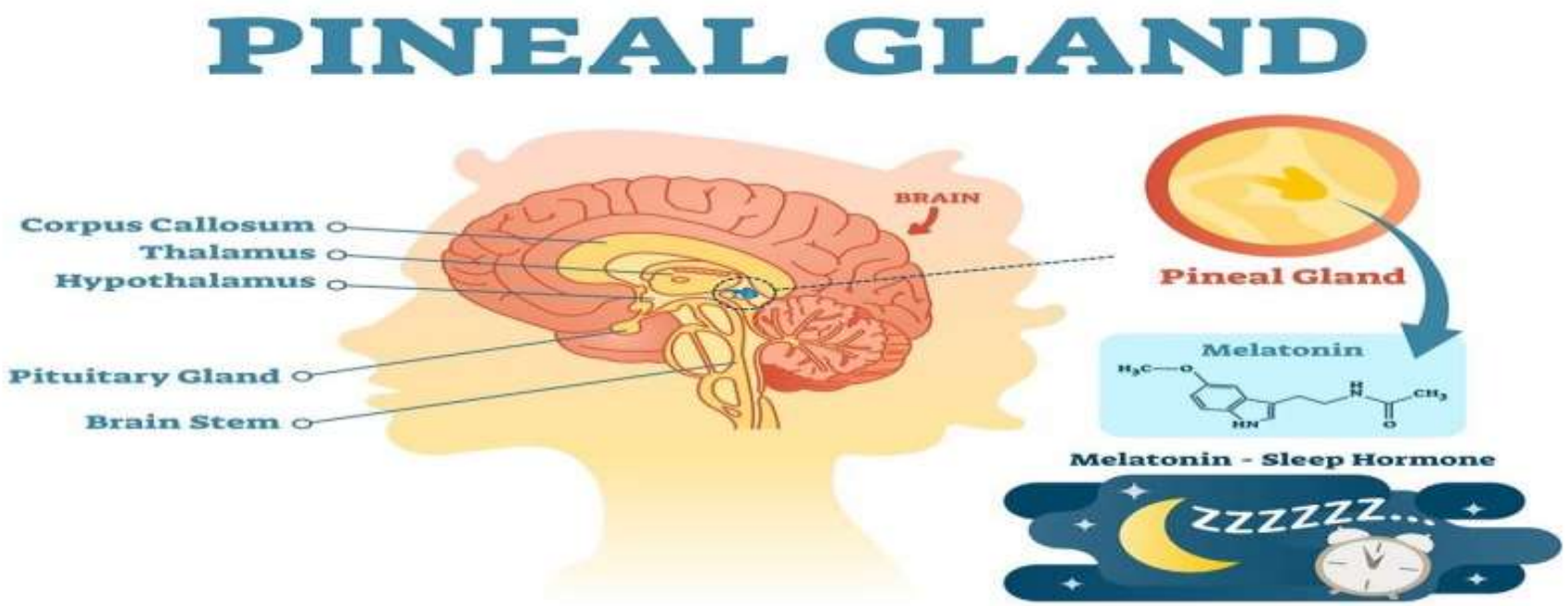
Pineal

- • It is located near the centre of the brain, dorsal to the diencephalon. • It produces the hormone melatonin.• Melatonin affects reproductive development, modulation of wake and sleep patterns, and seasonal functions.



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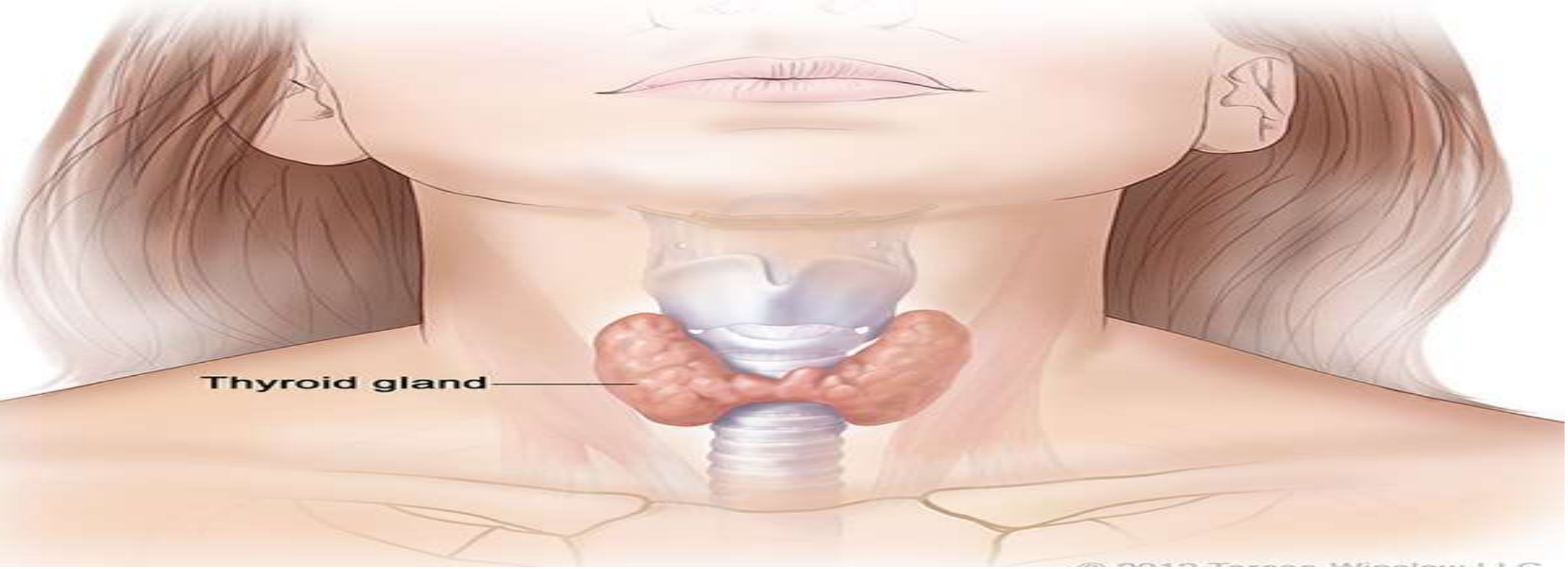
Thyroid

- • It is located in the neck, ventral to the larynx.• It is the one of the largest endocrine glands.• The principal hormones produced by this gland are triiodothyronine and thyroxine.• Thyroxine is a hormone that regulates the metabolism of carbohydrates, proteins and fatsin the body.Hyposecretion of thyroxine leads to cretinin in children, and myxoedema in adults. Hypersecretion of thyroxine leads to exopthalmic goitre in adults. Goitre is caused due to deficiency of iodine in food. Iodine is essential for the synthesis of thyroxine.



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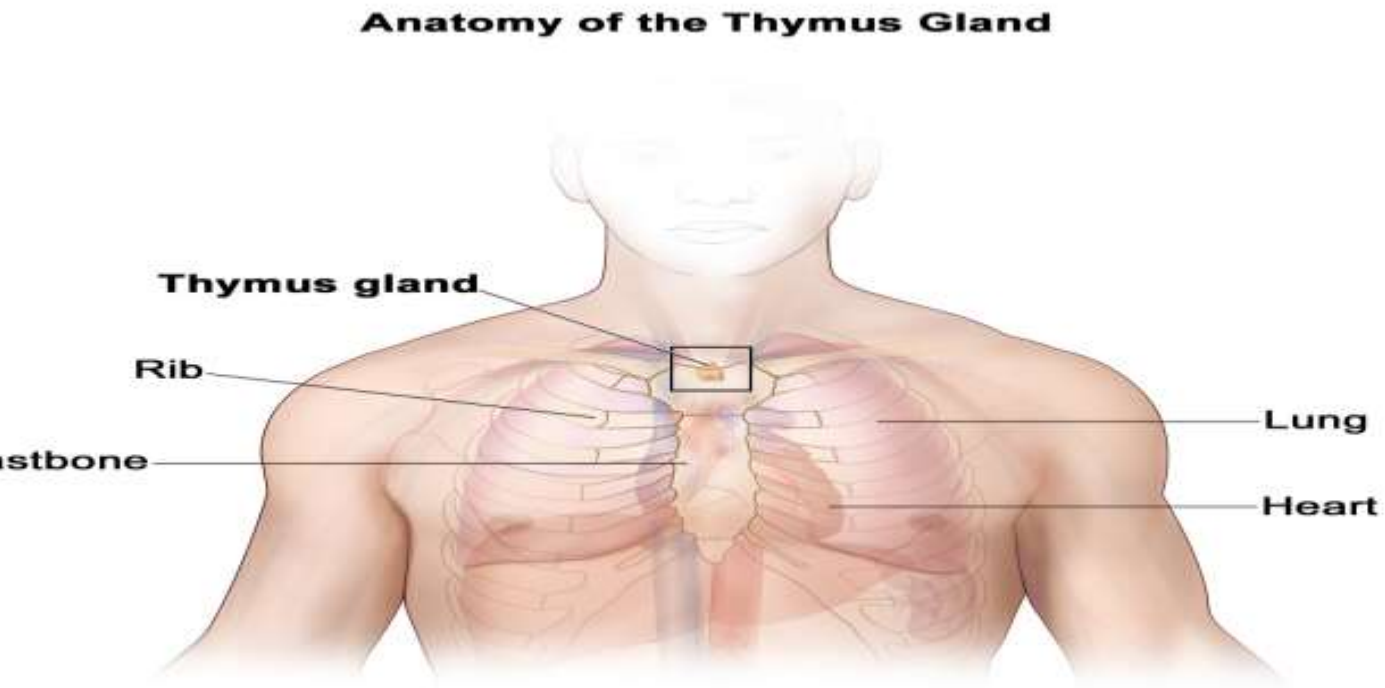
Thymus

- • It is located in front of the heart, in the upper part of the sternum. • It produces the hormone thymosine.• It helps in the maturation of T-lymphocytes.



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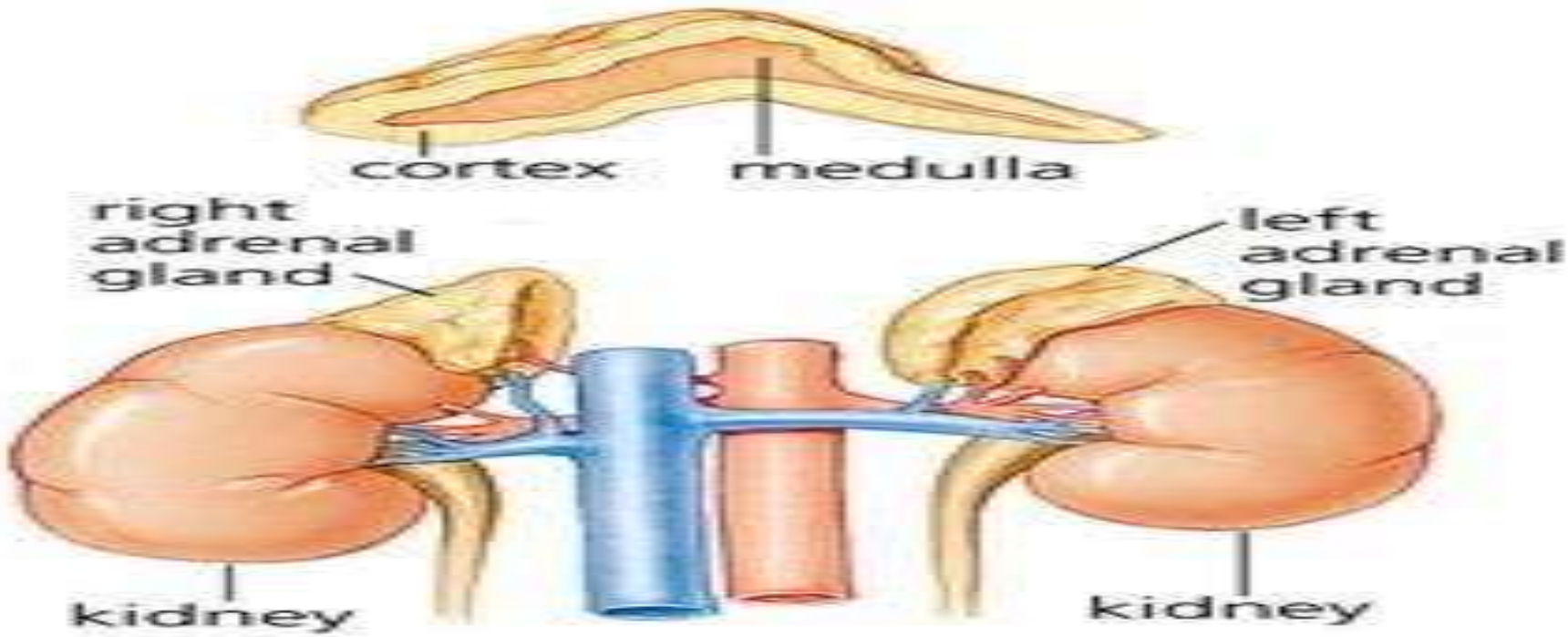
Adrenal

- • These are located above the kidneys and hence are called as suprarenal glands. • Two regions of the adrenal gland are adrenal cortex and adrenal medulla.• Adrenal cortex secretes the hormones like cortisol, aldosterone and androgens. • Adrenal medulla secretes the hormones like adrenaline and noradrenaline.Adrenaline is also called the “hormone of fight or flight,” or the emergency hormone. It prepares the body to face an emergency condition of physical stress, like danger, anger and excitement.



Pancreas

- t is located just below the stomach within the curve of the duodenum. It is both exocrine and endocrine in function.• It secretes hormones such as insulin, glucagon, somatostatin and pancreatic polypeptide.• Insulin regulates the sugar level in our blood. Insulin secreted in small amounts increases the sugar level in our blood which in turn causes a disease called diabetesmellitus.

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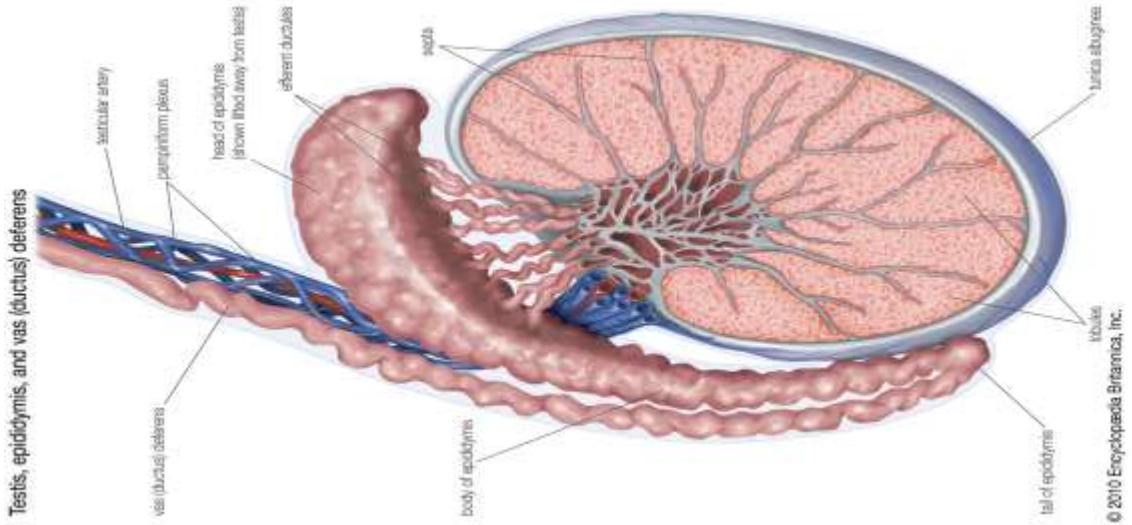
Testes

- • A pair of testes forms the gonads in males.• A pair of testes is the male sex organ located in the scrotum, which is outside theabdomen.• Testes produce the hormone testosterone.• Testosterone controls the changes, which occur during puberty, like deeper voice, development of penis, facial and body hair.



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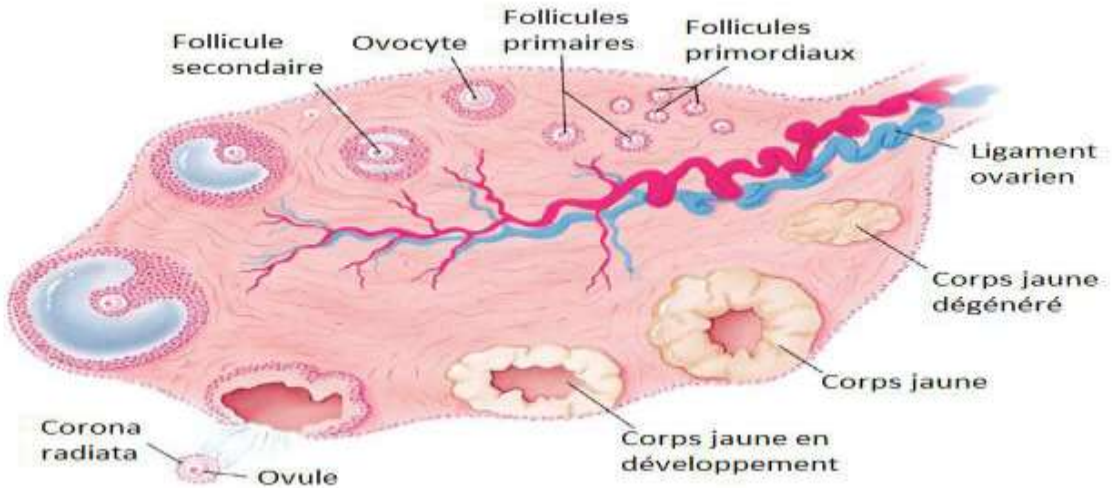
Ovaries

- • A pair of ovaries forms the gonads in female.• Ovaries are the female sex organs that lie one on either side of the abdominal cavity.Ovaries produce two hormones, namely, oestrogen and progesterone.• Oestrogen controls the changes that occur during puberty, like feminine voice, soft skinand development in mammary glands.• Progesterone controls the uterine changes in the menstrual cycle, and helps in themaintenance of pregnancy.



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Feedback mechanism

- **Feedback** loops are biological **mechanisms** whereby **homeostasis** is maintained. ... Some examples of positive **feedback** are contractions in child birth and the ripening of fruit; negative **feedback** examples include the regulation of blood glucose levels and osmoregulation.

HOME ASSIGNMENTS

1.Name any two glands which release their secretion s outside the body.

2.Which endocrine gland is called master gland? Why?

3.what is the site of action of a hormone called?

THANKING YOU

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