

FIRST BELL CLASS -21 Dated 27/08/2020

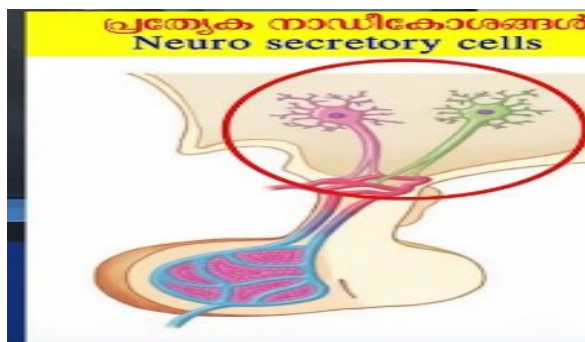
chapter 3 -CHEMICAL MESSAGES FOR HOMEOSTASIS

Posterior lobe of pituitary gland

- It does not produce any hormones.
 - It stores the hormones produced by **special neurosecretory cells** of the hypothalamus and releases into the blood when required.
- **Hypothalamus** functions as endocrine gland which is situated below the thalamus in the brain.



- Hypothalamus is a part of nervous system and certain nerve cells has the capacity to secrete the hormones called neurosecretory cells .



The neurosecretory cells of the hypothalamus produces two hormones.

1. Oxytocin

Functions of Oxytocin :

- facilitates child birth by stimulating the contraction of smooth muscles in the uterine wall.
- facilitates lactation.

2. Vasopressin or Anti Diuretic Hormone (ADH) :

Functions of Vasopressin

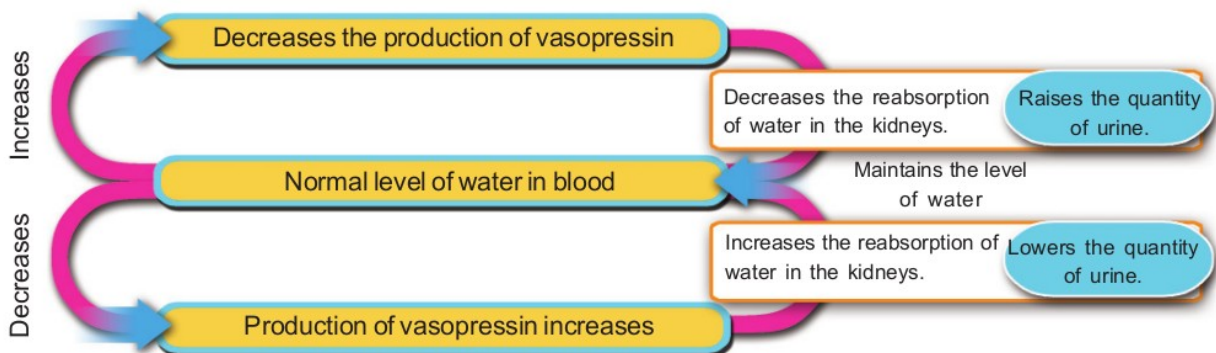
- helps in the reabsorption of water in the kidney.

- It regulates the level of water in the body through the reabsorption of water in kidneys .

Maintenance of the level of water in blood

- During **summer** season excessive water is lost from the body through sweat which decreases the level of water in the blood.
- In such situations production of **vasopressin increases** which increases the reabsorption of water in the kidneys and the **quantity of urine decreases.**
- During **Rainy/Winter** season a very small quantity of water is lost through sweat and the production of **vasopressin decreases** as a result reabsorption of water in the kidneys decreases **increasing the quantity of urine.**

Summer	Production of vasopressin increases	Decreases the Quantity of urine
Winter/ Rainy	Production of vasopressin decreases	Increases the Quantity of urine



Diabetes insipidus:

When the production of vasopressin decreases, the reabsorption of water in the kidney is decreased and excess amount of urine is eliminated. This condition is known as diabetes insipidus.

Symptoms :Frequent urination, increased thirst.

EVALUATION:

1. Prepare a note on the functions of oxytocin.
2. Find out the reason for the change in the quantity of urine during the summer and winter/rainy seasons.
3. Prepare a note on diabetes insipidus.