

SUBJECT: PHYSIOLOGY
MID TERM ASSIGNMENTS.
SEMESTER: DPT 2ND.
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Q.1. Explain homeostatic mechanism regarding the control of calcium in the body with reference to parathyroid hormone and calcitonin.

Answer:

Homeostatic mechanism regarding the control of calcium in the body with reference to parathyroid hormone and calcitonin:

Keeping blood calcium concentrations normal is managed through the concerted action of hormones that control fluxes of calcium out and in of blood and extracellular fluid.

Parathyroid hormone:

Parathyroid hormone helps to raise blood concentrations of calcium.

Cells of the parathyroid gland have plasma membrane receptors for calcium. When calcium is not binding to these receptors, the PTH is released by cells, which excites osteoclast resorption and proliferation of bone via osteoclasts. This demineralization procedure releases calcium into blood. Reabsorption of calcium is promoted by PTH from the urine through the kidneys, so that the calcium returns to the blood. Finally, PTH stimulates the production of vitamin D, which in turn, stimulates calcium absorption from any available nutrition in the small intestine.

The level of blood calcium turns to normal when all these methods return, there is sufficient calcium to bind with the receptors on the surface of the cells of the parathyroid glands, and this cycle of procedures is twisted off.

Calcitonin:

Calcitonin is a hormone which functions to reduce the level of blood calcium.

When blood levels of calcium become too high, the thyroid gland is moved to release calcitonin, which inhibits and stimulates calcium uptake and osteoclast activity by the bones, but also reduces reabsorption of calcium by kidneys. All of these movements lower blood levels of calcium. When blood calcium levels return to normal, the thyroid gland ends the secretion of calcitonin.

Q.2 Give clinical differentiation between hypothyroidism and hyperthyroidism

Answer:

Hypothyroidism:

Deficiency of thyroid hormone which is normally made by the thyroid gland which is located in the front of the neck. It's also called underactive thyroid disease, is a common disorder. Hormones released by the gland travel through your bloodstream and affect nearly every part of your body, from your heart and brain, to your muscles and skin.

Causes

Congenital abnormalities

Autoimmune destruction

Iodine deficiency

Infiltrative diseases

Irradiation of the thyroid

Graves diseases

Drug therapy

Amyloidosis

Symptom

Fatigue

Weakness

Weight gain

Dry hair, and coarse

Rough ple skin and dry

Muscle aches

Depression

Menstrual problem

Extremely tired

Memory loss

And much more we see

Treatment

Surgical removal of your thyroid

Radiation therapy

Medications

Hyperthyroidism

The thyroid gland is increase to two to three time normal size. Which Increase secretion of thyroid hormones.

As his name suggest hyperthyroidism occur when your body makes too much of the thyroid hormones, thyroxine (T4) and triiodothyamine (T3) and becomes overactive.

Causes

Graves' disease

Inflammation of the thyroid gland

Metastatic tumours

TSH secreting pituitary adenoma

Struma overlie

Congenital hyperthyroidism

Iodine induce

Choriocarcinoma

Symptom

Hair loss

Weight loss

Sweating

Appetite

Tremors

Bulging

Shortness of breath

Muscle weakness

Diarrhea

Irritable

Oily skin

And much more we see

Treatment

Radioactive iodine

Anti -thyroid medication

Beta blockers

Q.3 Classification enzyme and their function in digestion

Answer:

There are six classification of enzyme

1. Oxidoreductive

2. Transferases

3. Hydrolases

4. Lipases

5. Isomerases

6. Ligases

On the base of function of digestion are four enzymes

1. Proteases

Proteases is the enzyme which is responsible and mainly to help us digestion in our body different types of proteins

The break down the bond of proteins by a process known as hydrolysis and convert protein into smaller chain called peptides

Pepsin is enzyme which produce to the stomach that work the digestion of large protein molecule into a small molecule and sent to small intestine to further digestion.

2. Amylase

Amylase is an enzyme which is help in the digestion of carbohydrates in our body.

Which help into break down the carbohydrates into sugar

For the purpose of energy needed to our body

There are two categories of amylases alpha and beta

Alpha amylases present in living organisms in the digestive system of human and many other mammals.

It is called ptyalin is create by the salivary gland .beta amylases present yeasts.

Lower amylase in the body can cause serious threatening condition

e.g stroke

Heart attack

High blood pressure

And high level of triglyceride

2. Lipase

Lipase is the enzyme which help for the digestion of fats.

It is secrete by pancreas in the body .it is produce in the pancreas, mouth and stomach .it is break down the fate into small molecules which absorbed in the small intestine through metabolic process.

The decrease of these enzyme in the body can cause emulsion of fats in the vein and artery can causer Stroke heart attack.

4. Gelatinase

Gelatinase is the enzyme which is the help for the digestion of gelatine. Gelatine fount in the desert and also the connective tissue in the muscle of animals that allow the job of take nitration fro, the gelatine.