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DEPARTMENT: MLT4th

Q1: Write sown a detail note on thyroid hormones.

ANS:

* Thyroid is an endocrine gland situated at the root of the neck on either side of the trachea.
* Thyroid secretes 9% of T3
* Secretes 90% of T4 and calcitonin.
* Thyroid stimulating hormones is necessary for secretory activity of the thyroid gland.

FUNCTIONS:

* Action on fat metabolism
* Action on carbohydrates
* Action on body weights
* Action on protein metabolism
* Action on cardiovascular system

TYPES:

1. HYPERTHYROIDISM:

Over secretion of thyroid hormones is known is called hyperthyroidism.

Causes of hyperthyroidism:

* Grave’s disease
* Thyroid adenoma
1. HYPOTHYROIDISIM:

Under or low secretion of thyroid hormones is known is called hypothyroidism.

Signs and symptoms:

* Anemia
* Fatigue
* Sleeping disturbance
* Decreased cardiovascular function

THYROID FUNCTION TESTS:

* Measurement of plasma level of T3 and T4.
* Measurement of TRH and TSH
* Measurement of basal metabolic rate.

Q2: Explain and classify adrenocortical hormones.

ANS:

1. GLUCOCORTICOID:
* This includes cortisol, it moderated metabolism of sugar, fat and proteins.
* Affects the blood glucose concentration.

 GLUCOCORTICOIDS HORMONES:

1. CORTISOL:

 Very potent, accounts of overall about 95% of all glucocorticoids activity

1. CORTICOSTEERONE:

Provide 4% of glucocorticoids activity

1. CORTISONE:

Potent as same is cortisol.

1. PREDNSIONE:

Four times potent as cortisol

1. METHYLPREDNISONE:

Synthetic, four time potent as cortisol.

1. DEXAMETHASONE:

Synthetic, 30 time potent as cortisol.

1. MINERALCORTICOIDS:

Affect the electrolytes minerals of the extracellular fluids sodium and potassium.

MINERALCORTICOIDS HORMONES:

1. ALDOSTERONE:

Very potent, account 90% of all activity.

1. DESOXYCORTICOSTERONE:

1/30 as potent as aldosterone

1. CORTICOSTERONE:

They have very low activity.

1. 9a FLUOCOCORTISOL:

Synthetic, slight more potent then aldosterone

1. CORTISOL:

Very slightly activity, but large quantity secreted.

1. CORTISONE:

Synthetic, slight activity

1. SEX HORMONES:

And a small amount of sex hormones

* Androgen
* Estrogen
* Testosterone
* Progesterone

Q3: Define and explain hyperthyroidism and hypothyroidism.

ANS:

HYPERTHYROIDISM:

Hyperthyroidism occurs when you thyroid gland produces too much of thyroid hormones.

SYMPTOMS:

* Irregular heart beat
* Tremor
* Sweeting
* Change in menstrual cycle
* Increased sensitivity to heat
* Anxiety
* An enlarged thyroid gland
* Skin thinning
* Brittle hairs
* Fatigue
* Muscles weakness
* Increased appetite

CAUSES:

1. Grave’s disease
2. Plummer’s disease
3. Thyroiditis

HYPOTHYROIDISM:

 It is a condition where there is under secretion or not enough secretion of hormones.

SYMPTOMS:

* FATIGUE
* Puffy face
* Muscles weakness
* Increased sensitivity to cold
* Thinning hair
* Dry skin
* Weight gain
* increased blood glucose level

CAUSES:

* Radiation
* Drugs
* Thyroiditis
* Iodine deficiency.

Q4: How calcium is regulated? Define OSTEOMALACIA.

ANS:

* Calcium is regulated in the body by parathyroid hormones from the parathyroid gland. It secretes when calcium level is low.
* Parathyroid hormones increase blood calcium level by stimulation osteoclast, which break down bone to release calcium in the blood stream.
* Parathyroid hormones increase calcium level by reabsorb calcium from kidney before it excretes through urine.
* Parathyroid increase calcium level by triggering CALCITRIOL. Which absorb the dietary calcium

OSTEOMALACIA:

OSTEOMALACIA is a type of disease which is characterized by softening of bones due to impaired bone metabolism due to inadequate level of available vitamin d and calcium and phosphate. The impairment of bone metabolism cause bone mineralization.

Q5: write a short note on sex hormones.

ANS:

SEX HORMONES:

 A steroid hormone that is produced by the ovaries and testes or adrenal cortex and affect the function of reproductive organs or the development of secondary sex characteristics

FEMALE SEX HORMONES:

* ESTROGEN
* PROGESTERONE

1: ESTROGEN:

 It is primary female sex hormone responsible for the development and regulation of female reproductive system and secondary sex characteristics.

2: PROGESTERONE:

A steroid hormone which is released from the corpus LUTEUM, stimulate the uterus to prepare for pregnancy.

FUNCTION:

* Development of endometrium
* Stimulates mammary glands
* Does not retain NACL and water

MALE SEX HORMONES:

* TESTOSTERON
* ANDROGEN

1: TESTOSTERONE:

It is a hormone produced in human in testicles. It affects the appearance of a man sexual development. It stimulates sperm production and also a man sex drive. It also helps build bone and muscles.

DISEASE:

* Lack of TESTOSTERONE this induce HYPOGANADISM.
* Normal level of testosterone but defective receptors induces testicular FERMINIZATION.

2: ANDROGEN:

It is a group of hormones that play role in male trait and reproductive activity.