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**Q1: Write down a detail note on thyroid hormones?**

**Ans: Thyroid Hormone:**

It is endocrine glands situated on either side of the trachea. TSH is necessary for the secretion of thyroid hormones from the thyroid gland. Degradation of thyroid hormones occurs in liver, kidney and muscles. Thyroid hormone secretes T3, T4 and calcitonin.T3 9% T4 90%.

FUNCTION of TH:

* To increase the metabolic rate of the body.
* To stimulate growth of the body.
* Action on body weight
* Action on carbohydrate metabolism
* Action on protein metabolism

HYPERTHYROIDISM:

Hyperthyroidism is caused by thyroid adenoma and Graves disease. Signs and symptoms: polycythemia, toxic goiter, increased sweating, muscles weakness, decreased body weight etc.

HYPOTHYROIDISM:

The thyroid glands does not make enough thyroid hormones for the body needs. This is leads to myxedema in adults and cretinism in children. Signs and symptoms: increase in body weight, constipation anemia, fatigue, decreased cardiovascular functions etc.

THYROID FUNCTION TEST:

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

**Q2: Explain and classify Adrenocortical hormones?**

**Ans: Adrenocartical hormones:**

In all humans and animals the adrenocortical hormones are produce by the adrenal glands which is located on the superior pole of each kidney. So there are two adrenal gland of 4 grams each. These polycyclic steroid hormones have a variety of role that are very important for the body’s response to stress and thy they also play important rule in the other function of the body such as infection, injuries, chemical imbalance, psychological stress etc.

CLASSIFICATION:

They are classified into three classes.

* Mineralocorticoid hormones: synthesized in the adrenal cortex called zona glomerulosa. Its function is to regulate the concentration of electrolytes circulating in the blood.
* Glucocorticoid hormone: It is synthesized in the zona fasiculata. Regulate the processing of fats, proteins, and carbohydrates. Also play important role in the in maintaining a normal stress response cycle.
* Androgen hormones: also called sex hormone. It is synthesized in the zona reticularis. These hormones such is estrogen in female and testosterone in male.

**Q3: Define and explain hyperthyroidism and hypothyroidism?**

**Ans: Hyperthyroidism:**

The over secretion of thyroid hormone(when your thyroid gland produce too much of thyroid hormone) is called hyperthyroidism.

Hyperthyroidism can regulate your metabolism.

The most common cause of hyperthyroidism is Graves disease.

**Signs and symptoms hyperthyroidism:**

* Unintentional weight loss
* Rapid heart beat
* Irregular heart beat
* Nervousness
* Anxiety
* Sweating
* Increased appetite
* Change in menstrual cycle.

**Hypothyroidism:**

The under active thyroid gland. A condition in which the thyroid gland do not prepare enough hormones as much required for the body.

Hypothyroidism may not cause noticeable symptoms in early stages but with the time it cause a number of health problems i.e joint pain, heart disease, obesity, infertility in female.

**Q4: How calcium is regulated? Define osteomalacia?**

**Ans:** At least there are three hormones involved in the regulation of calcium the level in the body i.e parathyroid hormones, calcitonin and calcitriol. Parathyroid hormones are produce bye thyroid glands to decrease blood calcium level by targeting the skeleton, kidney, and the intestine.

**Osteomalacia:**

Osteomalacia is a condition of softening of bones, typically through a deficiency of vitamin D or calcium. Osteomalacia in older adults can leads to fracture.

**Q5: Write a short note on sex hormones?**

**Ans: SEX HORMONES:**

Sex hormones are those that play important role in sexual development and reproduction. Adrenal glands and gonads are The main glands that produce sex hormone. Sex hormones are also important for naormal body function in both male and female.

Sex hormones are involved in:

* + - * Puberty and sexual development
      * Reproduction
      * Promoting body hairs
      * Regulating cholesterol level
      * Sex desire
      * Bone and muscles growth
      * Inflammatory responses
      * Body fats distribution.
* **Female sex hormones:**

1. Estrogen
2. Progesterone
3. A small amount of testosterone.

female sex hormone are play a vital role in secondary sexual characteristic which include:

* Breast development
* Hair on under arms and public area
* Widening of the hips
* Oil production on their skin

**Male sex hormones:**

1. Testosterone

It play important role in physical changes in the body of a boy during puberty. Changes include;

* Growth of hair on face and public place.
* Deepening of the voice
* Getting taller
* Building muscles and strong bone.

All men need normal amount of this hormone to make sperms and to be able to have childrens.