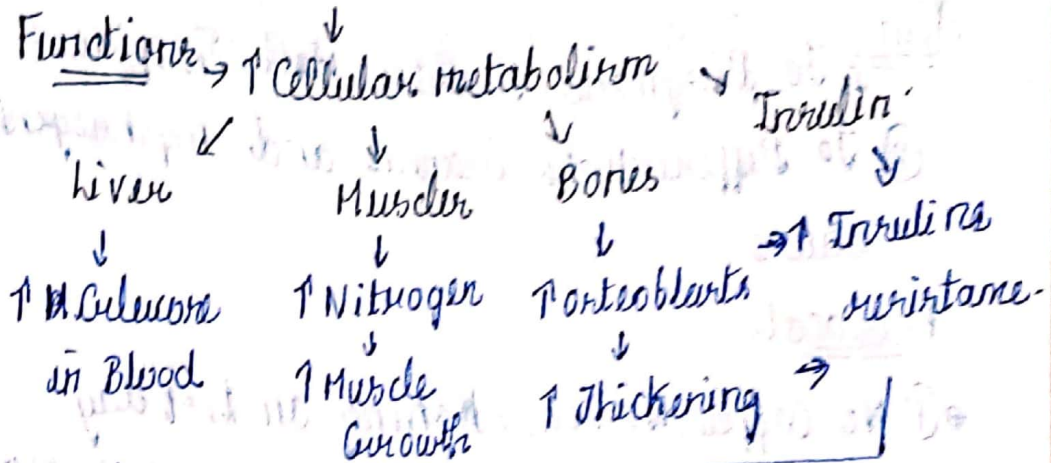


Growth Hormone

Functions



All produce Somatomedin C (Insulin like Growth factor I)

↑ Cellular metabolism, ↓ cell death, ↑ cell division

Gigantism

→ ↑ GH Before closure of epiphysis ~

Causes → Pituitary Adenoma → Mammotroph Somatotroph

2) Hypothalamic Tumor → GnRH ↑

3) Ectopic GH

4) McCune Albright Syndrome

↳ Genetic condition causing excessive hormones in all the parts

Symptoms → Mammotrophs

↑ GH & ↑ Prolactin

Refer
Back

← * Gigantism and Acromegaly
Excessive secretion of GH before the closure of the epiphysis leads to gigantism and later onset after closure of epiphysis results in acromegaly.

Causes:

- Hyperplasia or adenoma of the acidophilic or chromophobes on both.
- Mostly it is of somatotroph adenoma.
- Tumour compresses the neighbouring cells in the pituitary and leads to suppression of gonadotrophs and thyrotrophs.

Gigantism:

- Onset of GH excess before the age of 10 years leads to gigantism.
- It is due to hyperplasia of the acidophils.
- There is disproportionate growth in height and size. The upper part exceeds the height, lower segment exceeds the upper segment. due to linear growth in the bones.
- Muscles wasting and sexual precocity are seen.
- Later Acromegaly may also develop.
- Patients are hypoglycaemic cause stimulator of β cells and later develop pituitary diabetes mellitus.
- Headache, Bitemporal hemianopia

Acromegaly:

- When occurs on develop after the fusion of the epiphysis. It is seen in adults between the ages of 20 and 50 years.

C/F:

- Crionilla face → protrusion of supraorbital ridges, broadening of nose, thickening of lips, thickening and wrinkling of forehead, protrusion of lower jaw (prognathism).
- Enlargement of hands and feet.
- Kyphosis (forward bending).
- Enlargement of the larynx causes hoarseness.
- Enlargement of the thyroid gland but no hyperthyroidism.
- Muscle to bone attachment involves the bone thickness involves not the length.
- Heart - Cardiomyopathy.
- Bulldog scalp - (thickening of scalp).
- Enlargement of all the sinuses.
- The nerves are thickened leading to Carpal tunnel syndrome.
- Glucose intolerance so DM.
- Males develop loss of libido and females amenorrhoea, galactorrhoea. Gynecomastia.
- Headache: Bitemporal hemianopia.

Course of disease:

- Death occurs due to increased intracranial tension, Diabetic cardiac complication.

Diagnosis:

- CT and MRI

- GH assay

- Adrenal tolerance test

- X-ray of the skull and mandible

- IGF-1

Cushing's Disease

- It is a rare disease characterised by obesity.

- It is a condition in which the pituitary adenoma produces excess ACTH and leads to hypercortisolism.

- It is due to the failure of the negative feedback mechanism by the control on the hypothalamus.

- It starts like hyperplasia and then to the microadenoma which are less than 1cm.

→ Normal diurnal variation response to stress & hypokalaemia of ACTH are

lost.

→ Due to stimulation of ACTH, bilateral hyperplasia of the adrenal cortex and Cushing's syndrome result.