

# ABNORMALITIES of GROWTH HORMONE SECRETION

① Panhypopituitarism

② Dwarfism

③ Gigantism

④ Acromegaly

# # Panhypopituitarism

IN ADULTS

- ↓ secretion of all anterior pituitary hormones

- Causes :- (mainly tumors)

• Craniopharyngioma

• Chromophobe tumors

• Thrombosis of pituitary blood vessels

- Effects :-

1) Hypothyroidism → Lethargic

2) ↓ Glucocorticoids → Weight gain

3) ↓ Gonadotropins → Loss of sexual f/n

4) ↓ Growth hormone → ↓ Fat utilisation  
↓ Protein anabolism ] - Weight gain  
- Abnormal growth

# # Dwarfism :-

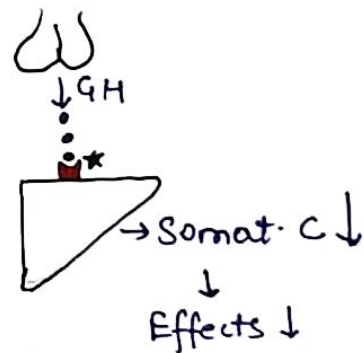
Cause :- Panhypopituitarism in childhood.

Effect :- • Development of body parts ↓ sed (↓GH)  
(But in appropriate proportion to one another)

- Weight gain (↓Glucocort)
- Lethargy (↓TH)
- Sexual fn lost (↓LH, FSH)

[ In  $\frac{1}{3}^{\text{rd}}$  dwarf; only GH ↓ sed  
∴ They do mature sexually ]

- \* Lorain Dwarfism ⇒
- Congenital condition
  - Mutation of GH receptors
  - GH level = (N) / ↑
  - Somatomedin C = ↓



# GIGANTISM :- Overprod. of GH before epiphyseal closure  
Cause :- Acidophilic tumors ( $\uparrow$  GH secretion) [Before Adolescence]

Effect :-

- $\uparrow$  height (upto 8 feet) [Epiphyses have not fused  $\bar{c}$  shaft]
- Hyperglycemia (can lead to DM)
- B/L gynaecomastia
- Features of panhypopituitarism

— Weight gain  
— Loss of sexual fn  
— Lethargy  
— Adrenocortical insufficiency.

# ACROMEGALY :- Overprod. of GH after epiphyseal closure

Cause :- Acidophilic tumor developing after adolescence.

[After adolescence]

- Length of bone cannot increase
- Thickness of bone ↑

Effect :- (Enlargement of periphery)

- Enlargement of bones of hands & feet (thickness ↑)

- Enlargement of membranous bone :-

- Cranium ↑

- Nose ↑

- Forehead bosses

- prominent supraorbital ridges

- Prognathism (Protrusion of lower jaw)

- Tongue & Lip ↑

Acromegalic  
facies

- Enlargement of body soft tissue :-

Liver, Spleen, Kidney ⇒ Organomegaly

- Visual field changes [Damage to optic chiasma] ⇒ Bitemporal hemianopia (extreme)

- Gynaecomastia (some cases)