TUTORIAL 12

EXAMINATION OF ENDOCRINE SYSTEM

OVERALL OBJECTIVES

At the end of this module, the student should be able to do a full clinical examination of endocrine system and to be able to make a reasonable differential diagnosis of children with common endocrine problems like short or tall stature, and hypo or hyper functioning of pituitary and thyroid glands.

Extra general features

Hyperpigmented skin

Child with short or tall stature

Pot bally, protrude tongue

Coarse skin

Polyuria

CHECK IF THE CHILD IS OF ABNORMAL STATURE

1. Short (achondroplasia/ hypothyroidism)
2. Tall (Marfan's syndrome)

EXAMINE THE CHILD

- Measure child's height
- Measure lower segment (LS) → pubic symphysis to ground
- Calculate upper segment (US) → by subtracting the LS from the total height
- Calculate US/LS ratio

Normal values

- at birth 1.7
- 3 yrs 1.3
- 8 yrs 1
- 18 yrs 0.9

IF THE CHILD IS SHORT

If:		
US/LS ratio ↑	Short lower limbs	skeletal dysplasia, hypothyroidism
US/LS ratio ↓	Short trunk	vertebral radiation, scoliosis
	Short neck	Klipple-Feil sequence

Measure arm span and subtract from it the total height

Calculate AS–H

Normal values are as follows:

- From birth to 7 yrs - 3 cm
- From 8-12 yrs 0 cm
- At 14 yrs
  - Boys +4 cm
  - Girls +1 cm

If:		
AS – H = < N	and US/LS ↑	Short limbs / normal trunk
AS – H = > N	and US/LS ↓	Normal limbs / short trunk
AS – H = < N	and US/LS ↓ or N	Short arms / short trunk

IF THE CHILD IS TALL

If:

US/LS ↓	Lower limbs are disproportionately long
	Marfanoid habitus, eunuchoid habitus
US/LS N	This is more in keeping with pituitary gigantism
	Familial short stature
AS – H ↑	Upper limbs are disproportionately long
	Marfanoid habitus, eunuchoid habitus
AS/H > 1.05	Suggestive of Marfan syndrome