



Interhospital Endocrine Conference

Case 3

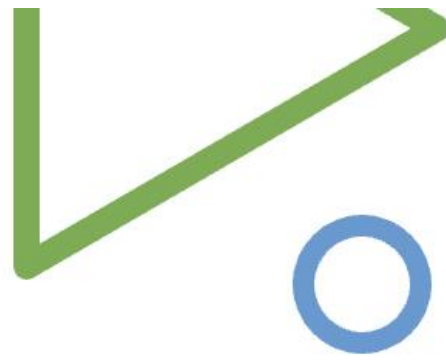


Hypothyroidism Across Different Age Groups



	Infants	Children	Adolescents	Adults	Elderly
Symptoms	- Jaundice - Sleeping longer than usual - Poor feeding - Constipation - Hoarse cry - Decreased Activity - Delayed Milestones	- Delayed growth - Delayed development - Fatigue - Constipation - Cold sensitivity - Weight gain - Swelling - Hoarse voice - Difficulty concentrating	- Fatigue - Weight gain - Depression - Cold sensitivity - Dry skin - Constipation - Hoarseness - Cognitive difficulties - Menstrual Irregularities	- Fatigue - Weight gain - Depression - Cold sensitivity - Dry skin - Constipation - Hoarseness - Cognitive difficulties - Menstrual Irregularities - Carpal tunnel syndrome - Sleep apnea/ snoring	- Fatigue - Cold sensitivity - Weight gain - Depression - Hypogeusia/ Dysgeusia/ Hoarseness - Memory problems - Constipation - Dry skin - Muscle&Joint pain, muscle cramp - Balance and coordination problems - Worsening of chronic conditions - Frailty
Signs	- Enlarged fontanelle - Large tongue - Thick lips - Puffy face - Weak muscle tone - Umbilical hernia	- Dry skin and hair - Swelling of face and body - Hoarse voice	- Hair changes - Loss or thinning of the eyebrows - Slowed heart rate - Edema or puffiness - Hyporeflexia	- Hair Changes - Goiter - Loss or thinning of the eyebrows - Slowed heart rate - Edema or puffiness - Muscle weakness - Brittle nails - Edema of lower limbs	- Hair Changes - Loss or thinning of the eyebrows - Slowed heart rate - Diastolic hypertension - Edema or puffiness - Anemia
Atypical presentations	Asymptomatic	- Behavioral changes - Restlessness - Early puberty - Van Wyk Grumbach	- Joint and muscle pain - Van Wyk Grumbach - Slipped capital femoral epiphysis	- Joint pain and stiffness - Dysphagia - Dysarthria	- Altered Mental Status - Arrhythmia - Hypothermia - Myopathy - Psychiatric problems

Van Wyk Grumbach



Introduction



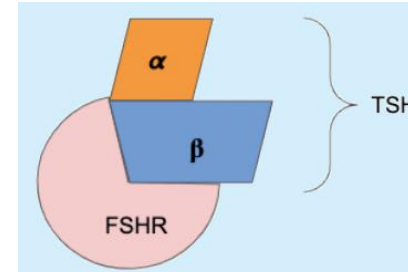
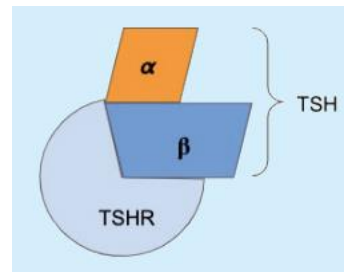
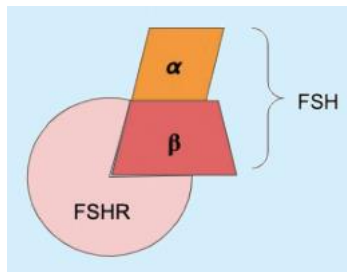
Van Wyk Grumbach

- First described since 1905
The syndrome consisting of
 - Primary hypothyroidism
 - Precocious puberty
 - Massive ovarian cysts
- The term “Van Wyk and Grumbach syndrome” was coined in 1960
- In **general**, long-standing primary **hypothyroidism** can lead to **both pubertal** and **growth delays**.
- In **rare** cases, hypothyroidism leads to **growth delay**, paradoxically accompanied by **precocious puberty**.

Pathophysiology



- Van Wyk and Grumbach believed that
Hormonal overlap in the negative feedback mechanism associated with hypothyroidism caused elevated gonadotropins
 - Not explain the cases in the literature where FSH levels were found to be normal
- More accepted theory is the fact that **TSH can act on the FSH receptor**
TSH and FSH, along with luteinizing hormone (LH) and hcG
 - Share a **common alpha subunit**
 - TSH is capable of activating the FSH receptor secondary to this common subunit
- Gordon et al. demonstrated that the elevated estrogen levels seen in this disorder do come directly from the ovaries



Van Wyk Grumbach



- It is important to recognize that this syndrome can occur at various ages and that it is not always a disease of prepubertal children
- Findings of Browne et al. and Kubota et al.
 - 17-year-old girl with
 - Hypothyroidism
 - Oligomenorrhea
 - Bilateral enlarged ovarian masses
 - 21-year-old female with
 - Hypothyroidism
 - Abdominal pain
 - Distention and ovarian masses
- Both of these patient's symptoms **resolved after** their **hypothyroidism was treated**