CEDAR CLINICS

THYROID QUIZ

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Q1: CASE SCENARIO: SEVERE HYPOTHYROIDISM IN PREGNANCY: Does it effect the child in-utero?

PATIENT-1:

- 22 year lady
- Primi Gravida
- 14 weeks pregnancy
- **TSH 61u/ml; freeT4 0.95ng/dl**

- PATIENT-2:
- 34 year lady
- G2P1A1, 21 weeks pregnancy
- Treated for secondary infertility
- IVF pregnancy
- **TSH-42; Free T4-0.8ng/dl**

PATIENT QUERY:

To continue or terminate the pregnancy?

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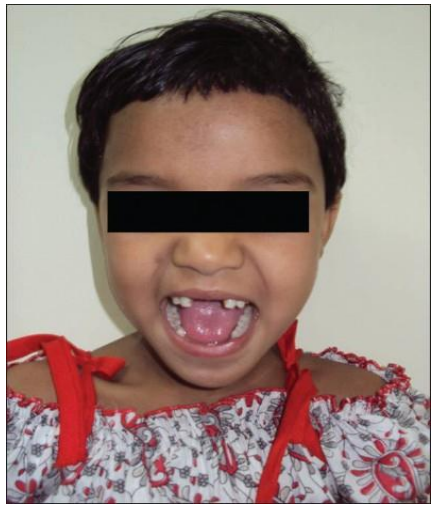
Q1: SELECT THE BEST ADVICE TO PATIENT

- 1) TERMINATE THE PREGNANCY IF LESS THAN 12 WEEKS GESTATION
- 2) TERMINATE THE PREGNANCY IF LESS THAN 20 WEEKS GESTATION
- 3) TERMINATE THE PREGNANCY IF LESS THAN 24 WEEKS GESTATION
- 4) THERE IS NO ROLE OF TERMINATION OF PREGNANCY IN A PREGNANT LADY WITH HYPOTHYROIDISM

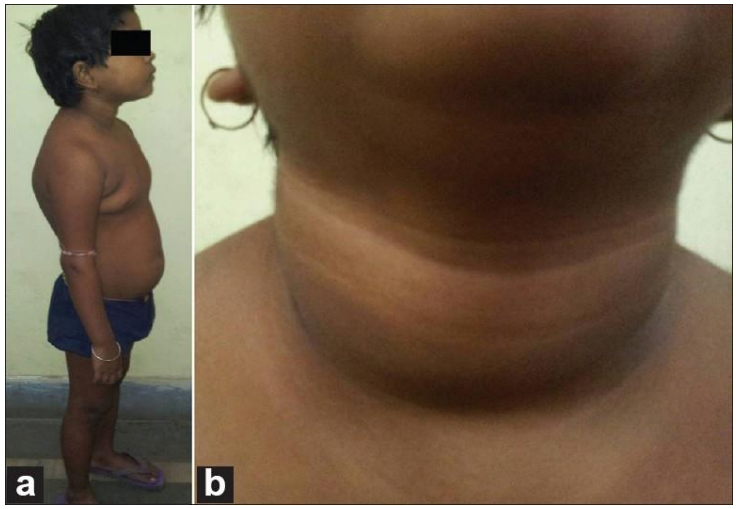
Q2: CHILDREN BORN TO MOTHERS WITH UNCONTROLLED HYPOTHYROIDISM IN PREGNANCY HAVE A MEAN CHANGE IN INTELLIGENCE QUOTIENT (IQ) AS COMPARED TO EUTHYROID MOTHERS

- 1) -25 IQ SCORE
- 2) -15 IQ SCORE
- 3) -5 IQ SCORE
- 4) +5 IQ SCORE

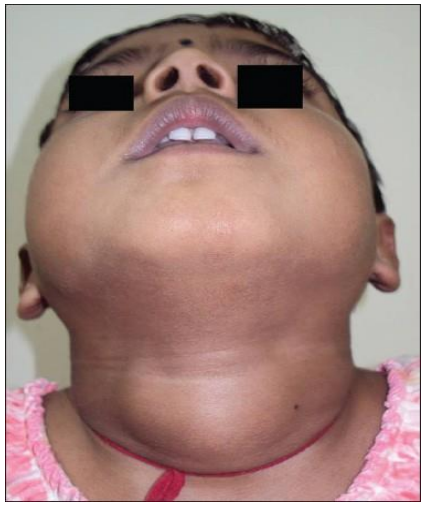
Q3: Case scenarios: Three cases of childhood goiter



5.5/F; Low birth wt
Short stature
Delayed milestones
Grade-Ib goiter
Tachycardia
Mental age: 2 yrs
IQ: 52
Hyperkinetic



9/F; normal milestones
Normal IQ
Short stature
Goiter
Tachycardia
Epistaxis; non palpable purpura
Anemia: 8.6 g/dl)
Low platelets (10000/cc)



8/F; normal milestones
Short stature & goiter 2 years
IQ normal
No tachycardia

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Parameter	Patient-1	Patient-2	Patient-3
Height (percentile)	98 (<3rd)	107 (<3rd)	105cm (<3rd)
Height SDS	-2.38	-3.73	-3.2
Bone age (Greulich and Pyle) (years)	3.5-4	7-7.5	6
Pulse rate (morning; sleeping)	124; 94	120; 90	88; 70
FT3 (pg/ml) (1.5-4.1)	5.6	5.3	3.8
FT4 (ng/dl) (0.8-1.9)	>6	2.26	4.9
TSH (μIU/ml) (0.4-4.5)	1.64	14.6	6.8
Anti-TPO Ab (IU/ml) (N<35)	10	26.3	16
Albumin (mg/dl) (3.5-5.5)	4.2	3.6	4.4
Ferritin (ng/ml) (8.6-72)	42	78	56
SHBG (nM/l) (48-142)	55	98	62
Thyroid scan and uptake (Tc^{99}-pertechnate) (0.24-3.34)	-	Normal (1.8%)	Mildly increased (3.5%)
MRI of brain	Normal	Normal	Normal
Thyroid function in 1° relatives	Normal	Normal	Normal

What can be one unifying/common diagnosis?

Q3: What can be one unifying/common diagnosis?

- 1) PEDIATRIC GRAVES DISEASE
- 2) INBORN ERRORS OF THYROID HORMONE BIOSYNTHESIS
- 3) TSH SECRETING TUMORS
- 4) THYROID HORMONE RESISTANCE

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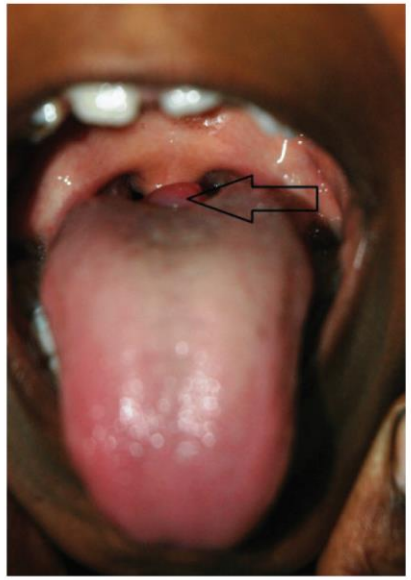
Q4: WHAT IS THE DIAGNOSIS?



igure 1a. Oral examination of Case 1 showing swelling at the base of he tongue (black arrow) suggestive of lingual thyroid

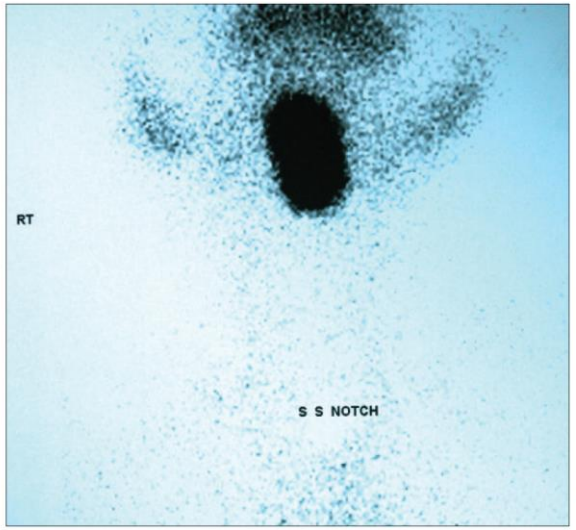


Figure 1b. Sodium pertechnetate scan showed increased ^{99m}Tc uptake at the base of the tongue, consistent with lingual thyroid, without any uptake in the thyroid bed in Case 1

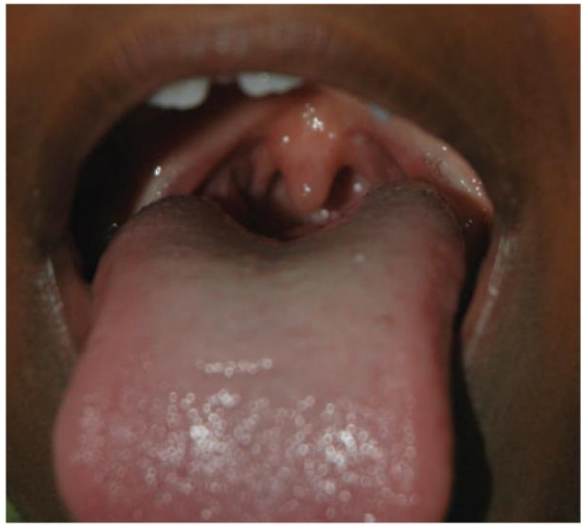


Figure 1c. Significant reduction in the size of lingual thyroid following 1 year of levothyroxine therapy

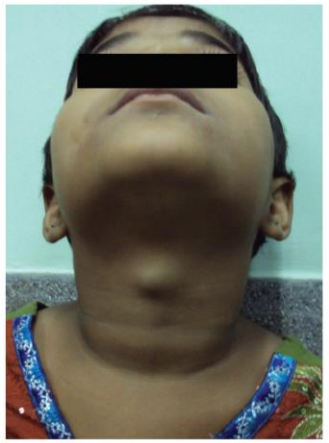


Figure 3a. Midline cystic swelling superior to the thyroid cartilage with tongue protrusion suggestive of thyroglossal cyst in Case 3

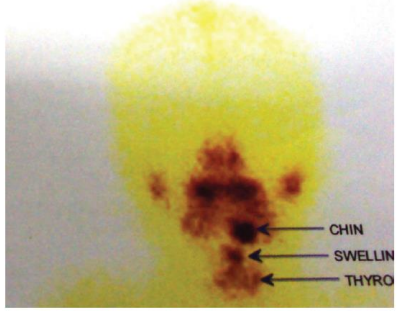


Figure 3b. Sodium pertechnetate scan showed increased ^{99m}Tc uptake in the region of the thyroglossal cyst suggestive of functional thyroid tissue in the cyst, a second area of uptake in the submandibular/chin region along with normal uptake in the thyroid bed suggestive of presence of eutopic thyroid in Case 3

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Q4:What is the diagnosis in the child?

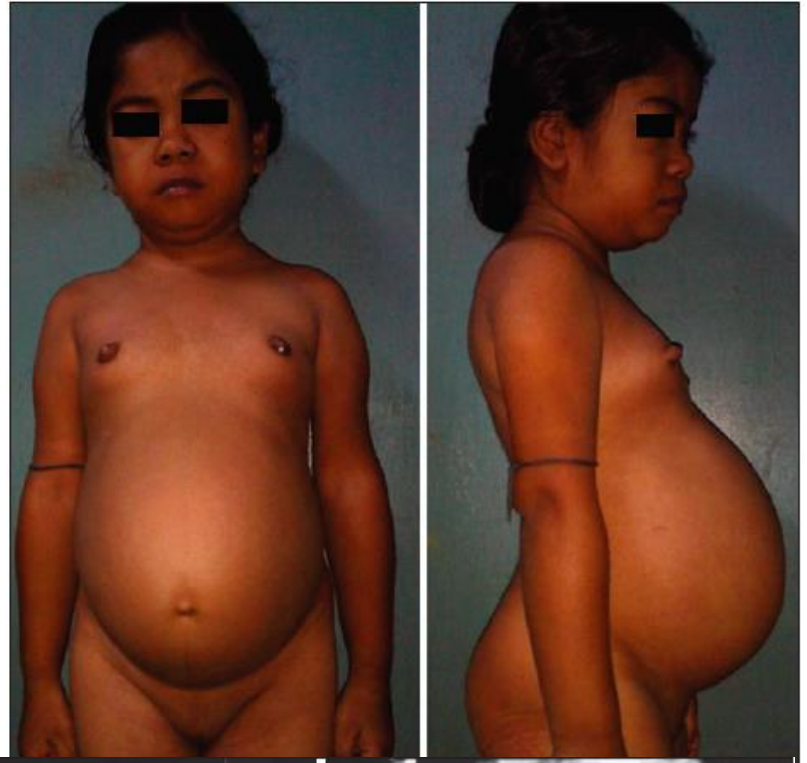
- 1) THYROGLOSSAL CYST
- 2) ECTOPIC RATHKE'S CYST
- 3) METASTATIC PAPILLARY CARCINOMA OF THYROID
- 4) LINGUAL THYROID

Q5: WHAT IS THE DIAGNOSIS?

- 18/F
- Precocious menarche 7.5 yrs age
- Secondary amenorrhea, abdominal pain
- Short stature

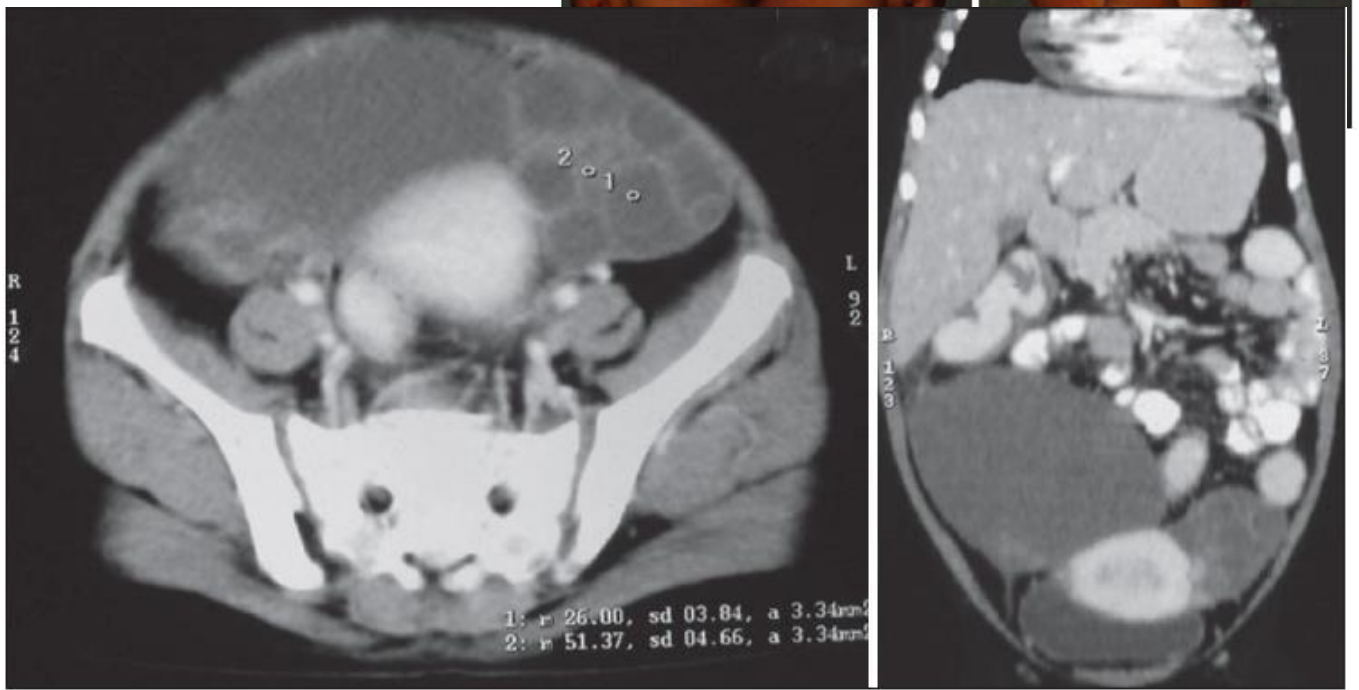
Examination

- **Puffy face/dull; Ht < 5th centile (MPH 50th)**
- **Weight 75th centile**
- **10 cm x 10 cm, firm, non-tender, mobile mass**



Investigation

- Bilateral enlarged ovaries (11.1 cm x 8.0 cm x 6.2 cm; 10.4 cm x 6.8 cm x 5.2 cm)- multicystic masses
- **Elevated CA-125**; LH < 0.1U/L; FSH 1.03U/L; E_2- 70 pg/ml



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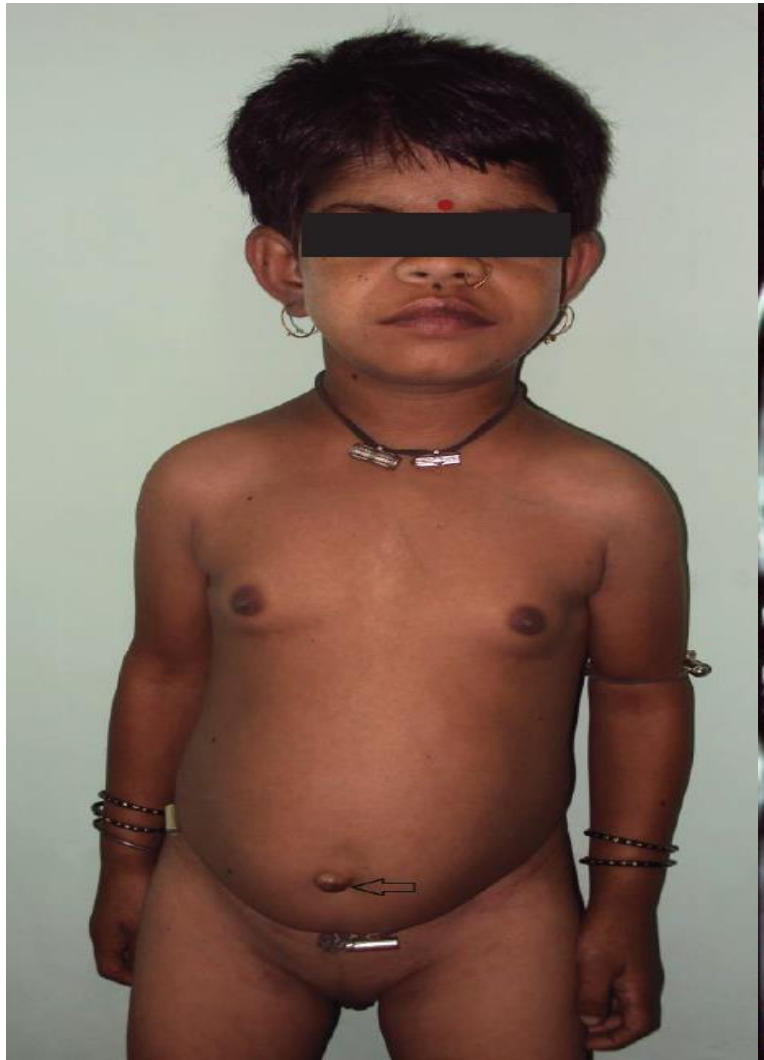
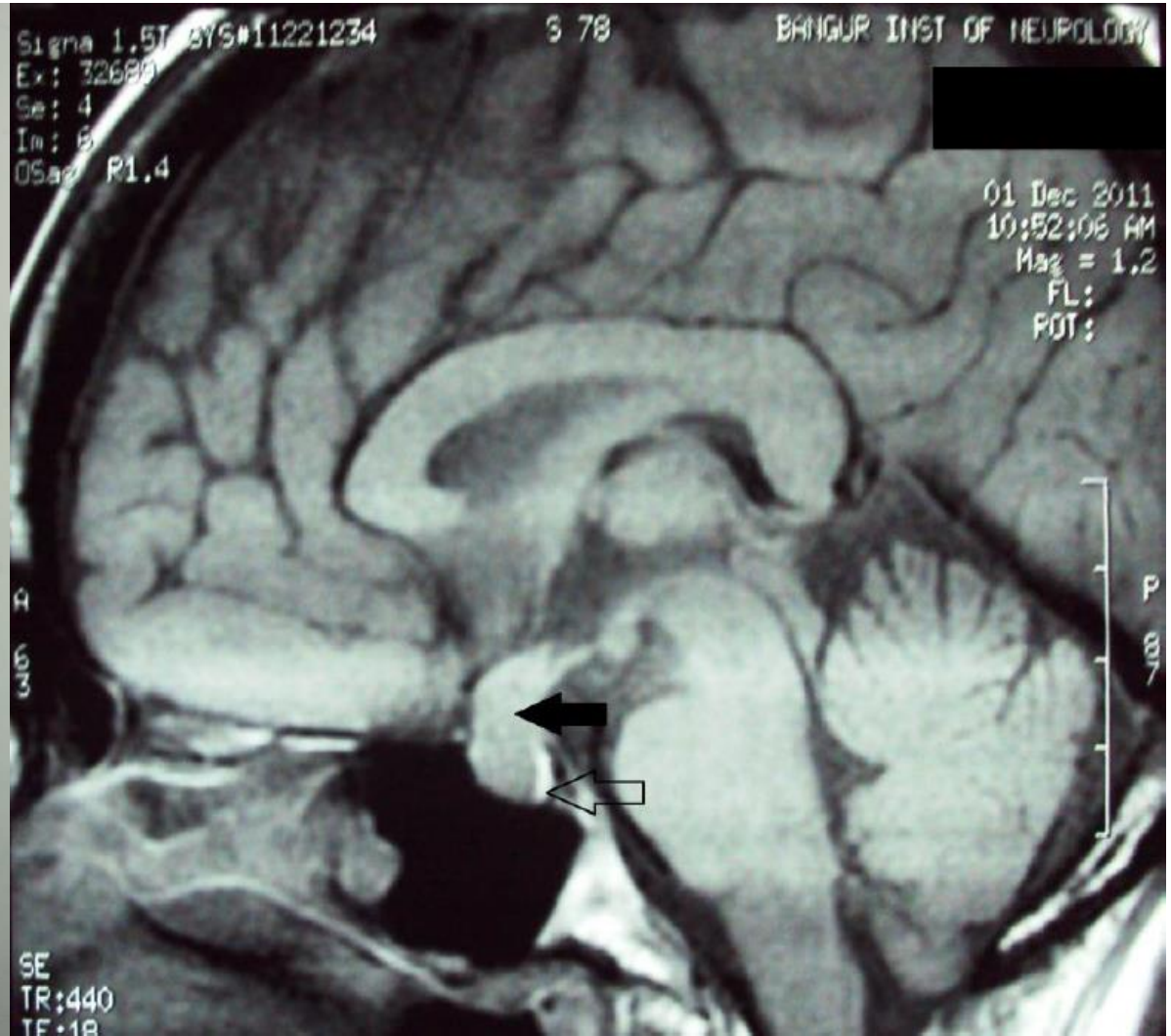
Q5: WHAT IS THE DIAGNOSIS

- 1) GALACTORRHEA DUE TO PROLACTINOMA
- 2) STRUMA OVARI CAUSING PRECOCIOUS PUBERTY
- 3) VAN WYK GRUMBACH SYND
- 4) HYPOTHALAMIC HAMARTOMA WITH MULTIPLE PITUITARY HORMONE DEFICIENCY

Q6: WHAT IS THE DIAGNOSIS ON PITUITARY MRI?





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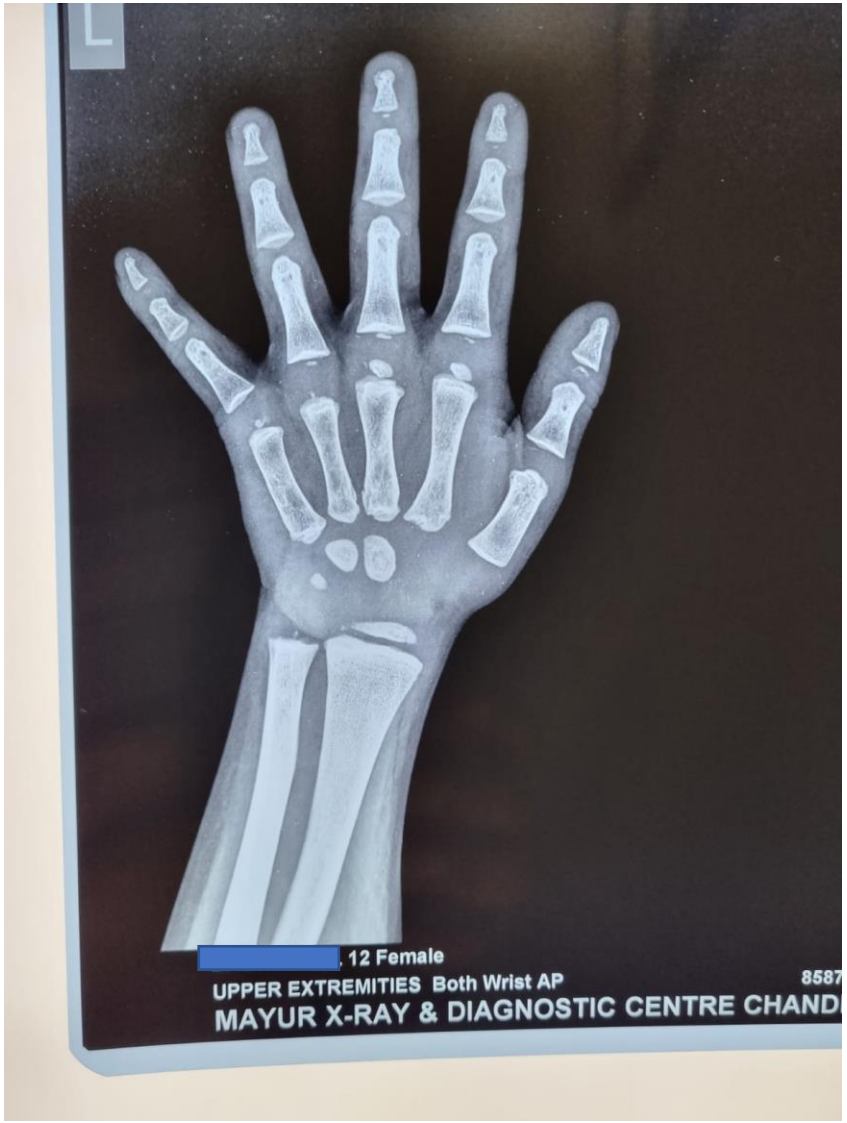
Q6: WHAT IS THE DIAGNOSIS

- 1) CONGENITAL ECTOPIC PITUITARY
- 2) PROLACTINOMA
- 3) FEEDBACK HYPERPLASIA OF PITUITARY
- 4) HYPOTHALAMIC HAMARTOMA CAUSING PRECOCIOUS PUBERTY

Q7: WHAT IS THE DIAGNOSIS IN A GIRL COMING WITH SHORT STATURE?



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Q7: WHAT IS THE DIAGNOSIS IN A GIRL COMING WITH SHORT STATURE?

- 1) TURNER'S SYNDROME
- 2) GROWTH HORMONE DEFICIENCY
- 3) CELIAC'S DISEASE
- 4) PRIMARY HYPOTHYROIDISM

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Q8: HOW MUCH I-131 IS USED IN DIAGNOSTIC THYROID SCANS?

- 1) 15 MICRO-CURIE
- 2) 40 MICRO-CURIE
- 3) 1.5 MILLI-CURIE
- 4) 4 MILLI-CURIE

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THANKS A LOT

CORRECT ANSWERS

- Q1: 4
- Q2: 3
- Q3: 4
- Q4: 4
- Q5: 3
- Q6: 3
- Q7: 4
- Q8: 2