

HYPERTHYROIDISM

↓ clinical manifestations

Thyrotoxicosis

1°

→ Goitre & thyrotoxicosis develops simultaneously

eg. Grave's Disease

→ Neurological manifestations are more.

→ Eye signs Common.

2°

→ Thyrotoxicosis in a long standing Goitre

eg. Toxic MNG.

→ Cardiovascular manifestations are more.

→ Eye signs uncommon.

GRAVE'S DISEASE

→ 20-40 yr

→ F > M (11:1)

→ Autoimmune disorder

Autoantibody = TSH-R Ab

→ Stimulatory (MLC)

- α_a thyroid Stimulatory Immuno-Globulin (TSI)

→ Inhibitory

→ Associated with :- HLA B 8

HLA DR 3

HLA DQA1*501

→ HLA DRB1*701 = Protective for Grave's Disease.

→ Associated with Polymorphism of CTLA-4 Gene.

→ C/f :-

- 1) Heat intolerance
- 2) wt. loss
- 3) ↑ Appetite
- 4) Hyperexcitability / lack of sleep
- 5) Diarrhea
- 6) Amenorrhea
- 7) Tachycardia
- 8) Tremors
- 9) Palpitations
- 10) Sweating
- 11) Proximal muscle weakness
- 12) Gynecomastia
- 13) clubbing (Thyroid Acropachy)
- 14) Pretibial myxedema (↑ Pigmentation & thickening of skin on legs)
- 15) Eye Signs (Grave's ophthalmopathy)



Pre-tibial myxedema

- Exophthalmos (Waffziger Sign)
- Lid retraction (Dalrymple Sign)
- Lid lag (von-Graffe Sign)
- Inability to Converge eye ball (Mobius Sign)
- Staring look / Infrequent blinking (Stellwag Sign)
- Absence of forehead blinking on looking upwards (Joffroy's Sign)



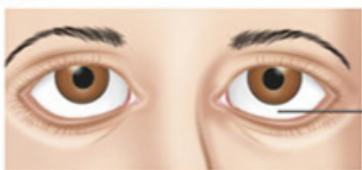
Dalrymple Sign.



von-graffe sign

③ Dalrymple's sign

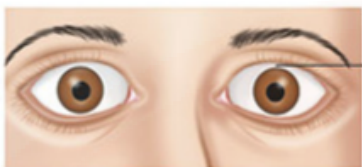
Normal



Upper sclera not visible

Lower sclera visible

Graves' disease



Upper sclera visible

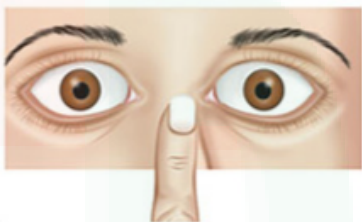
④ Moebius sign

Normal



Convergence of eyeballs

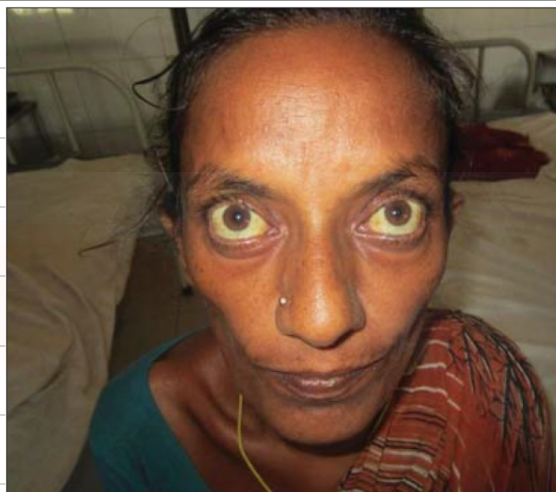
Graves' disease



Failure of convergence

⑤ Stellwag's sign

Absence of normal blinking, i.e. staring look



Joffroy's Sign



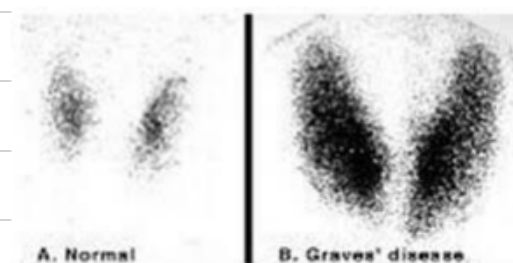
Thyroid Acropathy

wt. loss & muscle wasting

→ Investigations :-

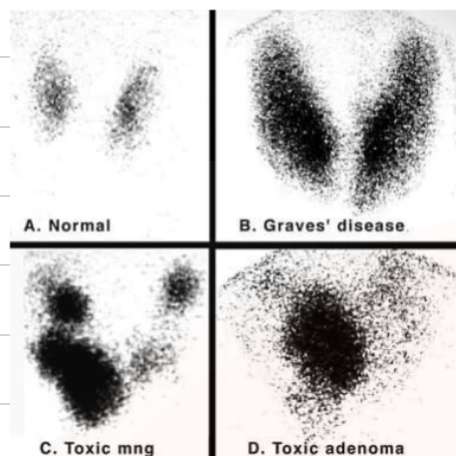
- 1) ↓↓ TSH, ↑ T₃/T₄
- 2) RAIU (Radioactive I₂ uptake)
 - ↳ I¹²³ / I¹³¹

normal uptake = 15-30 %
 ↑↑ uptake = Grave's



A. Normal

B. Graves' disease



↓↓ uptake = Hashimoto's thyroiditis

3) Anti-TSH R Ab in Serum (TRAb)

4) USG.

↳ enlargement of thyroid
↳ ↑ vascularity

→ Treatment :-

Antithyroid drugs

- Carbimazole
- Methimazole
- Propylthiouracil (PTU)
- ↳ DOC in 1st trimester

⊕

β-blockers
(Propranolol, Nadolol)

• Advantages :

- 1) no permanent Hypothyroidism
- 2) No Risk of Radiation / Sx.

• Disadvantages :

- 1) long Duration (1-2 yrs)
- 2) Recurrence
- 3) S/E of drugs.

RAI

Ablation

→ I^{131} : 5-12 mCi

↓ oral

α & β rays

↓

Destroys thyroid tissue.

• Advantages :-

- 1) 1-2 doses
- 2) Early

Euthyroid status

• Disadvantages :-

- 1) Permanent Hypothyroidism
- 2) Radiation

• Absolute C/I :-

- 1) Pregnancy
- 2) lactation.

• Relative C/I :-

- 1) children
- 2) severe eye signs
- 3) Arrhythmias

Sx

(Total thyroidectomy)

• Indications :-

- 1) Pt. Preference
- 2) Compressive symptoms
- 3) features s/o Cancer
- 4) Preg. Pt. with failure of medical management.

• Disadvantages :-

- 1) Permanent Hypothyroidism
- 2) Risks of Sx.

→ Preparation of Surgery :-

- 1) Anti-thyroid drugs (4-6 wk Prior to Sx)
- 2) β -blockers (2-3 wks prior to Sx)
- 3) Lugol's Iodine (10-14 days prior to Sx)
(KI)

THYROIDITIS

→ Chronic Lymphocytic Thyroiditis :-



① Hashimoto's thyroiditis (M/C)

↳ Cause = Autoimmune disorder

- Anti-TPO (90% Pts.)
- Anti-Tg
- Anti-TSH-R } (60% Pts.)
- Anti Na-I Symporter (25% Pts.)

→ associated with HLA B8
HLA DR3
HLA DR5

→ Hyperthyroidism → Euthyroidism → Hypothyroidism.

→ FNAC = lymphocytic infiltration

→ Rx = 1) oral thyroxine (if TSH >10)
2) Surgery

↳ if compressive symptoms ⊕
↳ features suggestive of Ca

② Post-Partum Thyroiditis :- Self Resolving.

→ Same as Hashimoto's. but without Autoantibodies

→ De-Quervain's Thyroiditis :- (subacute / Granulomatous thyroiditis)

→ Associated with HLA B35

→ Cause :- ① Infection

↳ viral (upper Respiratory tract)

↳ influenza

↳ mumps

↳ EBV

↳ Adenovirus

→ Hyperthyroid → Euthyroid → Hypothyroid → Euthyroid

→ Painful & tender thyroid Swelling

→ Fever ④

→ ESR ↑

→ FNAC :- Non-epitheloid Granuloma

→ (Rx) :- Resolve Spontaneously.

Symptomatic Rx :- Aspirin / steroids

→ Reidel's thyroiditis :-

→ unknown Etiology (?? Autoimmune)

→ Thyroid parenchyma replaced by fibrous tissue.

→ Associated with :-

- Retroperitoneal fibrosis

- Retroorbital fibrosis

- Mediastinal fibrosis

- sclerosing cholangitis.

→ very Hard thyroid gland. (Stony / Woody thyroid)

→ Hypothyroid Patient

→ (Rx) : 1) Steroids

2) Tamoxifen

3) Mycophenolate Mofetil

4) Thyroxine

5) Surgery

↳ if fibrosis infiltrates locally.

→ Acute Suppurative thyroiditis :-

→ very Rare

→ Seen in children.

→ due to bacterial infections

↳ staph. aureus
↳ streptococcus
↳ Anaerobs

→ Cf :- 1) Pain

2) Tender thyroid

3) Fever

4) ↑ WBCs

→ Route of infection :-

1) Direct (Trauma)

2) Hematogenous

3) Persistent Pyxiiform Sinus

↳ Communication b/w
oropharynx and thyroid.

↳ 4th branchial Arch Anomaly.

→ (Rx) :- i/v Antibiotics