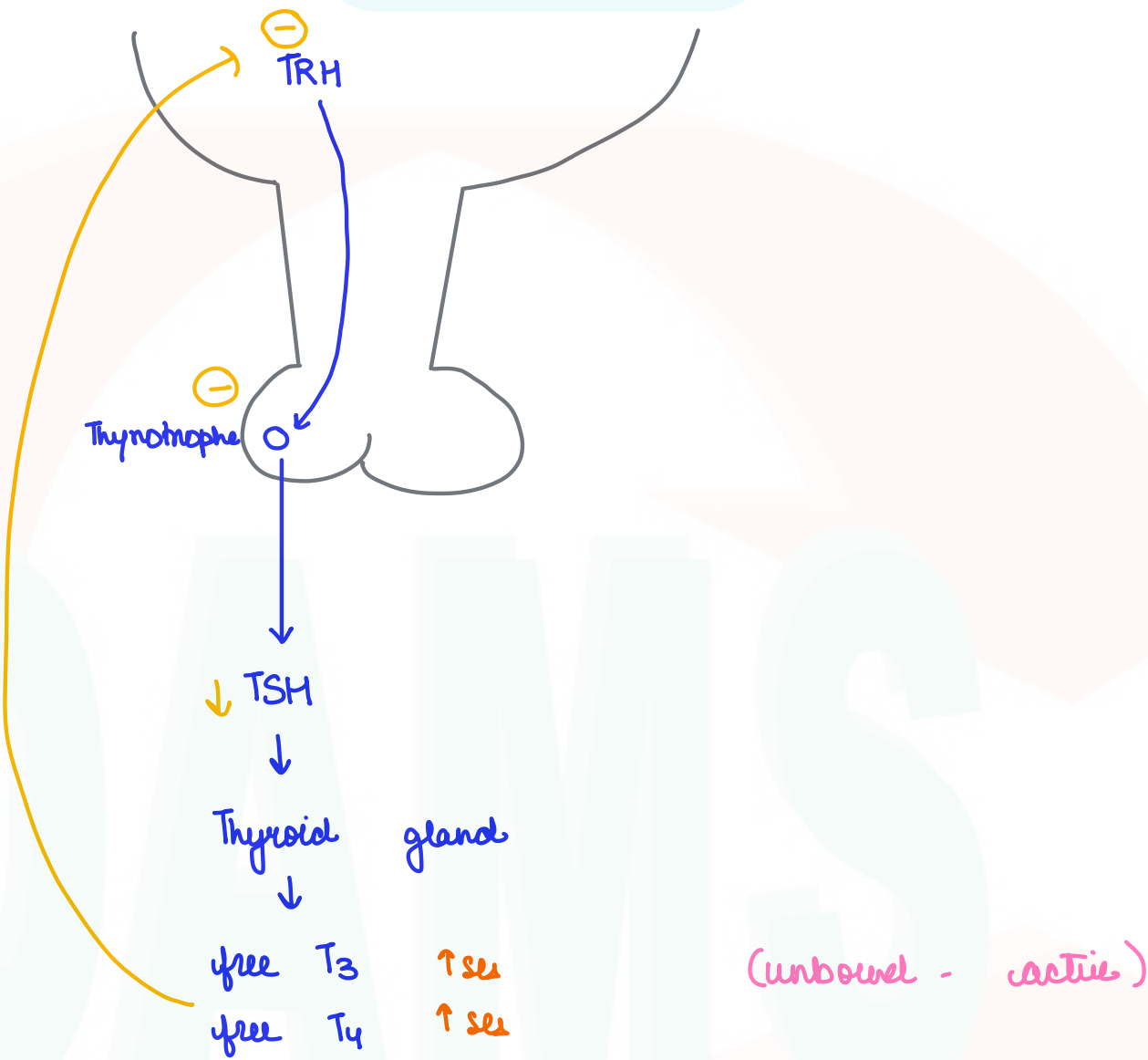
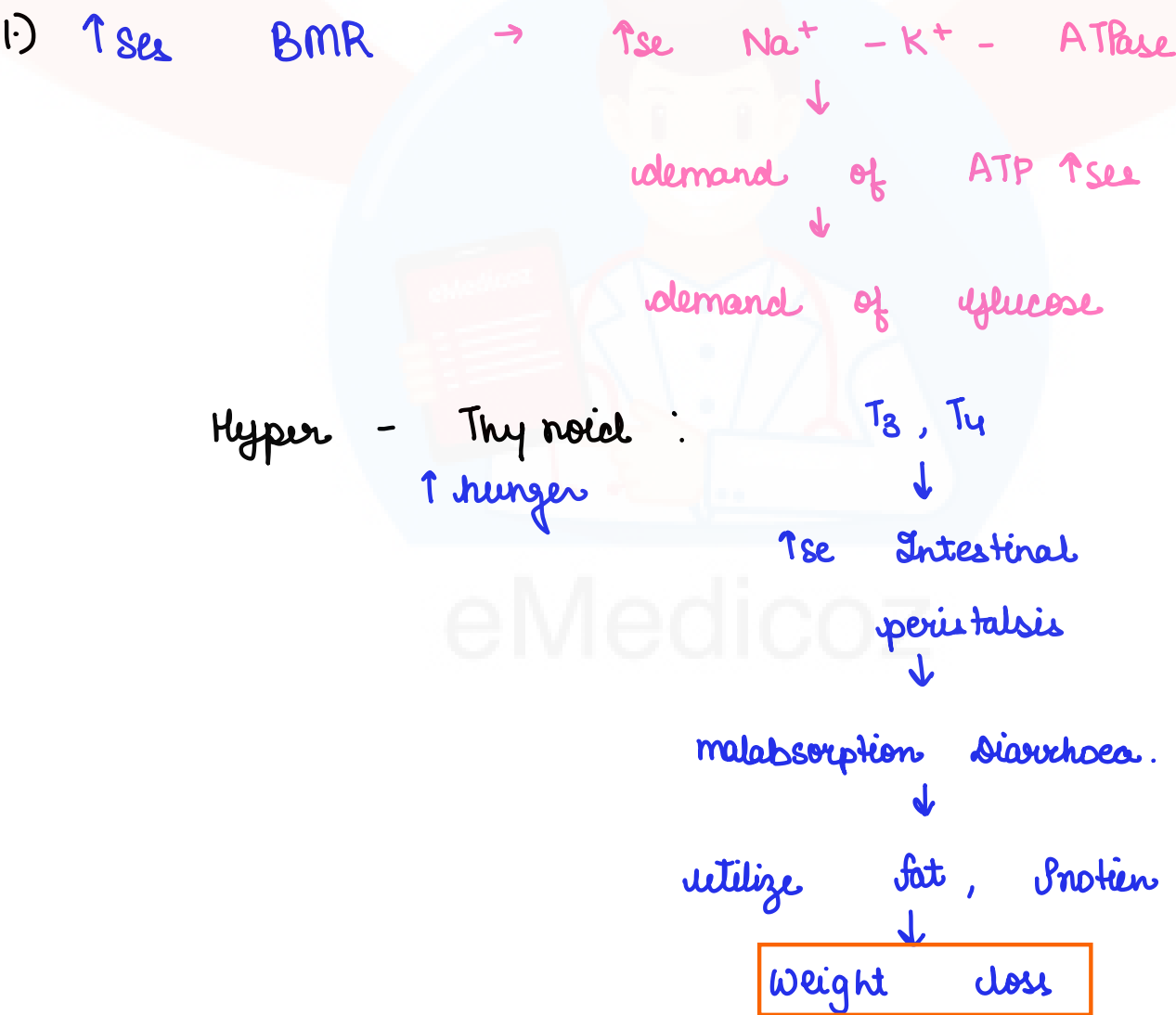


THYROID



∴ normal actions →



Hypo-thyr. ∴

- ↓ hunger
- constipation
- weight gain

2) ↑ heat production
↓
↑ core temp^r of body.

Hyper-Thyroidism →

- Intolerant to heat
- peripheral vaso-dilation
- ↓ DBP.

Hypo-Thyroidism →

- Intolerant to cold.
- Peripheral vaso-constrⁿ
- ↑ DBP.

3) $T_3, T_4 \rightarrow \beta_1 \text{ receptors } (+) \rightarrow \text{on heart} \rightarrow \text{HR} \uparrow$

$$\text{HR} \times \text{SV} = \text{C.O.}$$

Hyper →

Tachycardia
Palpitations
Atrial fibrillation
↑ C.O.
↑ S.B.P.

Hypo →

Bradycardia
↓ C.O.
↓ S.B.P.

4.) Brain →

stimulate adrenergic R.
in brain

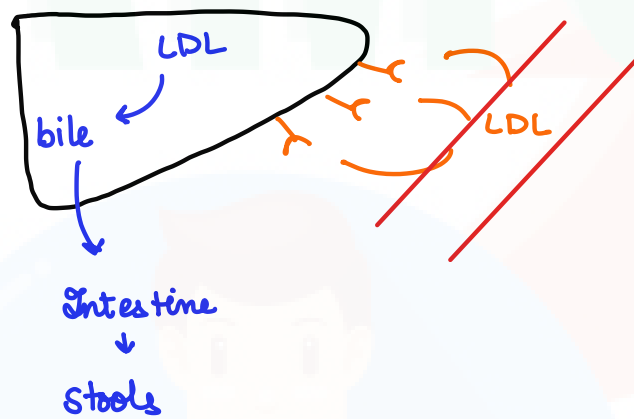
Hyper-T. :-

anxious
Insomnia
restlessness

Hypo-T. :-

depression
Excessive sleep

5.) liver →
↑ LDL receptors



Hyper-T → Sr. cholesterol ↓↓

Hypo-T → ↑ Se Sr. cholesterol

high risk of → IHD
→ stroke.

Diagnosis	TSH	free T ₃ / T ₄
1° - Hypo - thyroidism	↑	↓
2° - Hypo - thyroidism	↓	↓
1° - hyper - thyroidism	↓	↑
2° - hyper - thyroidism	↑	↑

1° - Hypo - thyroidism

∴ Causes →

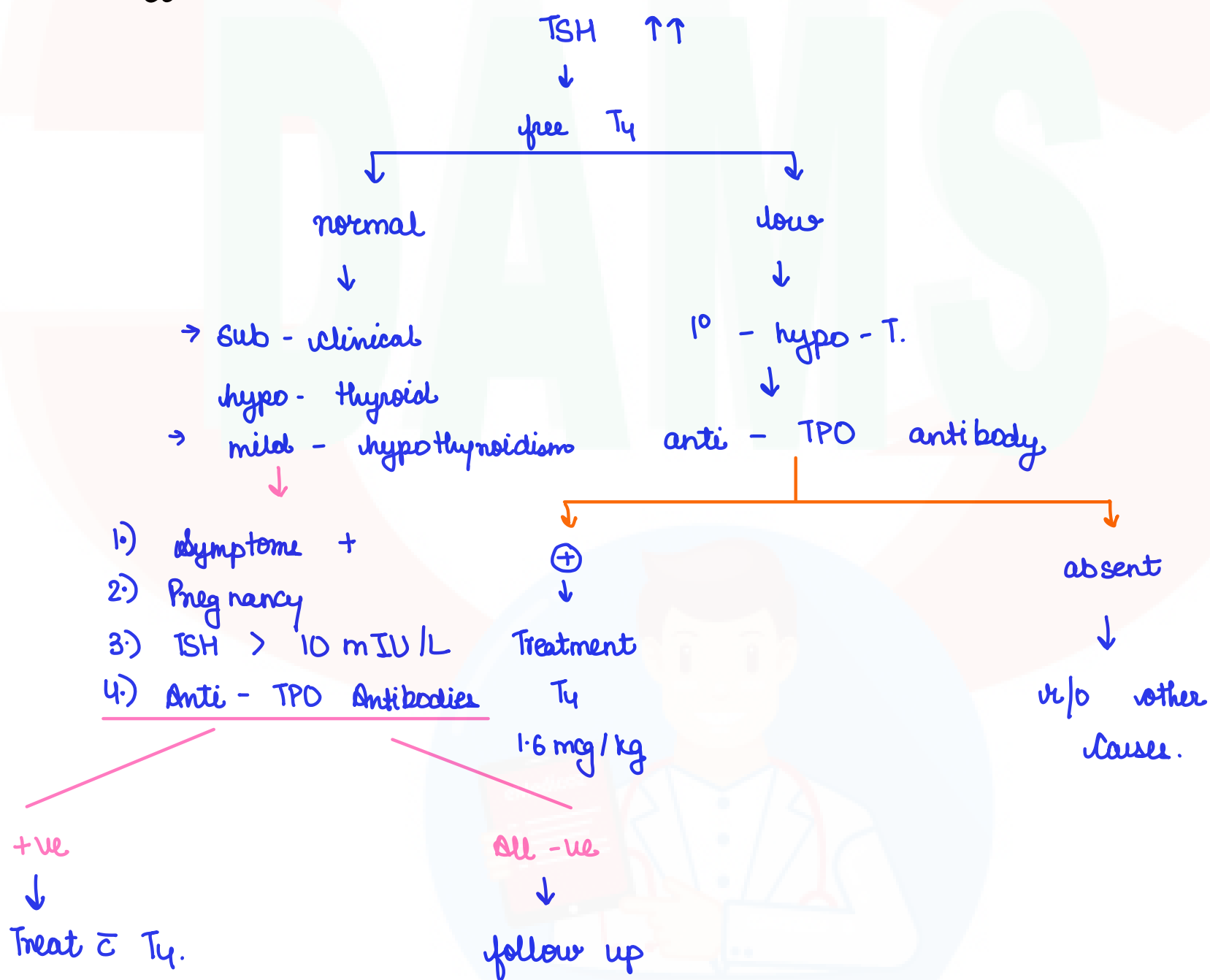
- Auto - Immune → Hashimoto's thyroiditis.
- Iatrogenic → I₁₃₁ treatment
Total or Subtotal thyroidectomy
- Drugs → Anti - thyroid drugs
lithium
p - amino - salicylic acid
Interferon - α
amino glutethimide
Tyrosine kinase ⊖ (Sunitinib)
- Congenital → Ectopic / absent Thyroid gland
TSH - R mutation

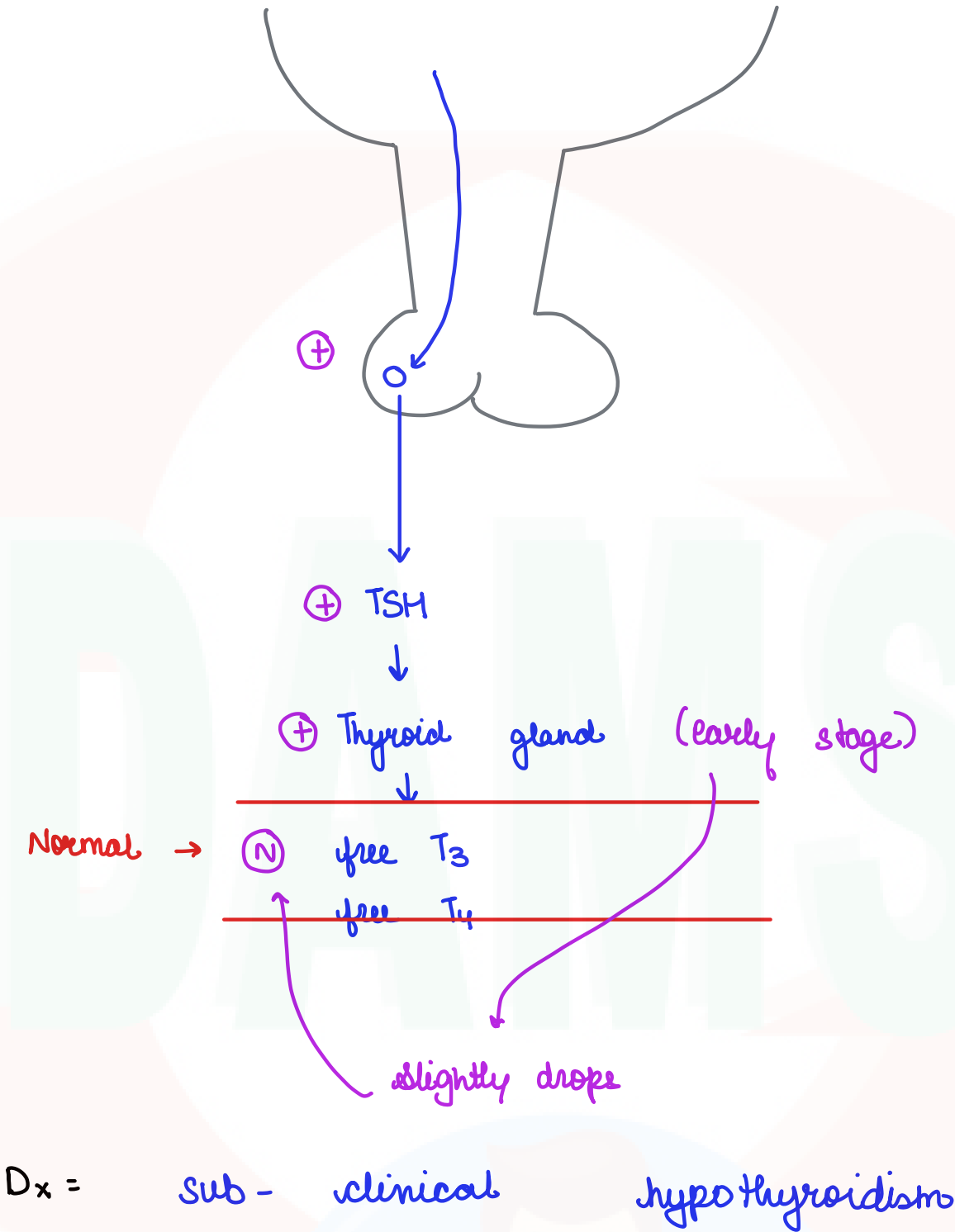
Iodine deficiency

Infiltrative disorder

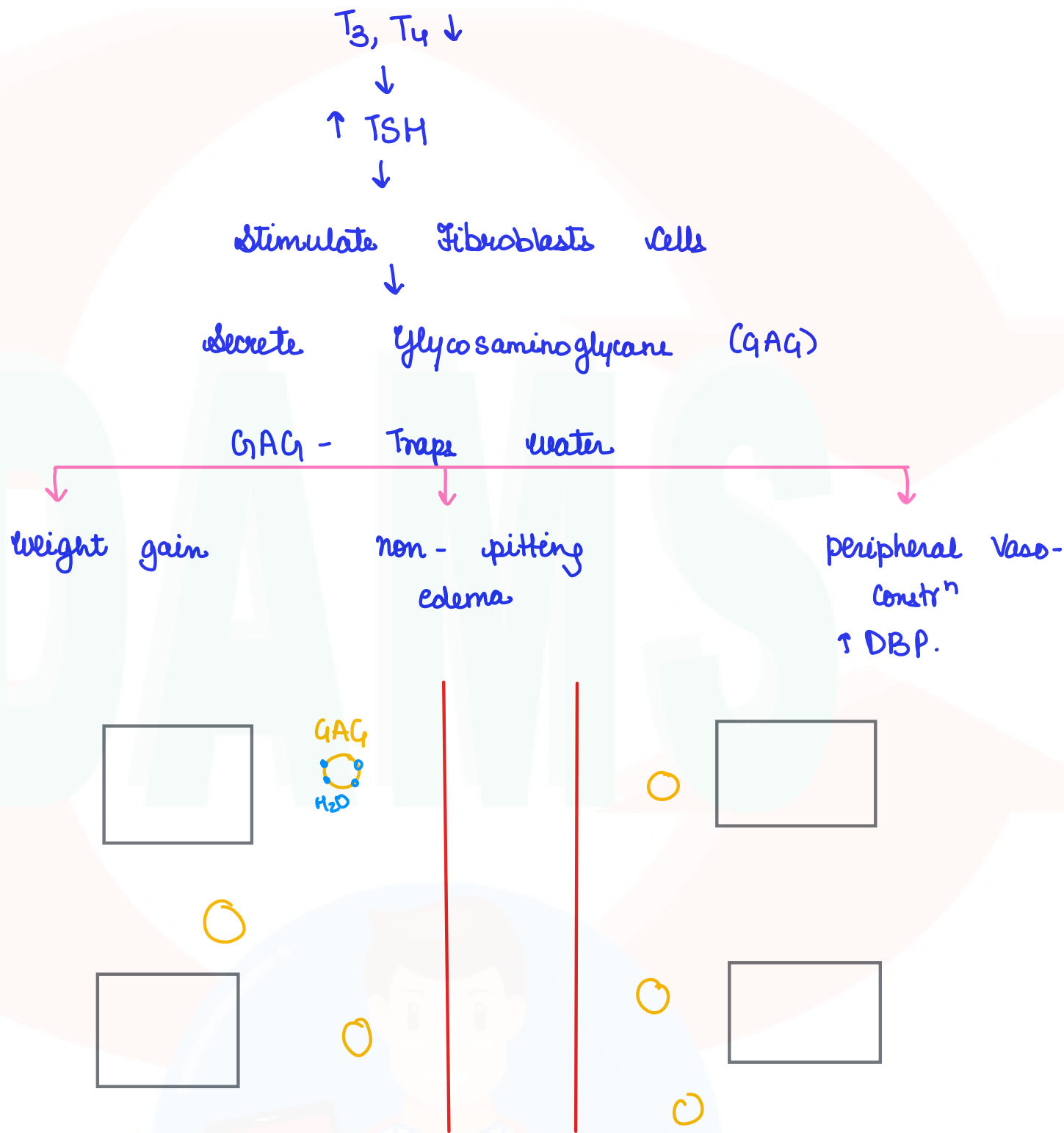
- Amyloidosis
Sarcoidosis
hemachromatosis
Scleroderma
Riedel's hypothesis
(IgG4)

∴ Evaluation →





Myxedema



⇒ Myxedema causes →

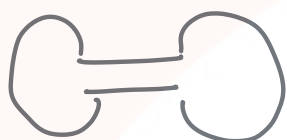
severe ↓ sed hypothyroidism ↓ seizure
level of consciousness

∴ T/t → i/v levothyroxine

Temp. < 30°C
↓
External warming

Primary - hyperthyroidism

1) Grave's dz.



TSH receptor



antibodies stimulating

2) Toxic

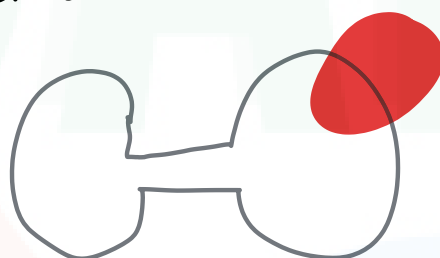
multi-nodular

Goitre



3) Toxic

Adenoma



∴ C/F →

Insomnia

Palpitations

Proptosis

Skin rashes

Weight loss

Diarrhoea

Grave's dz. specific

Ab. → Retro-orb.

Space

↓
Ophthalmopathy

↓
dermopathy.

Possible Dx = Grave's dz.

• SIGNS AND SYMPTOMS OF THYROTOXICOSIS IN DESC. ORDER OF FREQUENCY:

Symptoms

Hyperactivity, Irritability, Dysphoria

Signs

Tachycardia and fibrillation in the Elderly.

Tremor
Croiter
warm, moist skin
muscle weakness
lfd Retraction

Palpitations

Fatigue and weakness
Wt. loss $\bar{c}$ Tsed appetite

Diarrhoea

Polymers

∴ Evaluation of Thyrotoxicosis →

TSM

free τ_3

free T_4

TSH ↓↓

T₄ ↑↑

Primary Thyrotoxicosis

Grave 's

$$\text{MNC}_1$$

Toxic - adenoma.

TSM ↓↓

T_4 - normal



free T_3

high

2

Sub-clinical
hyper-thyroidism



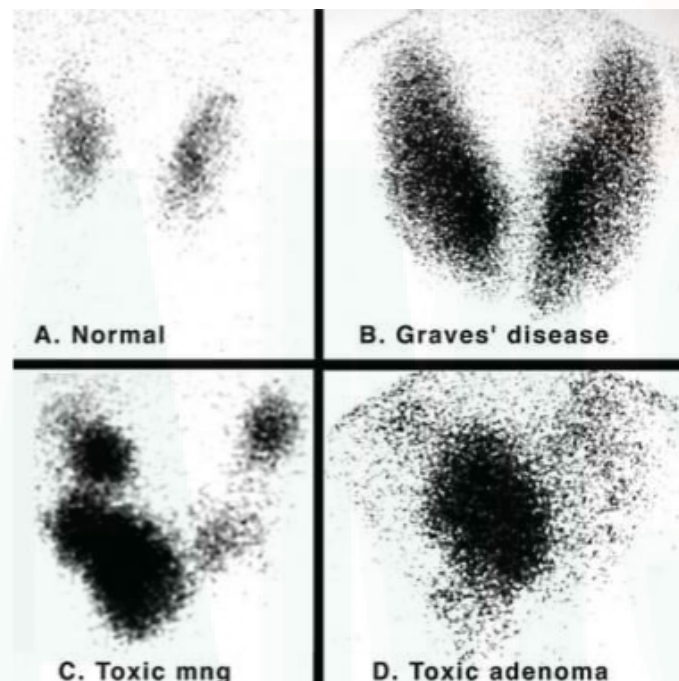
Follow - up.

Thyroid Scan
Radioisotopes
of Iodine
(123 , 125 , 131)
and Tc^{99m}
Pertechnetate

GRAVE'S
homogenous
distribution

MNG
heterogenous
uptake $\bar{c}$
multiple
regions of
↑sed and
↓sed uptake

Toxic ADENOMA
Focal uptake
In hyperfunct.
nodule &
diminished
uptake in
remainder of gland



∴ Management →

GRAVE'S

- Antithyroid drugs
 - PROPYLTHIOURACIL
 - CARBIMAZOLE
 - METHIMAZOLE
- Propranolol
- Radio Iodine
- Sub-total or near-total Thyroidectomy

MNG

- Antithyroid drugs
- Radio Iodine → T/t DC.
- Surgery → provides definitive T/t of underlying Thyrotoxicosis as well as goiter

Toxic Adenoma

- Antithyr. drugs
- Radioactive → T/t of choice.
- Sx Resecⁿ or lobectomy.

• Pregnancy and Thyroid →

Increased TBG
low free T₃ & free T₄.
Increased TSH.

Grave's Dis. & Pregnancy →

Propylthiouracil

Carbimazole

&

methimazole

a/c

fetal

aplasia cutis

and

choanal

atresia.

TSH Goal In Pregnancy →

normal

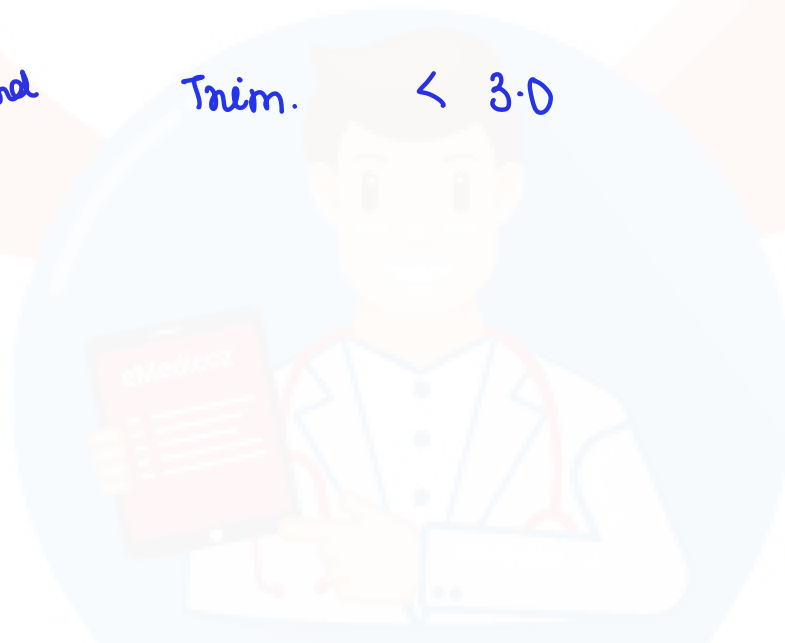
TSH - 0.4 to 4 mIU/L

1st

Trimester < 2.5

2nd

Trim. < 3.0



eMedicoz

Thyrototoxic crisis / Thyroid storm

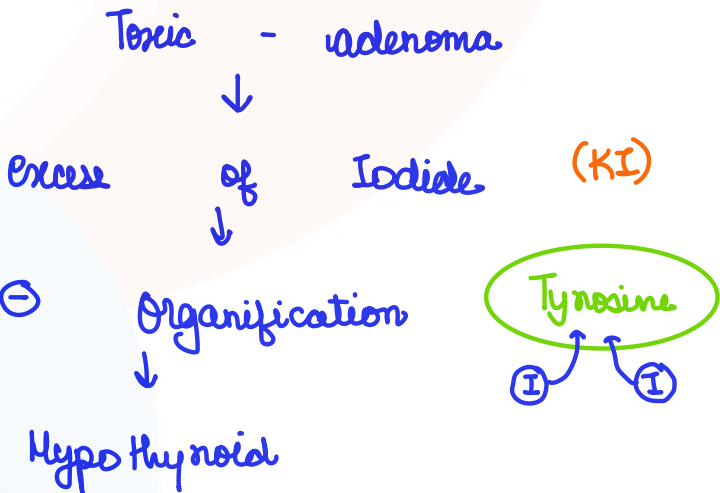
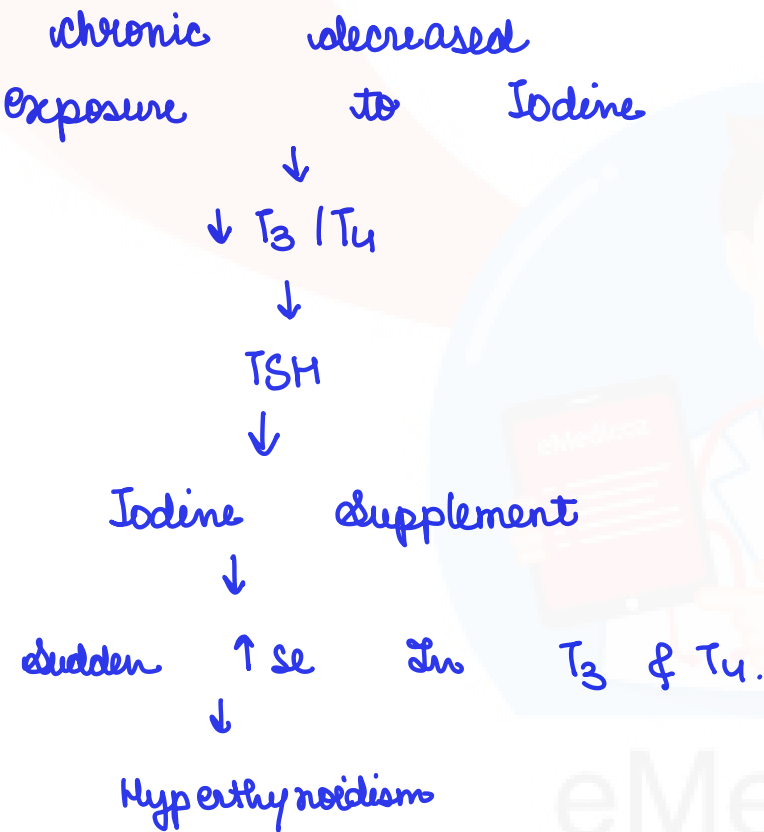
life threatening by exacerbation of hyperthyroidism
unaccompanied by fever delirium seizures coma

T/t >

Propylthiouracil
KI
β-Blockers

JOD - BASEDOW

WOLF - CHALKOFF



Sick - Euthyroid - Syndrome

→ acute thyroid underlying severe hormone thyroid illness levels dis. can be because cause the abnormal absence of IL-6.

IL-6 → Inhibits 5' - monode - Iodinease

