

Oral medicine Lec. 2

- Anterior pituitary \xrightarrow{TSH} Thyroid gland $\rightarrow T_3 \text{ \& } T_4$

- Thyroid hormones (T_3, T_4) \rightarrow control basal metabolic rate.
تتحكم الهرمونات الغدية في معدل الأيض الأساسي

- Hyperthyroidism may be either

1 Grave's disease
(auto-immune)

exophthalmus
, diffuse enlargement of thyroid gland (Goiter).

2 Nodular enlargement
(Goiter)

isthmus, or lateral lobe enlargement
 \rightarrow exophthalmus \rightarrow تورم العينين

- Hypothyroidism

1 Cretinism

\rightarrow due to \downarrow thyroid hormones at childhood.

\rightarrow Puffy eyes, ~~skin~~ sparse hair, mental retardation, micrognathia, macroglossia.

2 myx edema

\rightarrow due to \downarrow thyroid hormones at adulthood.

\rightarrow low expressions, dry skin, anaemia, weight gain
 \rightarrow females $>$ males.

- Etiology of hypothyroidism-

1 anti-thyroid drugs

2 congenital missing thyroid gland.

3 auto-immune disease.

Case 1 :- patient came to the clinic suffering from :- (clinical manifestations) of hyperthyroidism:-

- slender
- warm, moist skin
- ~~body~~ jaw & joints pain.
- exophthalmus
- intolerance to hot weather.
- rapid pulse. &
- fatigue, irritability & nervousness
- Goiter

Oral manifestations :-

- early shedding of deciduous teeth
- early eruption of permanent "
- osteoporosis (due to \uparrow osteoclastic activity)
- jaw pain.

① Injecting LA with adrenaline causes thyroid crisis & :-

- ↑ heart rate
- ↑ respiratory rate
- sweating
- difficult breathing
- shaking
- confusion
- loss of consciousness

② Why does crisis occur when injecting LA with adrenaline?

- due to sympathetic stimulation, which is triggered by adrenergic receptors which are sensitive to adrenaline.

③ crisis starts by : nausea, vomiting, fever, profuse sweating, tremors, tachycardia
(exacerbation of crisis)

⊕ hypotension

↳ (usually in most patients undergoing crisis ⊕ faints)

④ Causes of crisis :- ① severe untreated hyperthyroidism

② stress (surgery, trauma)

③ LA with adrenaline.

⑤ Management :-

⑥ avoided by proper history and LA without adrenaline.

① 200 mg hydrocortisone (IV) (life saving as it ↑ blood pressure)

② glucose

③ cold packs

⑦ Side effects of antithyroid drugs :-

↳ Agranulocytosis → causes oral ulcerations.

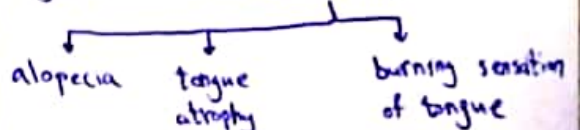
⑧ Case ② :- pt. came to clinic showing :- (clinical manifestations of hypothyroidism (myxedema)) :-

- obese
- scanty hair & alopecia
- pale, cold & dry skin
- intolerance to cold weather
- history :- thyroidectomy & no drug replacement.

⑨ Orally :- - macroglossia
- tongue atrophy
- burning sensation of the tongue
- enlarged salivary glands.
- missing teeth

N.B :-

Myxedema $\xrightarrow{\text{causes}}$ anaemia



① Manifestations of hypothyroidism crisis:-

- hypotension
- bradycardia
- hypothermia
- convulsions

② Causes of crisis: infection, trauma, GA.

③ Management:

- ① call the ambulance for hospitalization
- ② hydrocortisone 200 mg (IV)

④ Dental management of thyroid disorders:-

- ① Detect type of disorder (hypo/hyper)
- ② If uncontrolled → consultation.
- ③ Ask for TSH count in controlled patients
- ④ Use LA with EP with caution (Better avoid)
- ⑤ stress reduction, early appointments.
- ⑥ After the procedure:-
 - Avoid Aspirin? as it has adverse reaction with thyroid hormones $\rightarrow \uparrow T_3, T_4$.

⑤ Parathyroid glands ~~are~~ ^{affect}:- ① Bone, ② kidney, ③ GIT.

normal Ca^{++} level \rightarrow 9-11 mg/dl

⑥ Hyperparathyroidism effect on:-

- ① Bone: remodeling (efflux of Ca^{++} from bone to blood)
- ② kidney: reabsorption of Ca^{++} from urine
- ③ GIT: ~ ~ ~ food in GIT (by converting inactive vit. D into active form)

So, from ①, ② & ③ $\rightarrow Ca^{++}$ level is increased in blood above normal.

⑦ Causes: Adenoma of parathyroid gland.

⑧ Case ②: pt. case suffering from:- (clinical manifestations of hyper^{para}thyroidism):-

- Anorexia, vomiting, nausea, stomach pain, constipation, peptic ulcer. (GIT problems)
- Blood in urine (due renal stones formation that hurts ureter) + renal colic, hypertension & failure. (Renal problems) \rightarrow HT \rightarrow dialysis
- generalized bone pain with continuous pathological fracture. (bone problems)

⑨ orally:-

- ① Spacing between teeth
- ② Loosness of teeth (floating teeth)
- ③ wide PDL space
- ④ Loss of lamina dura
- ⑤ wide pulp chamber
- ⑥ osteoporosis & jaw fragility.

② Case ③ :- pregnant patient - suffers from:-

① Hypoparathyroidism:-

- Causes:-

① Accidental surgical removal.

② Candaial syndrome (systemic candidiasis accompanies hypoparathyroidism)

③ Di syndrome (auto-immune disease).

② Case ④ :- pt. suffers from (clinical manifestations of hypoparathyroidism):-

- Insomnia.

- muscle cramps.

- history of muscle twitching.

② Orally:-

① Numbness of lip.

② Tongue paraesthesia

③ multiple discolored teeth & enamel hypoplasia.

④ delayed eruption

⑤ Short roots

⑥ open apices

⑦ wide pulp chamber

- When Ca^{++} level is $< 7 \rightarrow$ tetany

① Early tetany \rightarrow numbness of lips, tongue & hands.

② mild \rightarrow Chvostek's sign (on tapping on facial nerve \rightarrow muscle twitching).

③ Severe \rightarrow Carpal pedal spasm (when pressure cuff is inflated) & may reach laryngeal spasm & stridor. [Trousseau's sign]

- Precautions:-

on measuring blood pressure \rightarrow Carpal pedal spasm & convulsions.

- management:-

10-30 mg Ca lactate (IV)

② Pregnancy:-

- Precautions:-

① Drugs \rightarrow Penicillin \rightarrow safe
 \rightarrow Aspirin & tetracycline \rightarrow unsafe.

② Lead aprons during x-ray exposure.

③ 2nd trimester is the safest

④ gestational diabetes (as estrogen & Progesterone block insulin action)

⑤ Pregnancy tumor (epulis)

⑥ \uparrow Possibility of periodontal diseases
(So, give oral hygiene instructions)

⑦ The patient faints if placed in supine position
(Supine hypotension syndrome)

④

- Case ③: pregnant patient - suffers from:
- gingival inflammation, bleeding & enlargement (apulis)
 - ulcerations (due to iron & folic acid deficiency) → give supplements after consulting specialist.
 - Melasma (as hormones stimulate melanocyte stimulating hormone → ↑ pigmentation).
↳ reversible after delivery.

④ E Colicma (due to contraceptive pills)

→ Precautions:

- ① LA with adrenaline → hypoxia & uterine contraction.
- ② GA → respiratory depression.
- ③ Paracetamol is better than aspirin.
(safe)
- ④ Supine hypotension Syndrome (occurs in late pregnancy) :-

→ when pregnant sits in supine position → pressure of uterus (fetus) on posterior vena cava
↳ lowers venous return
- So, make her sit on her right or left side.

⊛ Diabetes

- Types:

type I	type II
- Pancreas defect (auto-immune)	- resistance of receptors
- Juvenile	- adult
- less prevalent	- more prevalent 90-95%

⊛ Gestational diabetes → in pregnant.

- Symptoms of diabetes → Polydipsia, Polyphagia & Polyuria.

- Orally:-

- ① Recurrent infections, multiple abscesses, PD diseases, & poor wound healing.
- ② xerostomia, atrophy of filiform, burning tongue.
- ③ ↑ Caries rate
- ④ Odontalgia (Pain without definitive cause)
- ⑤ enlarged salivary glands

⊛ Grinspan syndrome → Diabetes, hypertension & lichenoid reaction.

⊛ Diabetes manifestations are due to:

- ① hyperglycemia.
- ② ketoacidosis.
- ③ vascular wall disease.
- ④ hyperlipitemia.
- ⑤ AGEs

⊕ Tests

- Fasting blood glucose [$n < 100 \text{ mg}$ / Diabetic = > 126]
- Post prandial [$n < 140$ / " = > 200]
- Random [$n < 200$ / - = > 200]

⊕ Glycosylated Hb1:

- accurate test.
- measures glucose level through last 3 months.
- if $< 7\%$ → normal
- if $7-9\%$ → controlled.
- " $> 10\%$ → uncontrolled.

⊕ Urinary glucose → true when glucose in serum > 180

⊕ Dextrostix → detect glucose in blood.

⊕ Clinistix → " " " urine.

⊕ Oral glucose tolerance test

- accurate but exhausting to the patient.
- 1- fasting blood glucose is taken.
- 2- give 75g glucose orally, then measure glucose level every 1/2 hour for 2-3 hours

⊕ Management:

→ Uncontrolled → refer to physician.

→ Controlled → check that his drugs were taken & meal was eaten.
↳ short, morning appointments

→ if massive infection → hospitalization & antibiotic coverage.

→ if moderate - → ~~antibiotic~~ prophylactic antibiotics.

⊕ Symptoms of hypoglycemia:

- irritable, pallor & lack of co-ordination.

⊕ Symptoms of hyperglycemia:

- dry mouth, weakness, headache, blurred vision.

⊕ hypoglycemic shock is more dangerous than hyperglycemic shock due to neuroglycopenia

⊕ Causes of hyperglycemia: ① excess meal. ② missed medication. ③ stress, infection, steroid therapy (as cortisone increases glucose level)

⊕ " " hypoglycemia: ~~stress~~ + ③ excessive exercise.

⊕ hypoglycemic shock: - rapid onset (more common in clinics)
- irritable, moist skin, rapid pulse

⊕ hyperglycemic shock: - slow onset (~~3-4~~ 3-4 days)
- drowsiness, weak pulse

⑥

⊛ Management of diabetic coma :- (deal with it as if it's hypoglycemic).

- 1- Dextrose (IV/IM)
- 2- call ambulance.

⊛ Aspirin, sulphonamides & Plagyl → potentiate action of antidiabetic drug
↓
hypoglycemia.