

Thyroid

Q Classify Thyroid tumors and give morphology of papillary carcinoma of Thyroid.

* Classification :-

Adenoma :-

Follicular adenoma

Hürthle-cell adenoma

Carcinoma :-

Papillary Carcinoma

Follicular Carcinoma

Anaplastic Carcinoma

Medullary Carcinoma

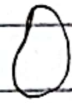
Anaplastic

* Morphology of papillary carcinoma of Thyroid :-

① → Gross :-

May be solitary or multifocal

Well-circumscribed or encapsulated



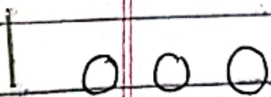
② → Microscopic :-



Papillae formation & cuboidal cell

Have fibro-vascular coat/core

Abundant cytoplasm



Nucleus empty, Round glass, orphan Annie eye.



Nucleus & line → Nucleus groove



Nucleus over-lapping

③ + calcium

Psammoma bodies → calcium deposits

Q. What will be the typical laboratory findings in myx-edema, Graves disease, Hashimoto's thyroiditis, multi-nodular goiter and Diffuse Non-toxic goiter.

| | Level of T ₃ , T ₄ | level of TSH |
|----------------------------|---|-----------------|
| Myx-edema :- | ↓ | ↑ |
| Hashimoto's thyroiditis :- | ↓ | ↑ |
| Diffuse N-Toxic goiter :- | Normal or ↓ | ↑ |
| Graves Disease :- | ↑ | ↓ |
| Multi-nodular goiter :- | ↑ | ↓ |

Q. A lady of her-recd her Thyroid diagnosis.

Q. Name 03.

Q. Give pathogenesis of Hashimoto's thyroiditis.

* Pathogenesis

CD-8

CD-8
T-cells

in
dritis,
ilar.
of

Q. A lady of middle age presents with painless in front of her-neck for the last few months. On examination her thyroid gland is diffused enlarge. The provisional diagnosis of Thyroiditis is made

Diagnosis
↓
Diffuse enlarge thyroid gland
↓
Thyroiditis

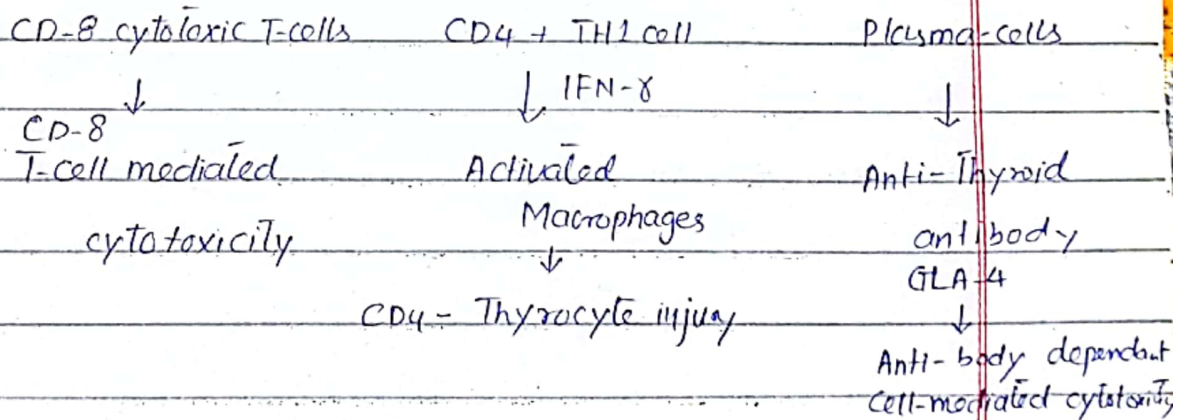
① Name or Type of Thyroiditis :-

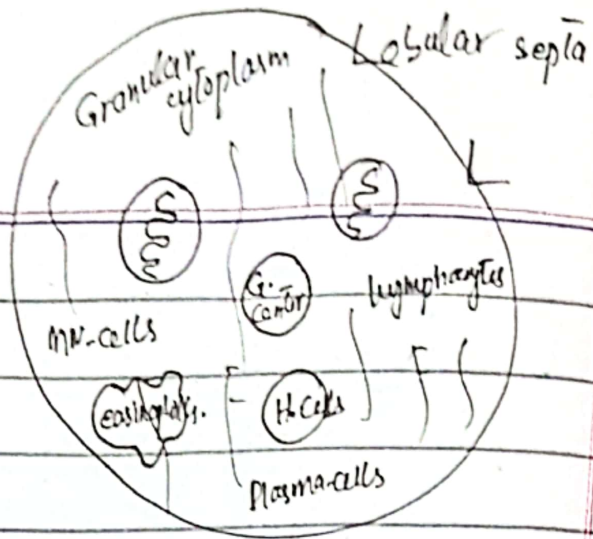
- Hashimoto Thyroiditis
- Sub-acute Granulomatous de Quervain Thyroiditis
- Sub-acute lymphocytic Thyroiditis

② Give pathogenesis and microscopic feature of Hashimoto Thyroiditis

* Pathogenesis :-

- Thyroid epithelium breakdown
- Anti-Thyroid anti-body CTLA4





Microscopic :-

Lobular Septa

Thyroid follicles with eosinophils, granular cytoplasm

Hurthle cell seen

Prominent mitochondria

Germinal center

Multiple cells - Mono-nuclear

Lymphocytes

Plasma cells

More Fibrosis

Q. Follicular Adenoma

Follicular Carcinoma

No capsular Invasion

Capsular Invasion

Encapsulated

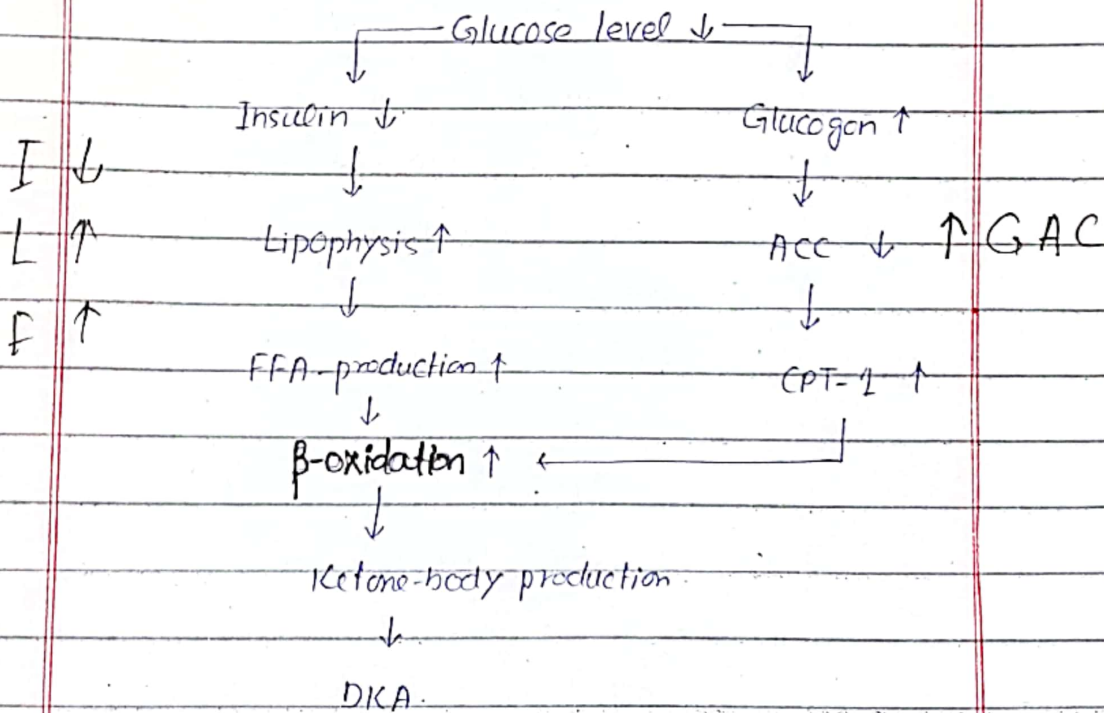
Vascular Invasion

Q. 68 years old female having diabetes developed vomiting and become drowsy. She was taken to emergency and revealed blood-pressure of 95/60 mmHg with pulse-rate of 110/min and cold-extremities. She has acetone-like breath.

* Diagnosis:-

Diabetic Ketoacidosis Coma.

* Pathogenesis:-



* 04 Metabolic features:-

Metabolic acidosis

Hyper-glycemia

Hyper-ketonemia

Poly-dipsia

Poly-Uria

* Clinical

Dehydration

✓ Acetone-like breath

✓ Cold-extremities

✓ Coma

✓ Tachycardia

✓ Tachypnea

Lethargy

Cerebral edema

Q. What's Pheochromocytoma :-

Neoplasm composed of chromaffin cells which synthesize and release catecholamines.

What's Role of 10's :-

- 10% of extra-adrenal
- 10% of Bilateral
- 10% of Familial
- 10% of Children
- 10% of Malignant
- 10% of Associated with man
- 10% of Present with stroke

E

B

F

C

M

M

S.

Morphology of Pheo-chromocytoma?

Gross :->

Tumor is soft, spherical
Tumor is grey to dusky brown.

Micro-scopic :->

Benign

Tumor-cell arranged

Tumor well differentiated

Pattern- Zellballen pattern (Nests of cells)

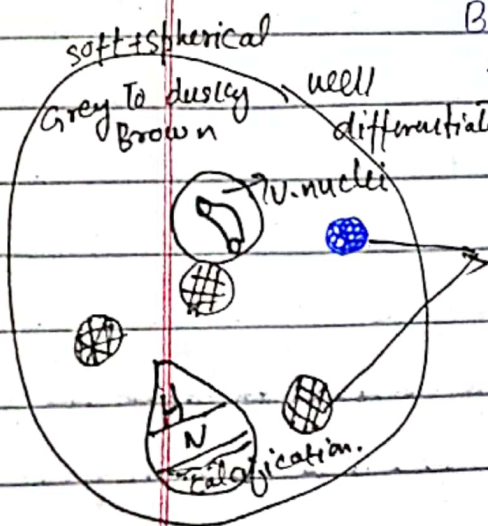
Tumor cell large, peripheral E, pleomorphic

Granular amphophilic vesicular nuclei

Hemorrhage

Necrosis

Calcification



A 35 years
weakness, fatig
Renal stones.

* Diagnosis :-

* Lab-findings:

* Types:-

Primo

Seco

Te

* Sheehan Sy

A 35 years old-female presented with lethargy, weakness, fatigue, Nausea, constipation, Fracture of bones, Renal stones.

* Diagnosis :-

Primary hyper-parathyroidism.

* Lab-findings :-

PTH level increase

Ca^{+2} increase

Phosphate level decrease (\downarrow)

* Types :-

Primary hyper-parathyroidism

Secondary hyper-parathyroidism

Tertiary hyper-parathyroidism

* Sheehan Syndrome :-

(1) - Deficiency of ant. Pituitary hormones

(2) Ischemic necrosis of ant. pituitary gland which results in ~~of~~ arteriales

(3) Spasm, severe hemorrhage or shock

(4) Usually Postpartum.

| | | |
|-----|-------------------|------|
| (5) | \downarrow FSH | FSH |
| | \downarrow LH | LH |
| | \downarrow TSH | ACTH |
| | \downarrow ACTH | TSH |
| | \downarrow GH | GH |

MENS Syndrome :-

Group of inherited disease resulting in proliferative lesions of multiple endocrine organ

★ Autosomal Dominant

MEN-1

MEN-2

Gene located at
11q13★

Gene located at 10q11.2

| | | | |
|----------------------|------------------------------------|-------------------------|------------------------------|
| PA | Pituitary Adenoma | MEN2A | MEN2B |
| PH | Parathyroid hyperplasia | Parathyroid hyperplasia | Mucosal |
| PT (P ₃) | Pancreatic tumor (P ₃) | MPM | Medullary Thyroid CA MM Same |
| | | | Pheochromocytoma P Same |

MENIN-gene

RET-gene

RET gene
C71

Q. What's Sheehan syndrome

Q. What's men syndrome

Classify.

Remember gives involved.