

ENDOCRINE MODULE PATHOLOGY LAB

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HASHIMOTO's THYROIDITIS







Gland is a smooth pale goiter, minimally nodular, well demarcated

Dense infiltration by lymphocytes & plasma cells Formation of lymphoid follicles, with germinal centers Presence of <u>HURTHLE CELLS</u>

De Quervain Thyroiditis





Destruction of follicles leads to mixed inflammatory infiltrate.

Neutrophils , Macrophages & Giant cells & formation of granulomas.

SUBACUTE LYMPHOCYTIC THYROIDITIS : (Silent)

Preserved lobular pattern with follicular destruction.
variable lymphocytic infiltrate.
rare / no oncocytic change.
no / focal fibrosis







Follicles are obliterated or compressed by extensive dense fibrous tissue



GRAVE'S DISEASE











Graves disease



Diffuse and symmetrically enlarged thyroid gland with beefy red cut surface



Hyperplastic thyroid follicles with papillary infolding.

•Colloid is typically decreased, when present shows peripheral scalloping

DIFFUSE & MULTINODULAR GOITRE





* Multinodular goiters are asymmetric, large

Nodular, bumpy outer surface and variegated cut surface









Variable sized dilated follicles with flattened to hyperplastic epithelium. Nodules may be present.

FOLLICULAR ADENOMA



Solitary, encapsulated, variable size (1 - 10 cm).



Closely packed follicles. Completely enveloped by thin fibrous capsule surrounding thyroid tissue shows signs of compression.

PAPILLARY CARCINOMA CYTOLOGY







Solid or cystic mass with papillary projections





Defined by two cardinal features:
✓ true papillae with a fibrovascular core.
✓ nuclear features of papillary carcinoma.



Papillary thyroid carcinoma nuclei:

FOLLICULAR CARCINOMA



Tan to brown solid cut surface, can have cystic changes and hemorrhage Minimally invasive: usually single encapsulated nodule, with thickened and irregular capsule Widely invasive: extensive permeation of capsule or no capsule.



SOLID PATTERN OF FOLLICLES (SMALL, NORMAL SIZED OR LARGE).
 NO NUCLEAR FEATURES OF PAPILLARY THYROID CARCINOMA
 INVASION OF ADJACENT THYROID PARENCHYMA, CAPSULE (COMPLETE PENETRATION) OR
 BLOOD VESSELS (IN OR BEYOND THE CAPSULE)





ANAPLASTIC CARCINOMA



Bulky solid mass (mean: 6 cm) with zones of necrosis or variegated appearance.



Common features include :
✓ widely invasive growth.
✓ extensive tumor necrosis.
✓ marked nuclear pleomorphism.
✓ high mitotic activity



MEDULLARY CARCINOMA.





Sporadic: typically presents as a single circumscribed but nonencapsulated, gray-tan massFamilial: generally bilateral / multiple foci.



• Stroma has amyloid deposits from calcitonin

DIABETES MELLITUS.



Reduction in the number and size of islets. Leukocytic infiltrates in the islets. Amyloid deposition within islets in type 2 diabetes.

Diabetic macrovascular disease





Diabetic macrovascular disease. The hallmark of diabetic macrovascular disease is accelerated atherosclerosis. Hyaline arteriolosclerosis.





Renal cortex showing thickening of tubular basement membranes .

Nodular glomerulosclerosis

DIABETIC RETINOPATHY.

Features include:

- ✓ advanced proliferative retinopathy. ✓ retinal hemorrhages. ✓ Exudates. ✓ neovascularization.
- ✓ tractional retinal detachment



CUSHING SYNDROME





Figure 19–39 Waterhouse-Friderichsen syndrome. Bilateral adrenal hemorrhage in an infant with overwhelming sepsis, resulting in acute adrenal insufficiency. At autopsy, the adrenals were grossly hemorrhagic and shrunken; in this photomicrograph, little residual cortical architecture is discernible.

ADRENALCORTICAL TUMORS

Encapsulated , usually yellow color: single or multiple. Size variable 1-2 cm, up to large tumors Malignant tumors may show necrosis, hemorrhage and are usually larger.



- Histology:
- Large cells with granular clear to eosinophilic cytoplasm, often pleomorphic.
- Invasion of thick fibrous capsule
- Lymphovascular invasion.
- Areas of necrosis, hemorrhage, degeneration are common



PHEOCHROMOCYTOMA



well circumscribed, small to large in size

- nested (zellballen), trabecular patterns.
- nests of cells (zellballen) with abundant cytoplasm filled with granules containing catecholamine.
- malignancy confirmed by <u>metastases</u>



GROSS MORPHOLOGY OF PITUITARY ADENOMA

- RANGING FROM WELL CIRCUMSCRIBED TUMOR TO INVASIVE LESION IN UP TO 30%.
- HEMORRHAGE & NECROSIS SEEN IN LARGE TUMORS



HISTOLOGIC FEATURES OF PITUITARY ADENOMA

CELLS MAY BE CLASSIFIED AS ACIDOPHILIC, BASOPHILIC OR CHROMOPHOBIC BASED ON TINCTORIAL
 DIFFERENCES; THIS USUALLY CORRELATES WITH CONTENT OF HORMONE CONTAINING SECRETORY CELLS



GROWTH HORMONE SECRETING ADENOMA HISTOLOGY

• COMPOSED OF GRANULAR ACIDOPHILIC CELLS AND MAY BE MIXED WITH PROLACTIN SECRETION.

