

Practical pathology

3rd stage

Endocrine system

م. د. وليد نزال هوسي

طب وجراحة عامة

البورد العربي (دكتوراه) اختصاص علم الامراض

التشريحي

كلية الطب / جامعة تكريت

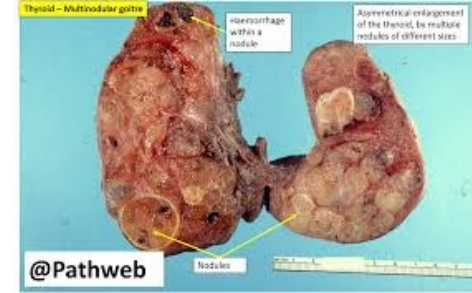
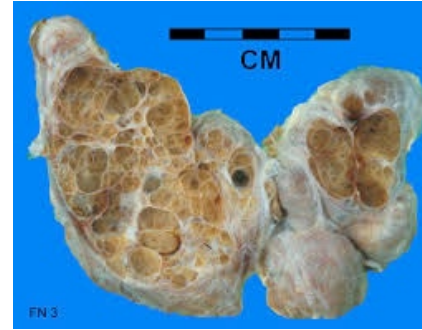
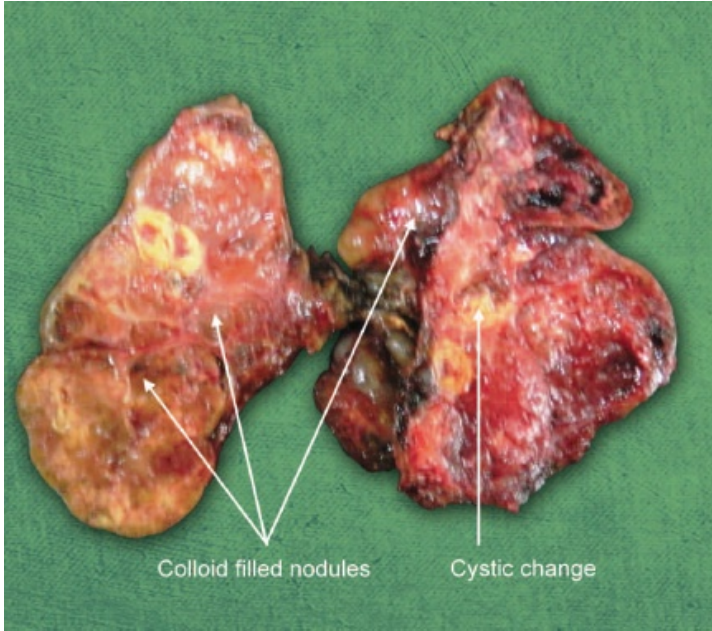
فرع الامراض

walid.n.husi@tu.edu.iq

- 45 years old female complain from huge neck swelling with pain, dysphagia , US of thyroid gland showing huge thyroid gland lobes , she underwent total thyroidectomy , pre-operation pictures of neck swelling gross and microscope as shown in below pictures .what is your diagnosis ?

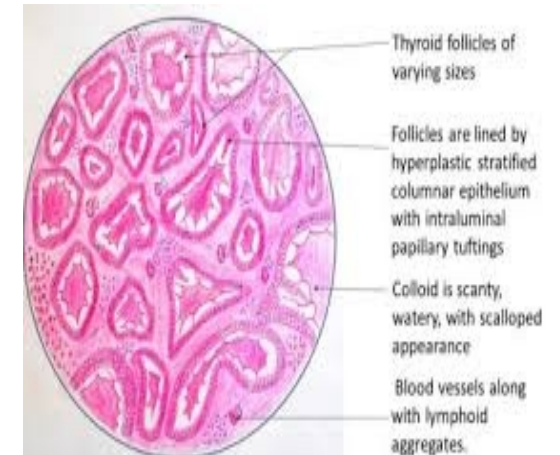
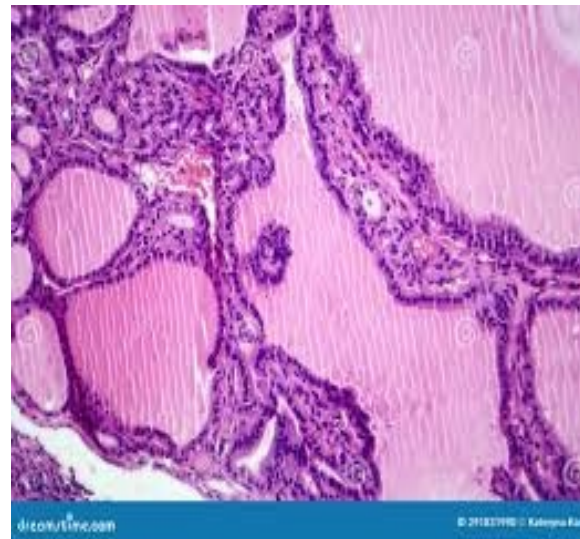
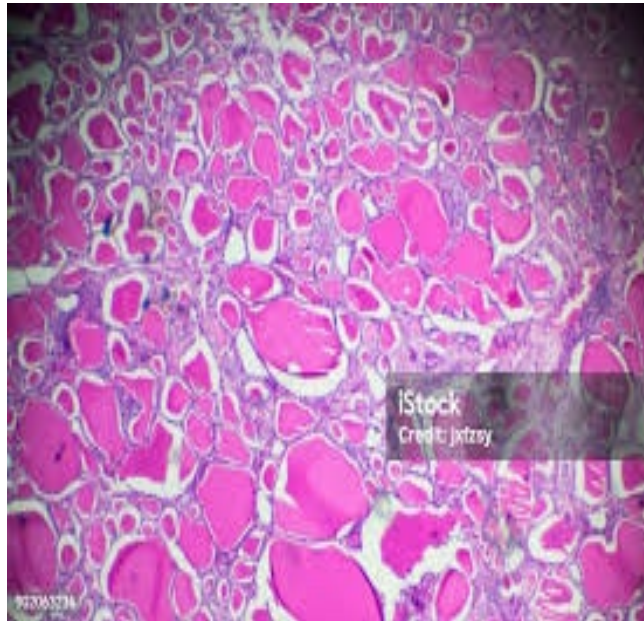
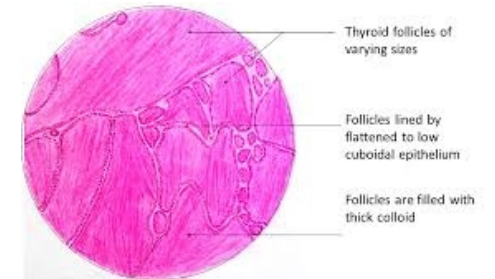


Gross



Nodular and bumpy outer surface and variegated cut surface, **cystic and hemorrhagic** with **brown gelatinous** colloid nodules with focal **calcification**

Microscope

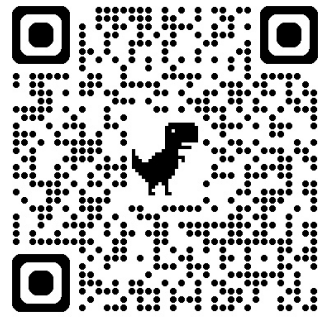


Activities

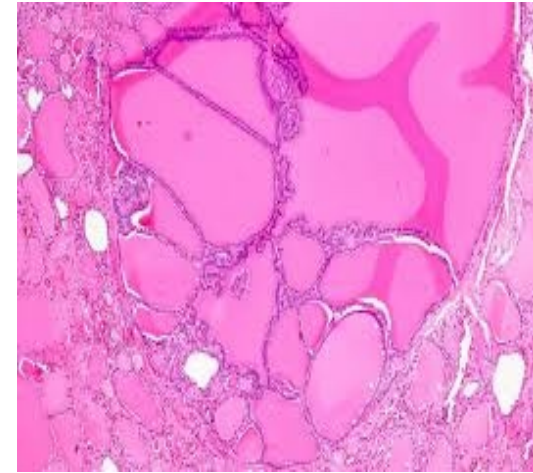
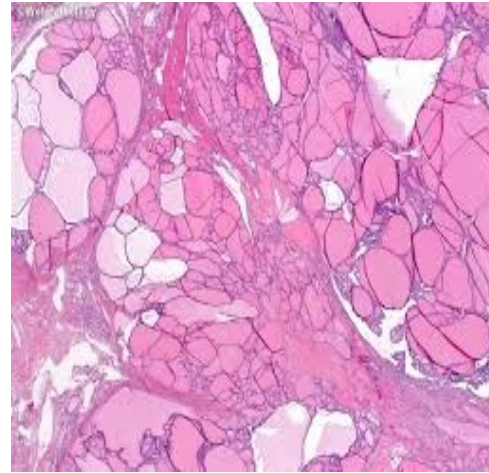
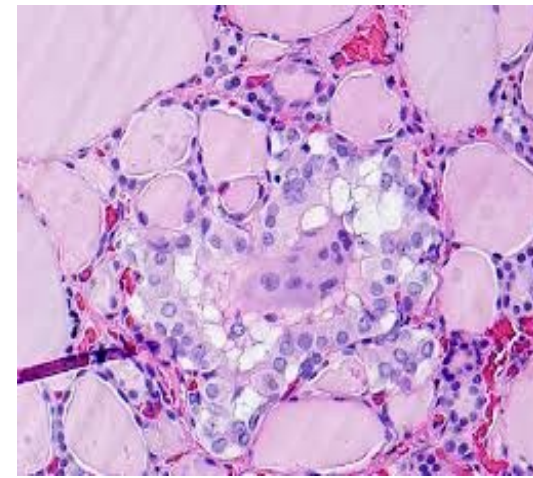
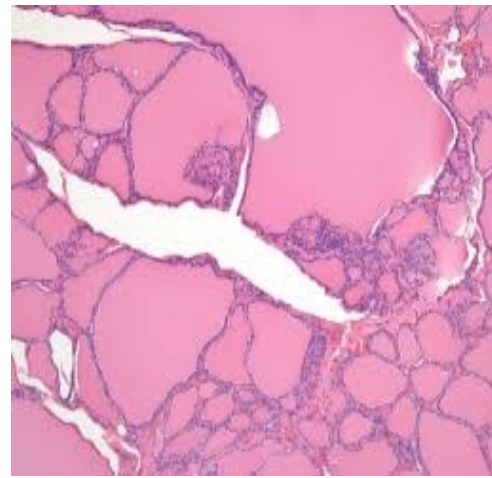
Diagnosis

microscope

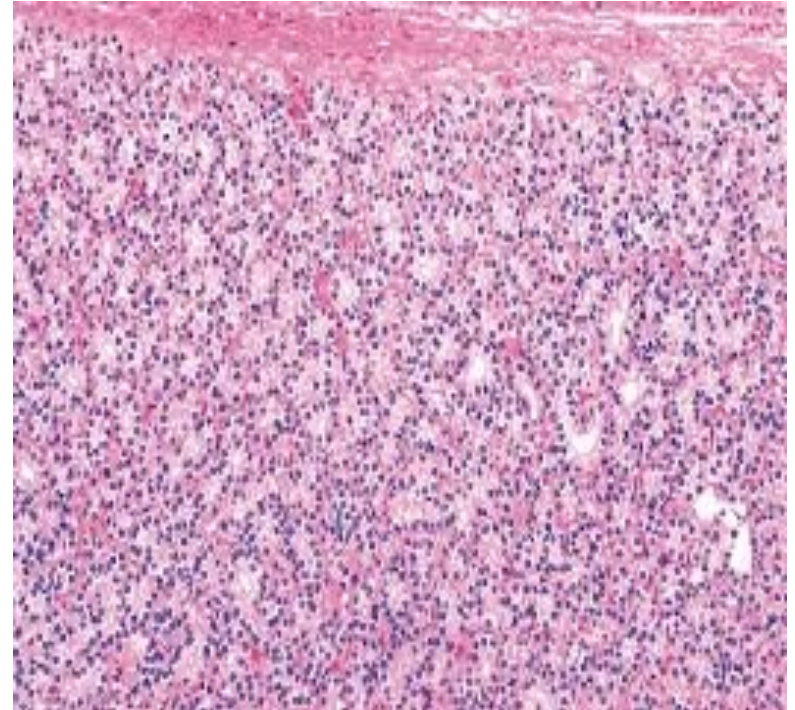
gross



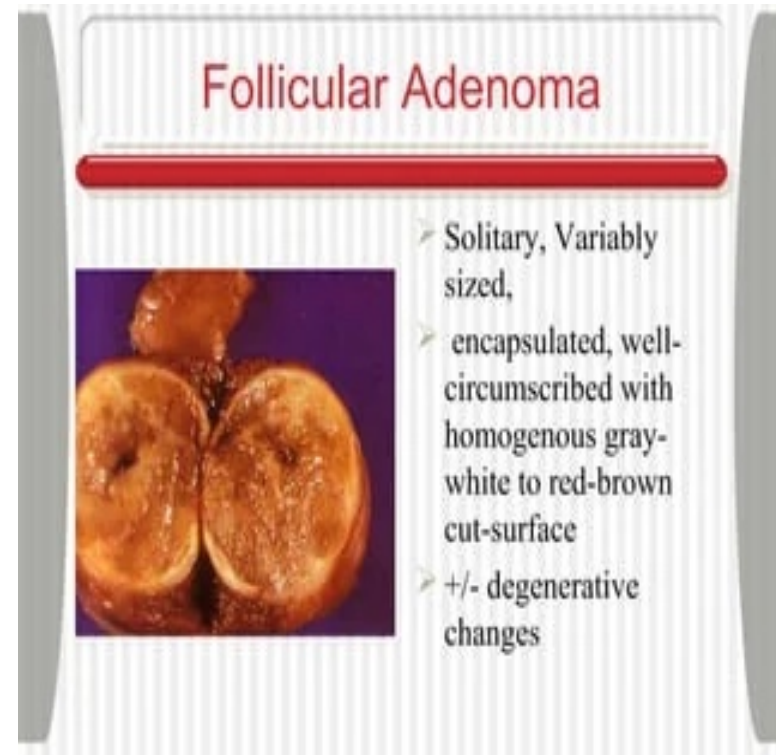
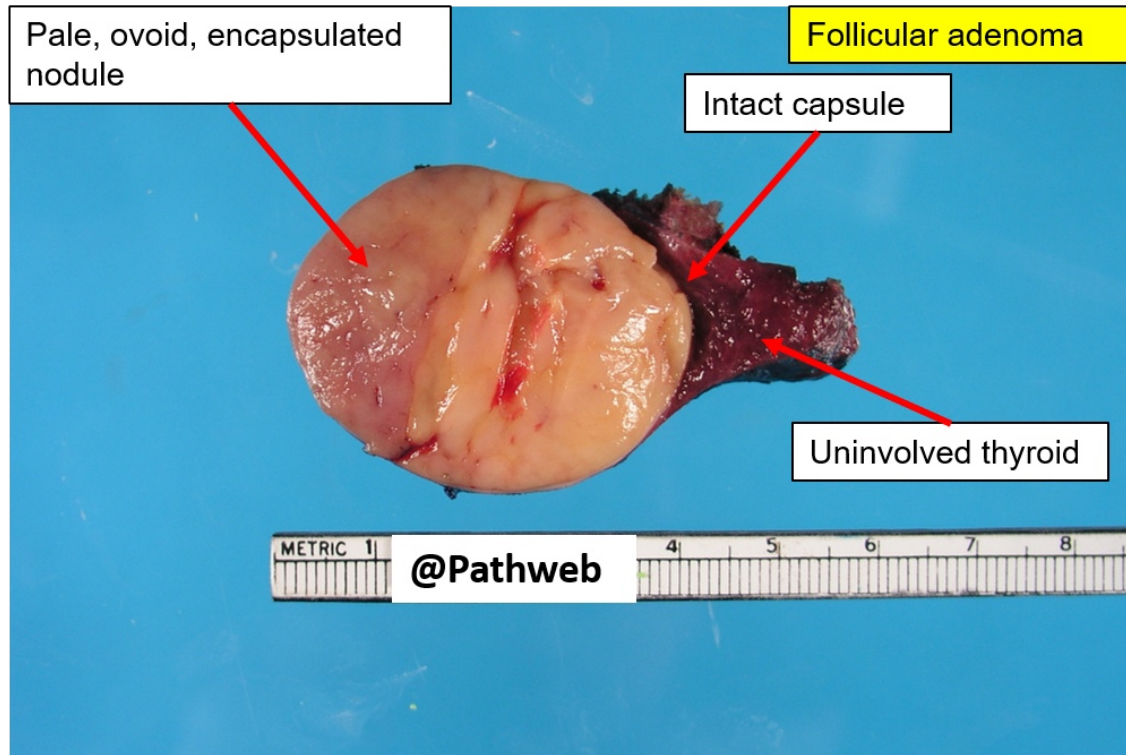
Google Classroom



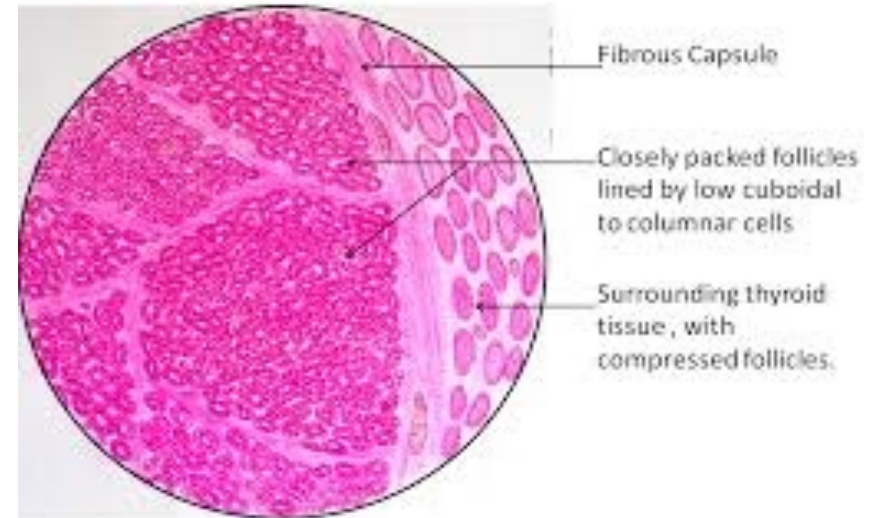
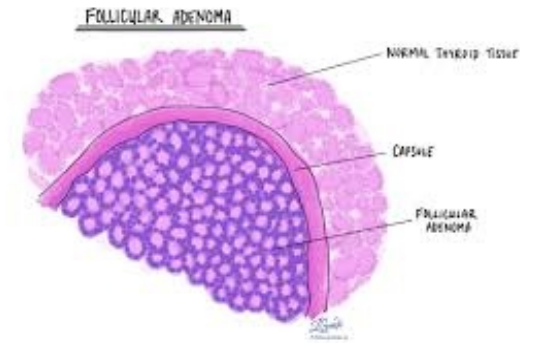
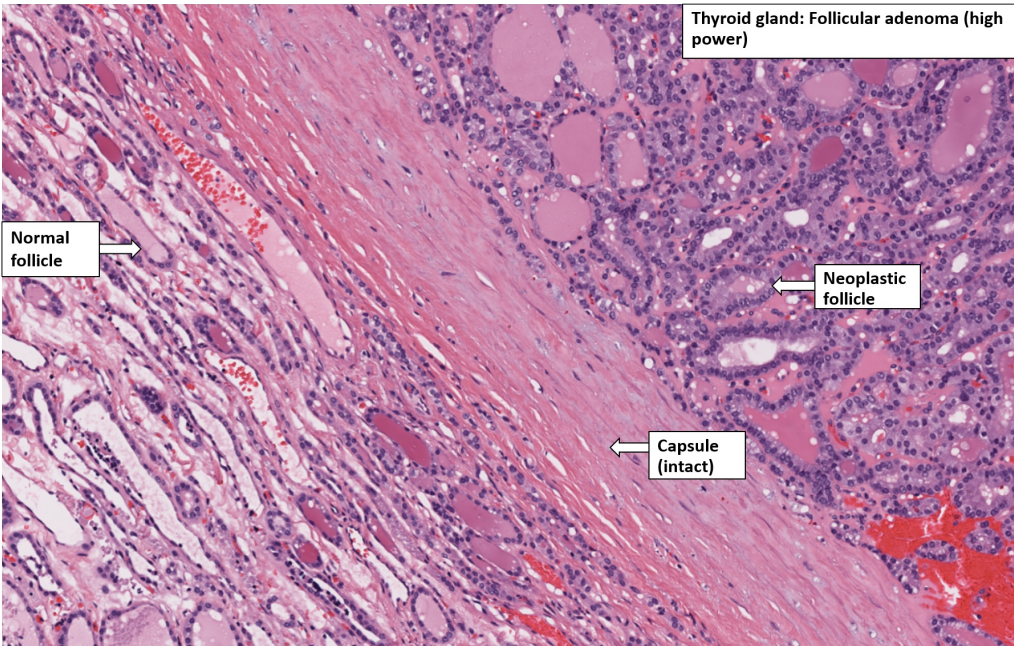
35 years old male complain from neck pain , US of neck show thyroid nodule (TIRAD4),she underwent total thyroidectomy , gross and microscope shown .what your diagnosis ?



Gross



Microscope

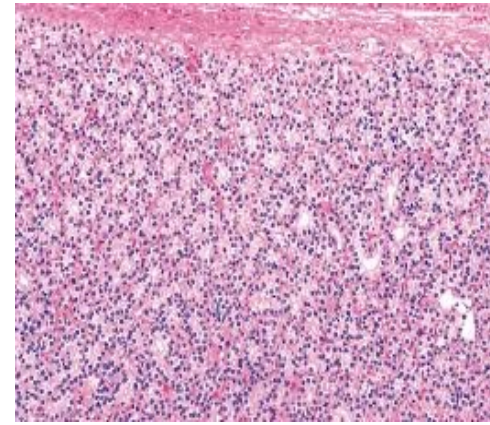
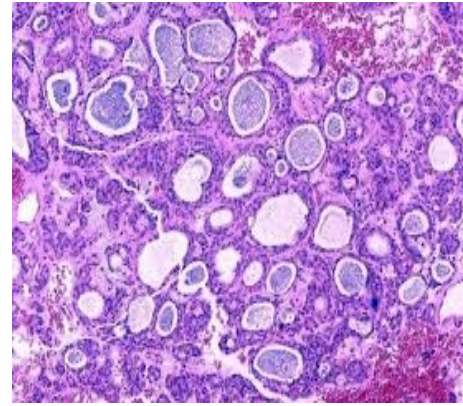
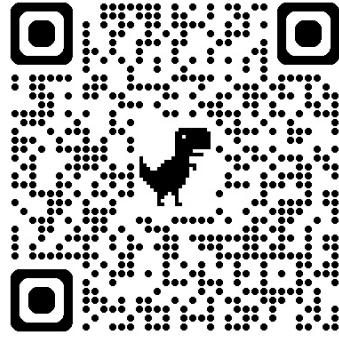


Activities

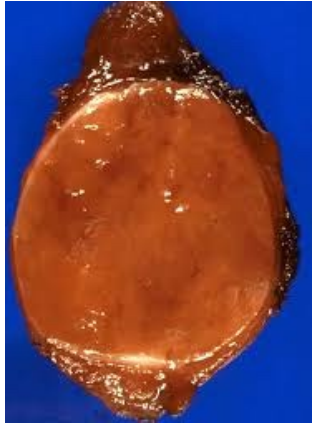
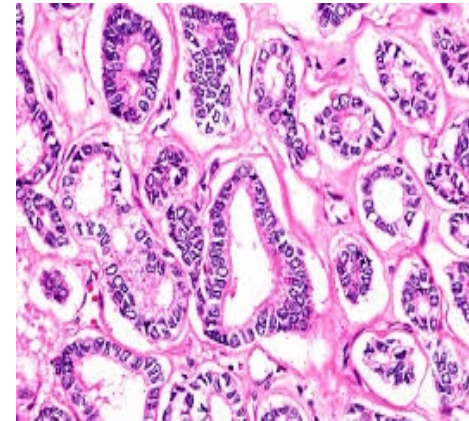
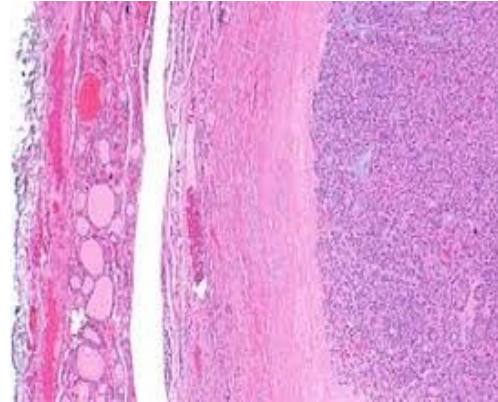
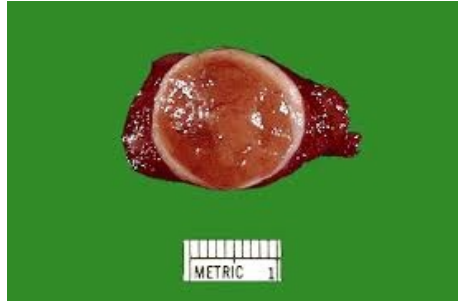
Diagnosis

gross

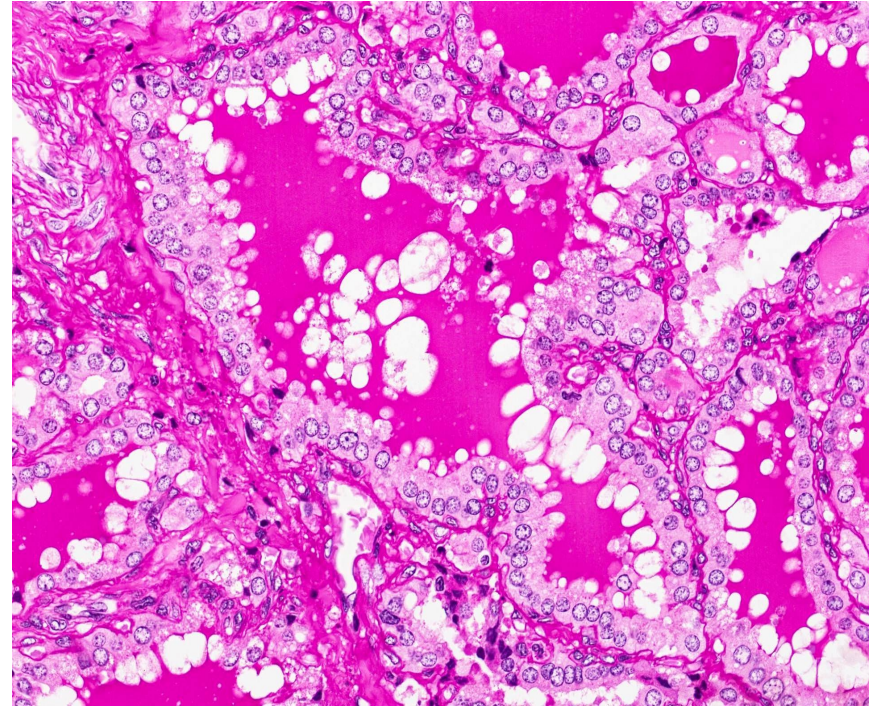
microscope



Google Classroom



30 years old female complain from tremor, tachycardia, weight loss, exophthalmus, US show thyroid enlargement, laboratory test show: **increased T3 / T4**, increased uptake of radioactive iodine, decreased TSH and **positive thyroid receptor antibodies**. After course of treatment there is no clinical response, she underwent total thyroidectomy, gross and microscope as shown. What is your diagnosis?



Gross

Homogenous reddish,
'beefy' cut surface. No
discrete nodules seen.



Microscope:

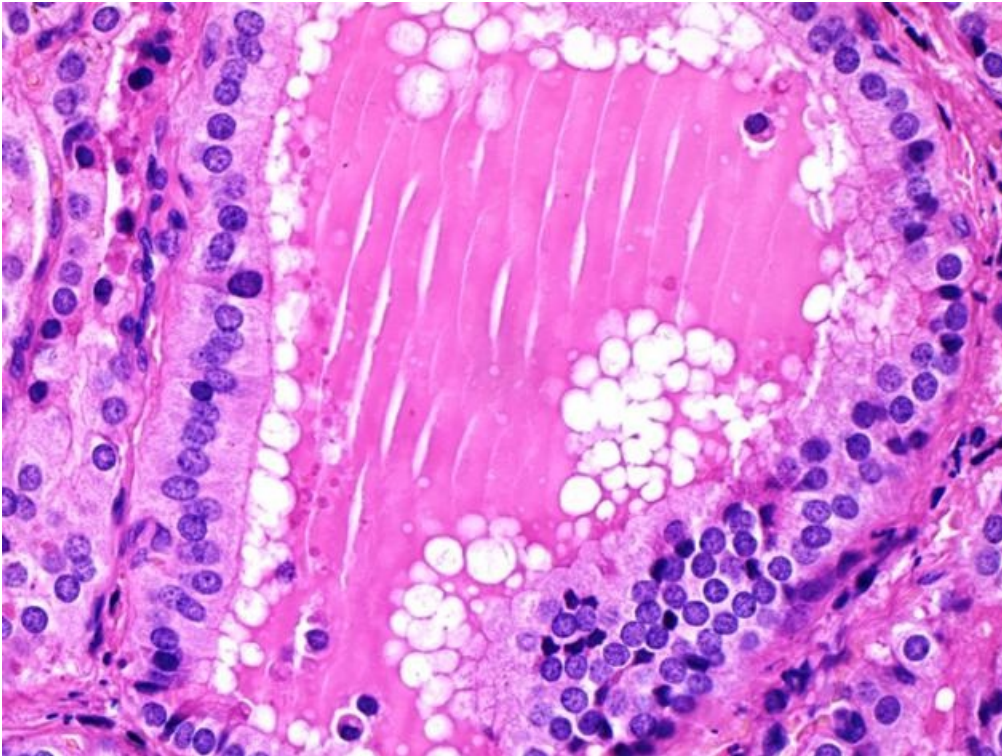
Hyperplastic thyroid follicles with **papillary infoldings**

Diffuse hyperplasia and hypertrophy of follicular cells with retention of lobular architecture and prominent **vascular congestion**

Tall follicular cells with papillae **usually lacking fibrovascular cores**

Nuclei are round, often basally located, rarely overlap

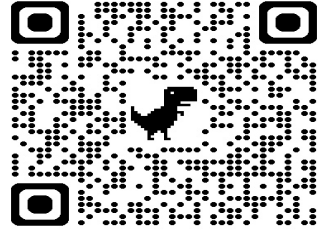
Colloid is typically decreased, when present shows **peripheral scalloping**



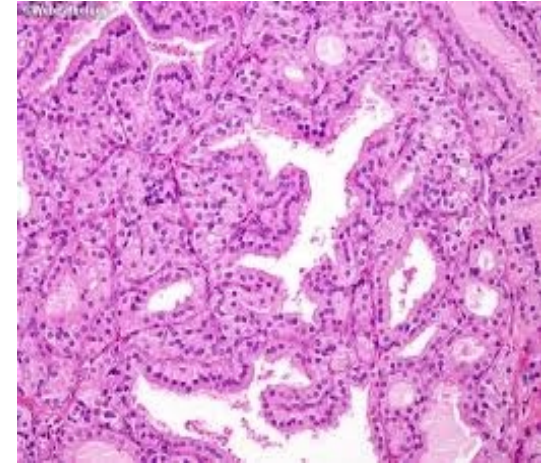
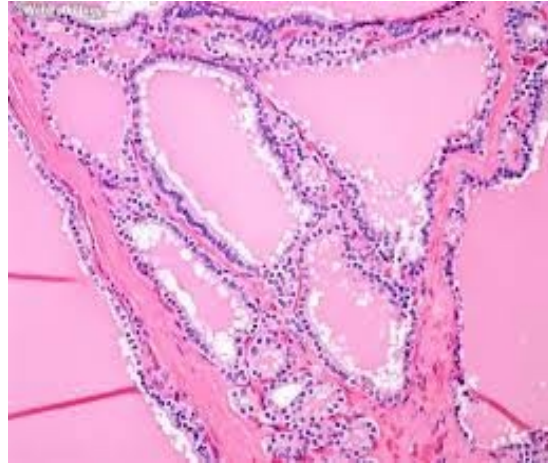
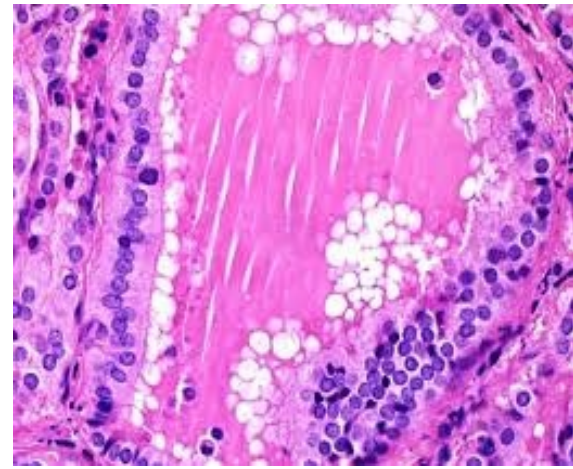
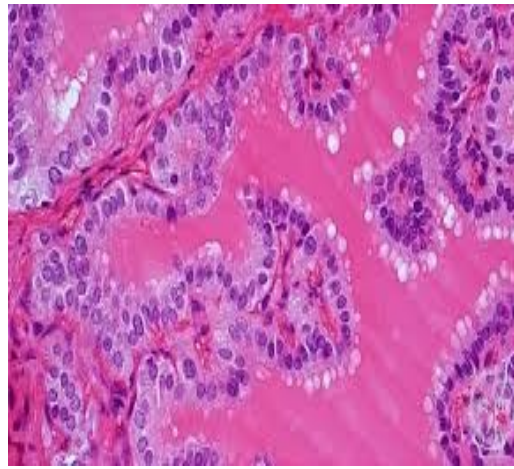
Activity

Diagnosis

gross
microscope



Google Classroom



30 years old pharmacist female complains from neck pain ,tachycardia ,fever for 1 month, later on she is complaining from increase body weight ,constipation , miscarriage, US of thyroid gland made diagnosis of thyroiditis , gross and microscope show below ,lab tests : Elevated levels of TSH, with normal or low serum thyroid hormones (T3,T4)

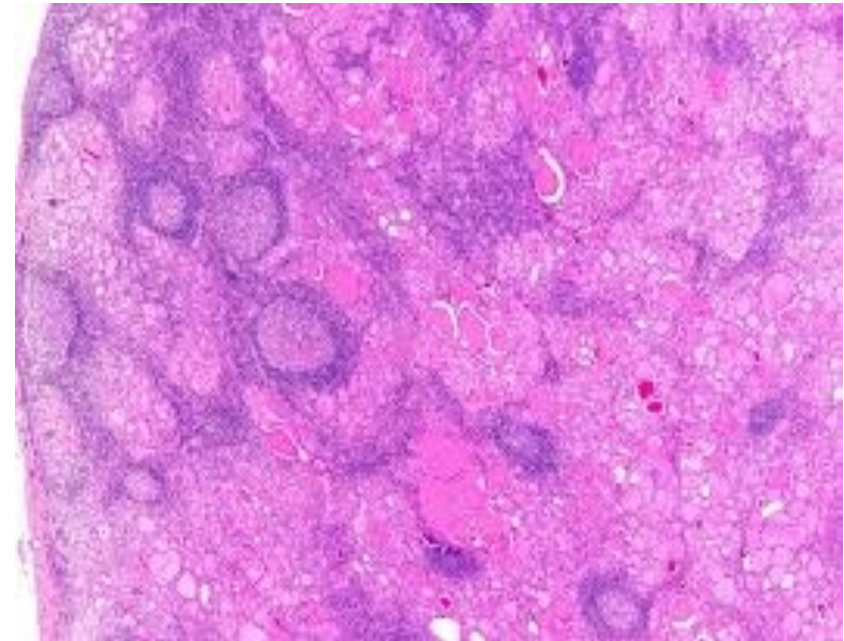
Decreased TSH, with normal or increased serum T3,T4

Elevated serum antithyroid antibodies

Antithyroglobulin

Anti-TPO

Anti-TSH receptor



Gross



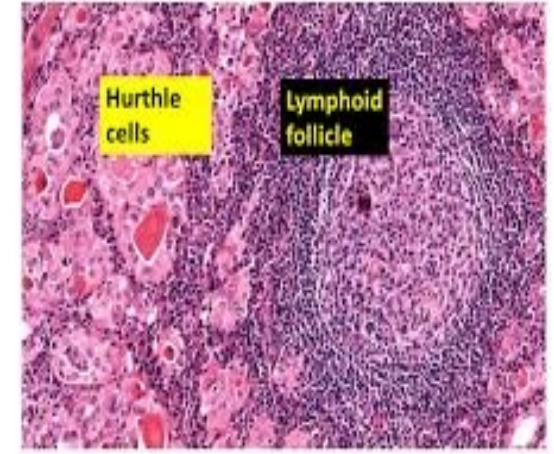
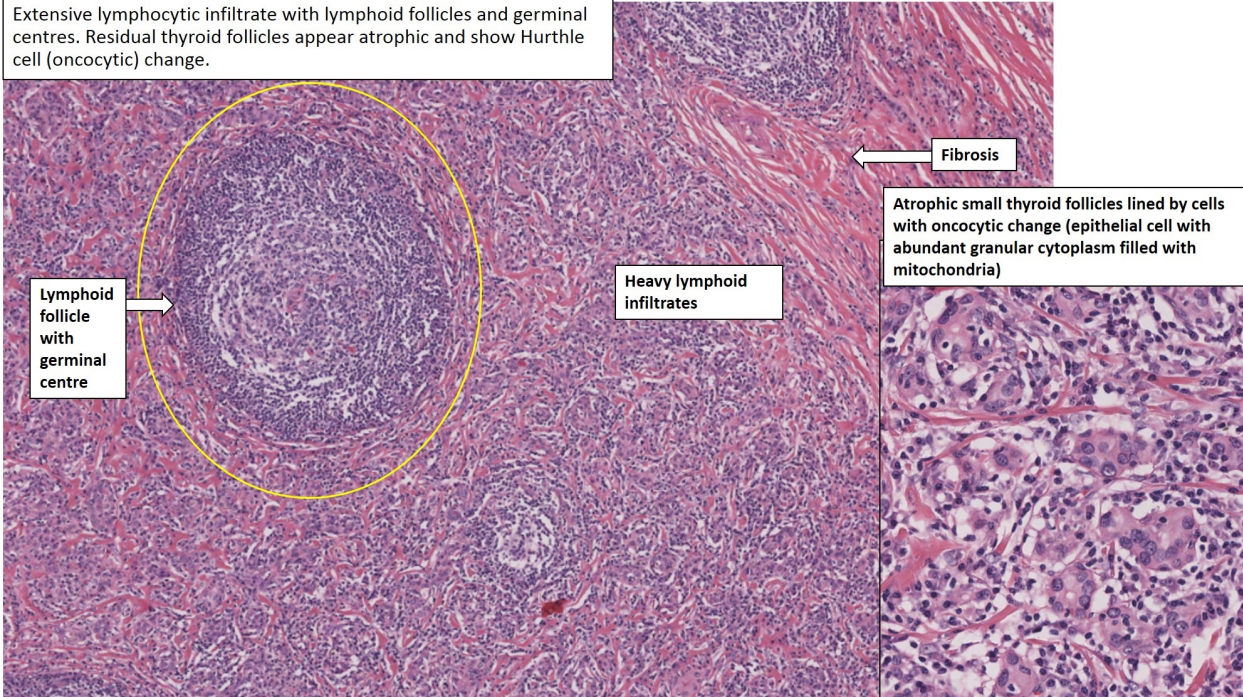
- Cut surface: pale, yellow-tan, firm, nodular; resembles lymph nodes
- May be **fibrotic and atrophied**



Microscope

Thyroid: Hashimoto thyroiditis (high power)

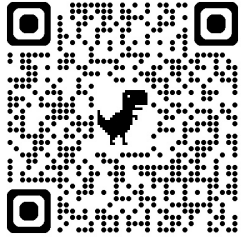
Extensive lymphocytic infiltrate with lymphoid follicles and germinal centres. Residual thyroid follicles appear atrophic and show Hurthle cell (oncocytic) change.



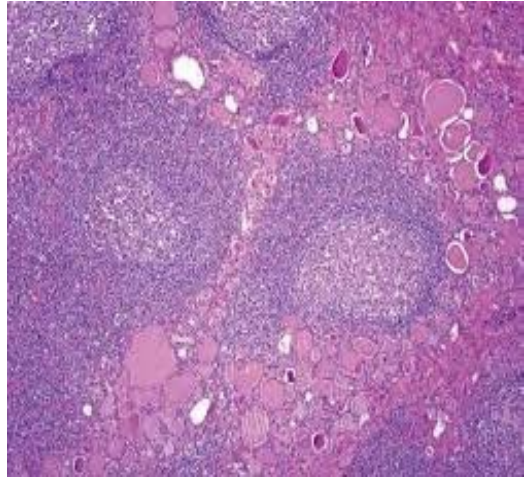
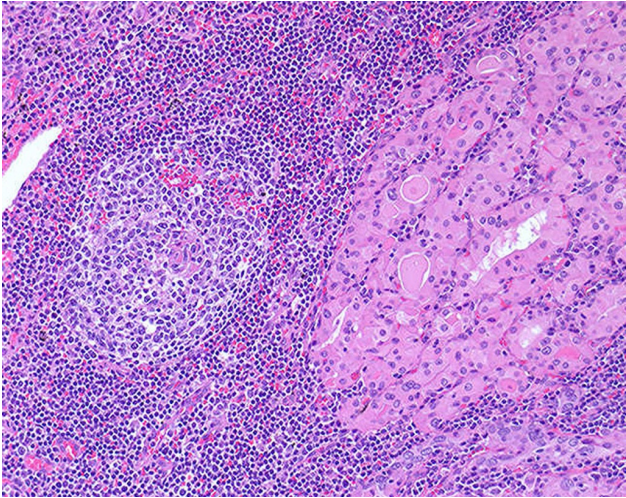
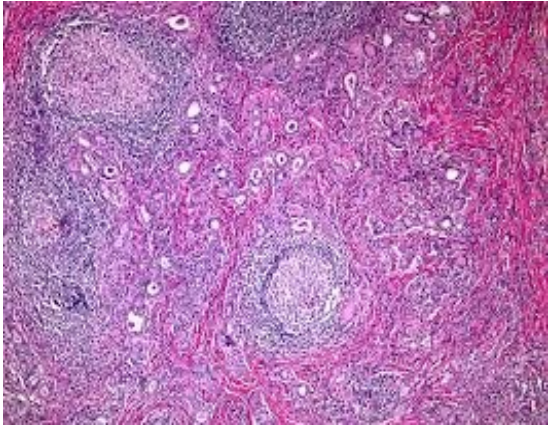
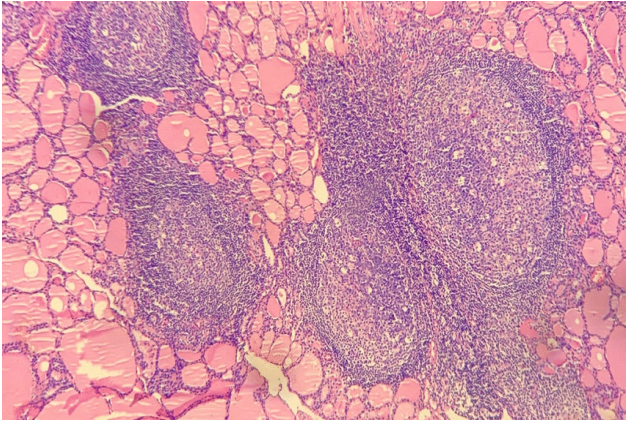
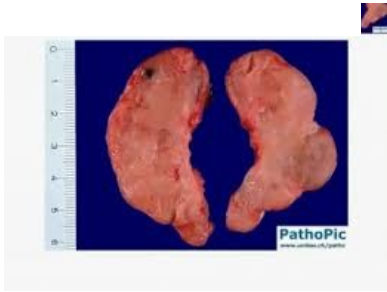
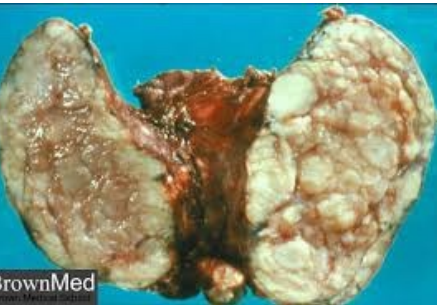
Activity

Diagnosis

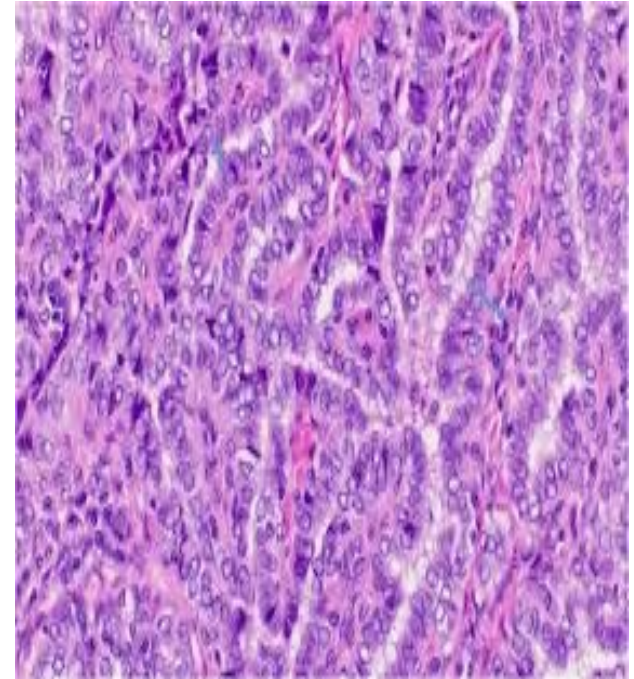
gross and microscope



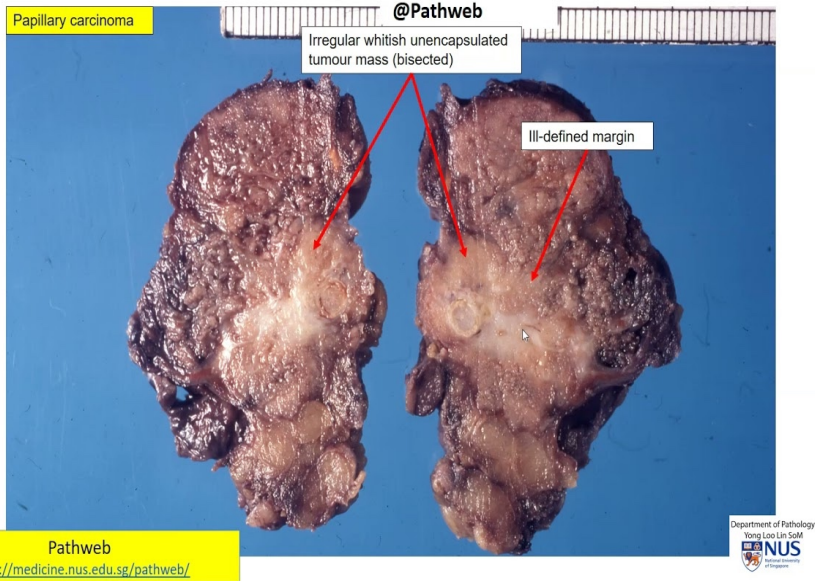
Google Classroom



- 25 year old junior doctor complains from neck pain , US examination of thyroid gland show(TIRAD5)with cervical lymphadenopathy, further cytology investigation show (Bethesda 5), she underwent for total thyroidectomy with lymph node dissection, gross and microscope as shown in below pictures . What is your diagnosis ?



Gross

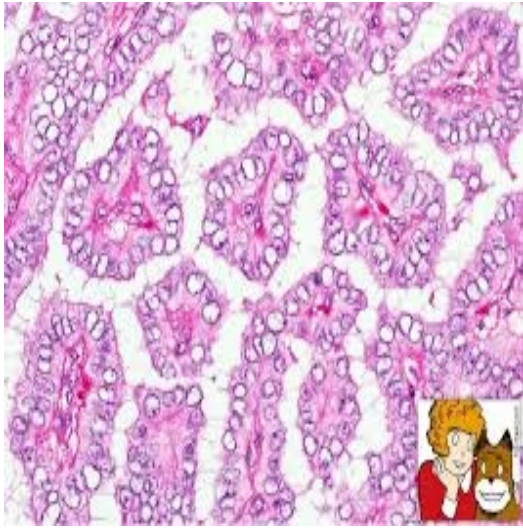
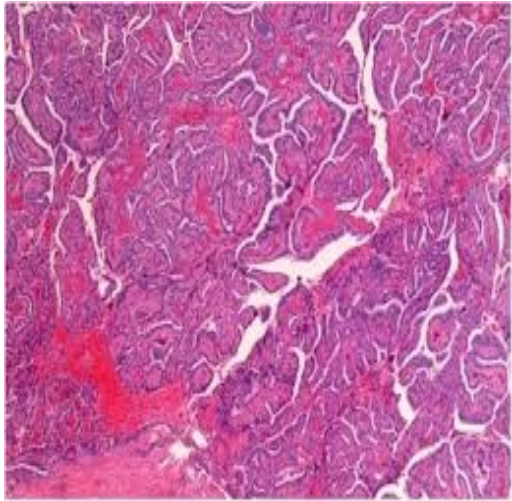
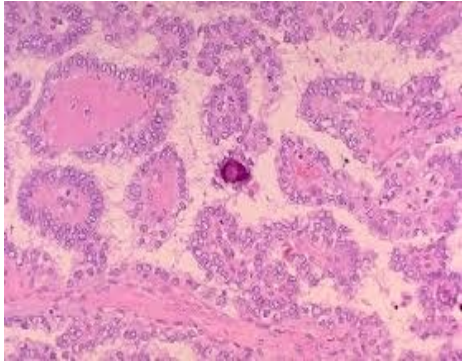
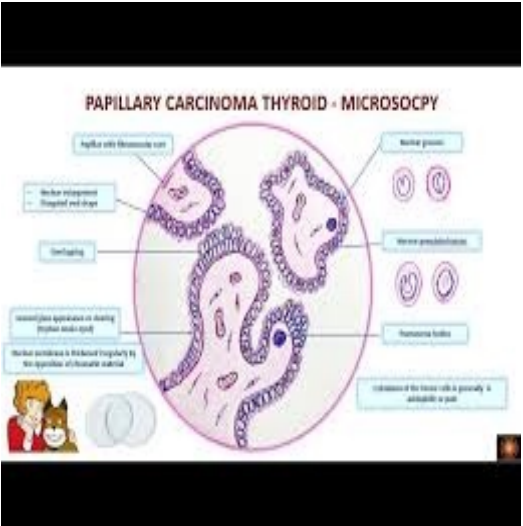
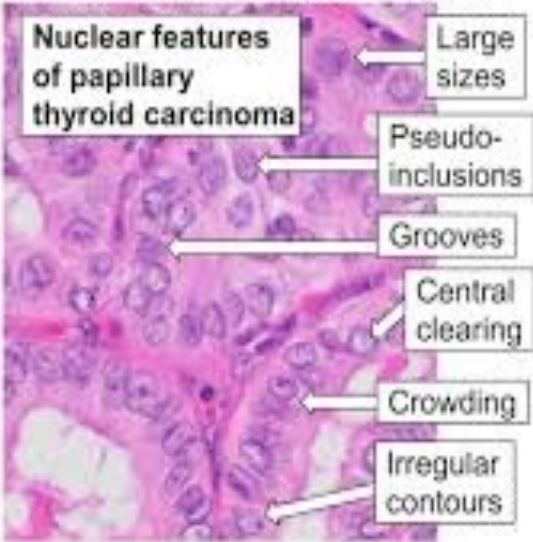
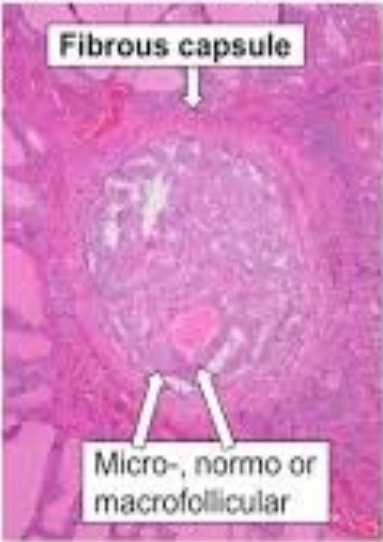


Solid, white, firm, often **multifocal (20%)**, **encapsulated (10%)** or **infiltrative**

Variable cysts, fibrosis, calcification

- Microscopic features

NIFTP - Noninvasive follicular thyroid neoplasm with papillary-like nuclear features



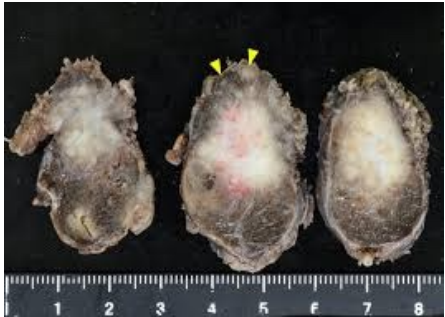
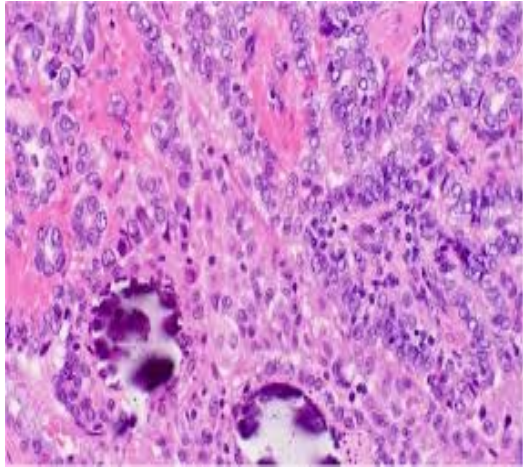
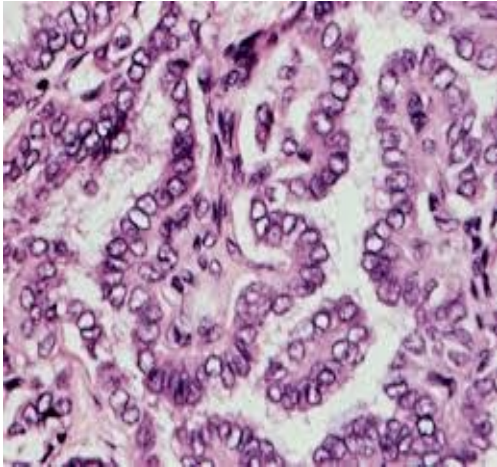
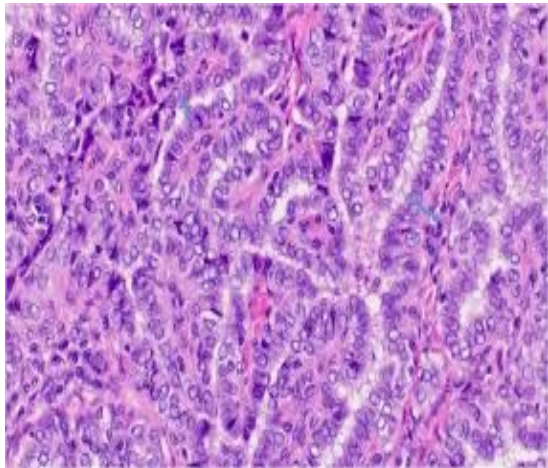
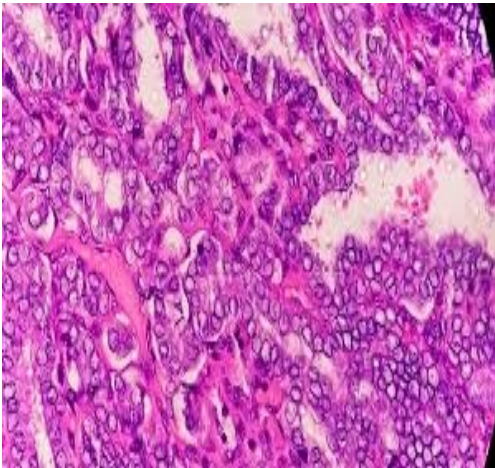
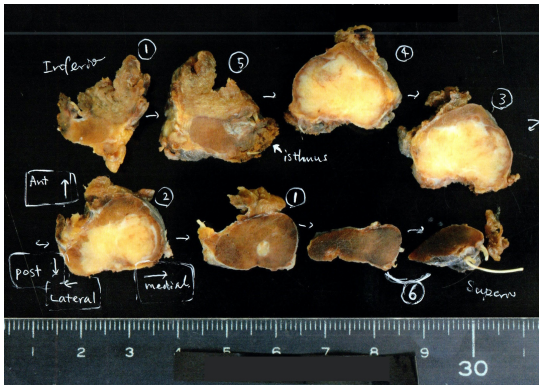
Activity

Diagnosis

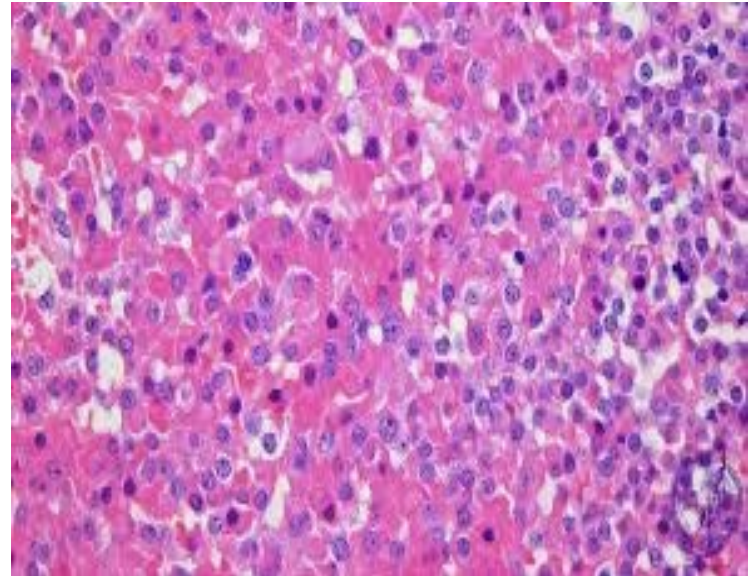
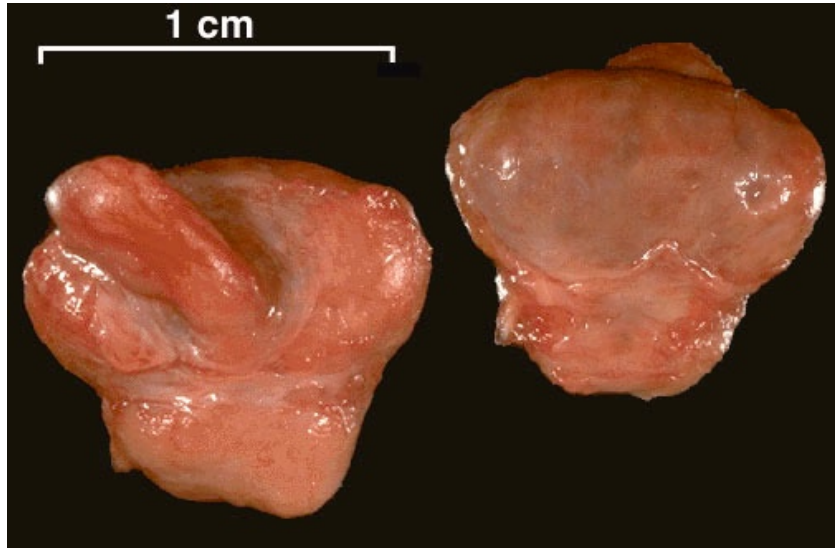
Gross and microscope



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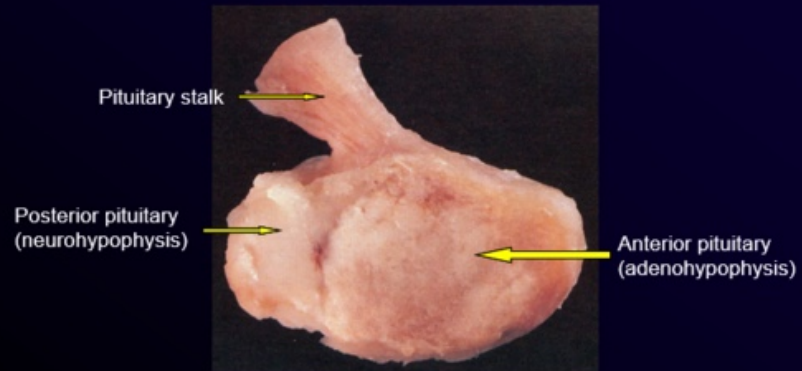


45 years old male complains from headache, double vision and cushing disease ,CT-scan of brain showing sella turcica mass(1cm) ,lab test show high level of prolactin (more than 500mcg/l) , transsphenoidal surgery show in below picture with microscope .what is your diagnosis?

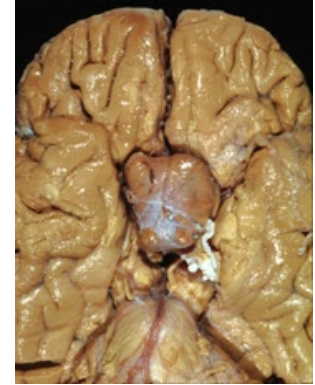


Gross

Gross Anatomy of the Pituitary Gland

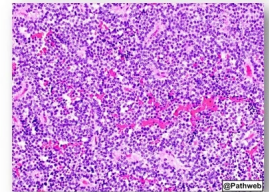


Sagittal view



Pituitary adenoma

- Types:
 - By size:
 - Macroadenoma ($\geq 1\text{cm}$)
 - Microadenoma ($< 1\text{cm}$)
 - Functional status:
 - Functioning vs Silent



Microscope

Architecture varies from solid sheets to nests within a **fibrovascular stroma**

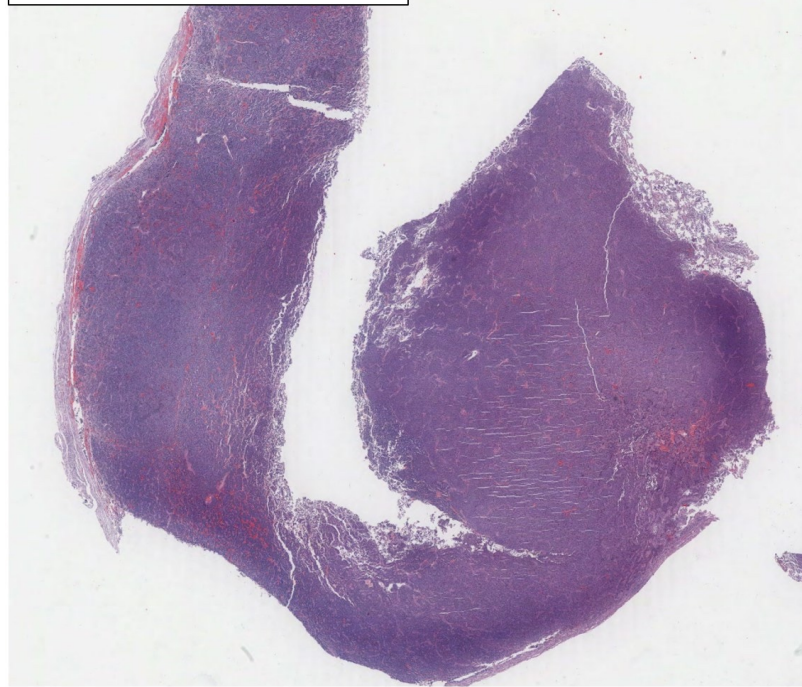
Some tumors, usually gonadotroph tumors, form pseudorosettes around vascular channels

Dyscohesive growth is characteristic of sparsely granulated somatotroph tumors (it is associated with loss of E-cadherin expression)

Most tumor cells are **epithelioid** but some can be spindle shaped;

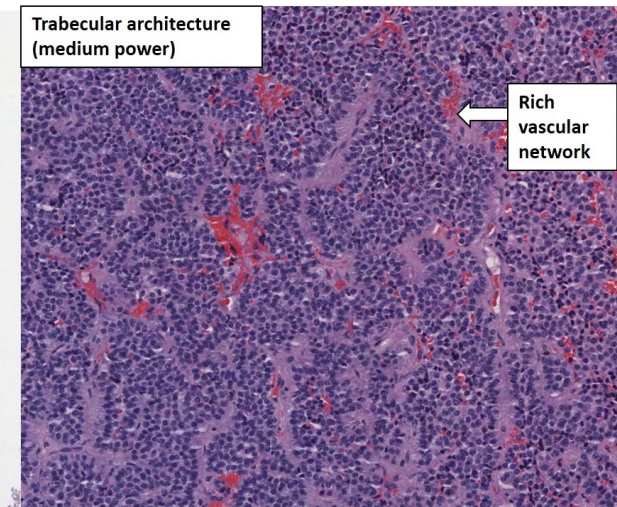
Brain: Pituitary adenoma (low power)

Relatively well circumscribed mass with incomplete capsule



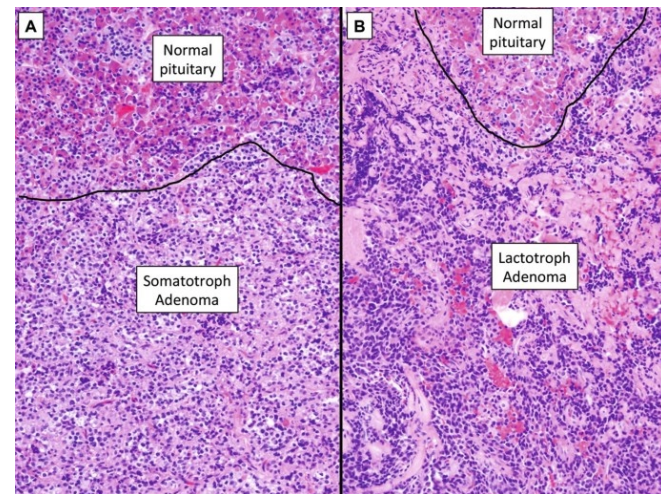
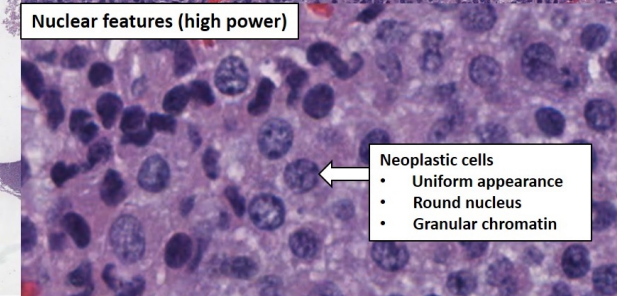
Trabecular architecture (medium power)

Rich vascular network



Nuclear features (high power)

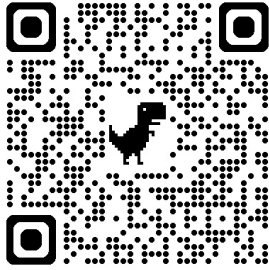
Neoplastic cells
• Uniform appearance
• Round nucleus
• Granular chromatin



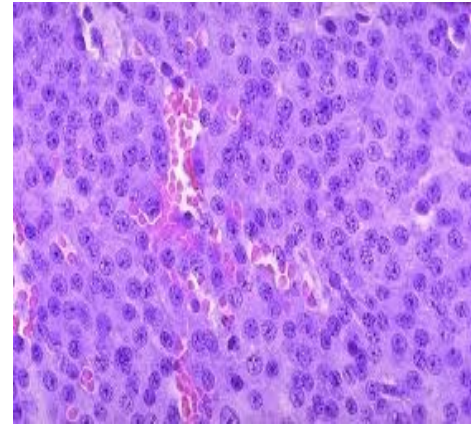
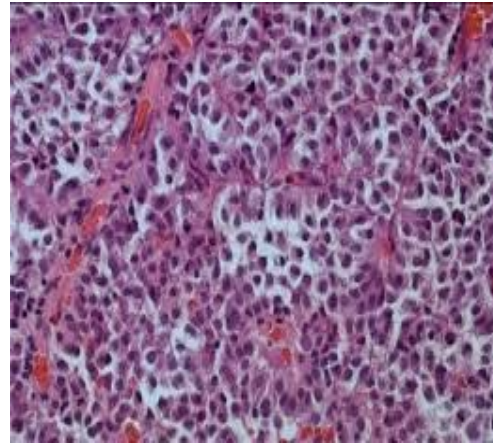
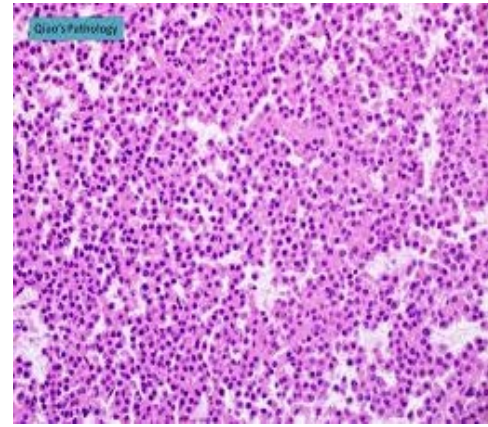
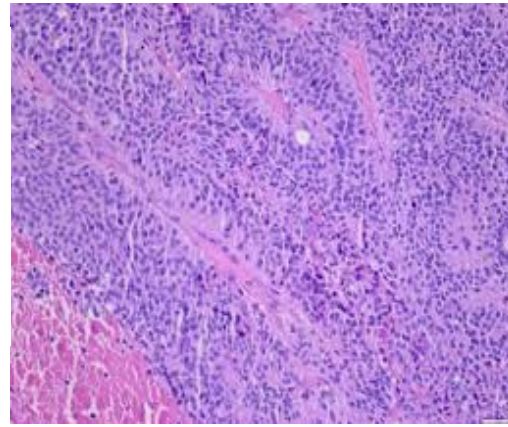
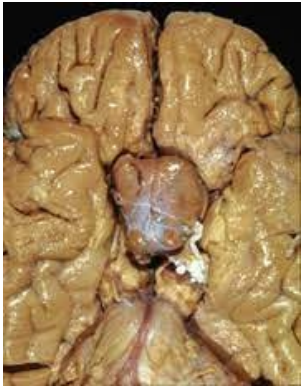
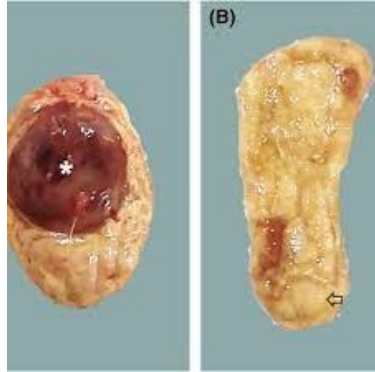
Activity

Diagnosis

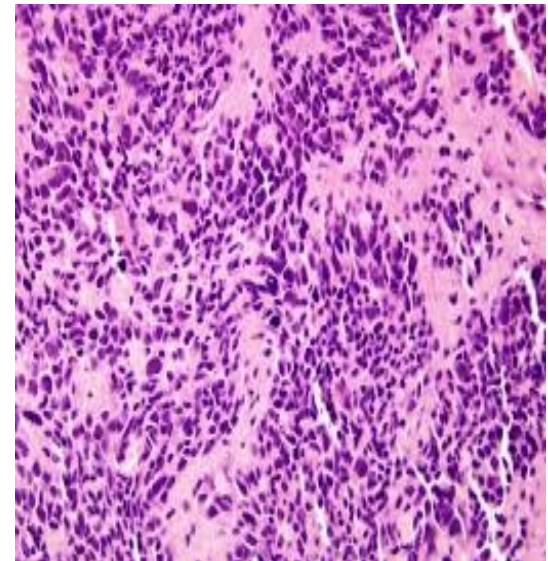
Gross and microscope



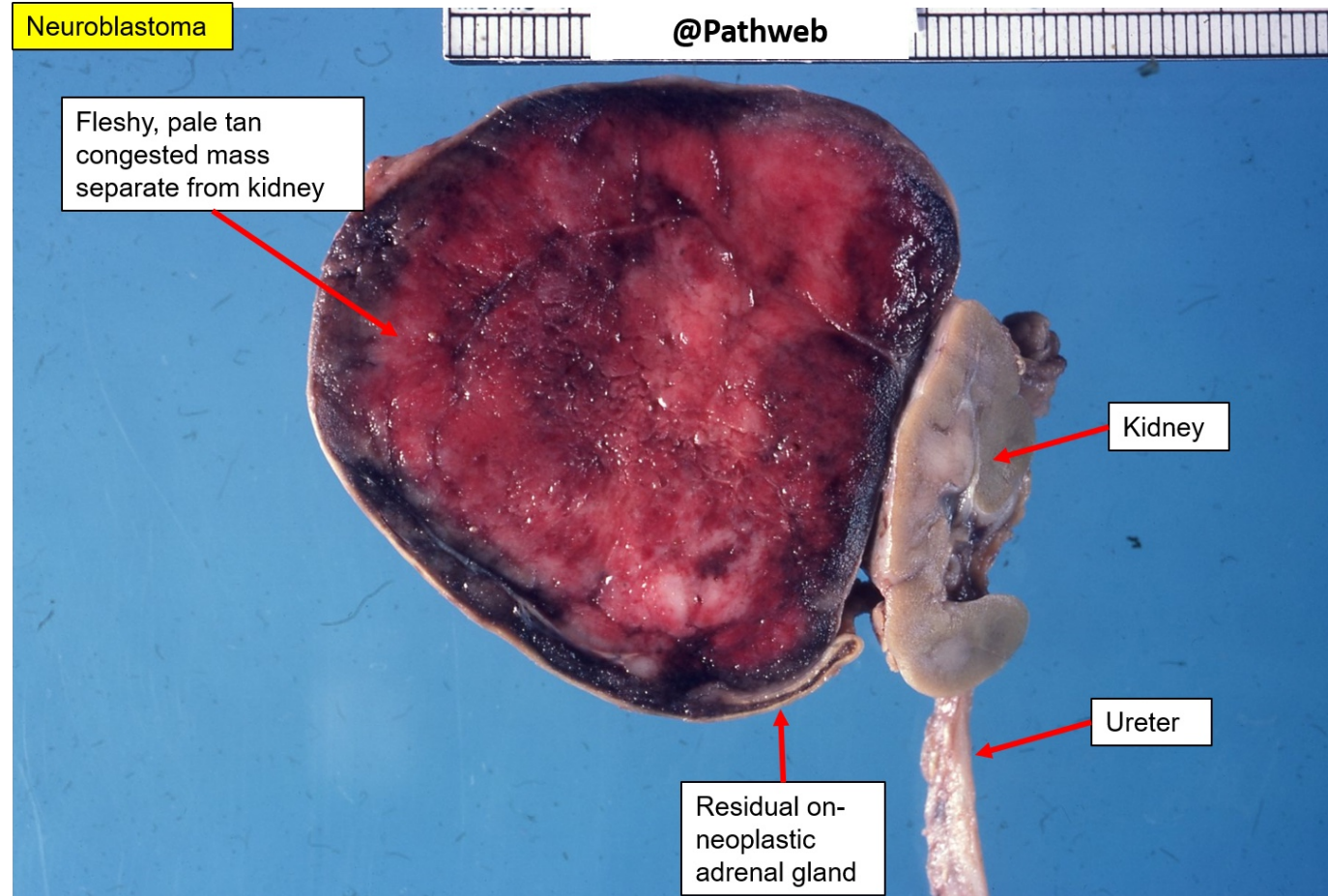
Google Classroom



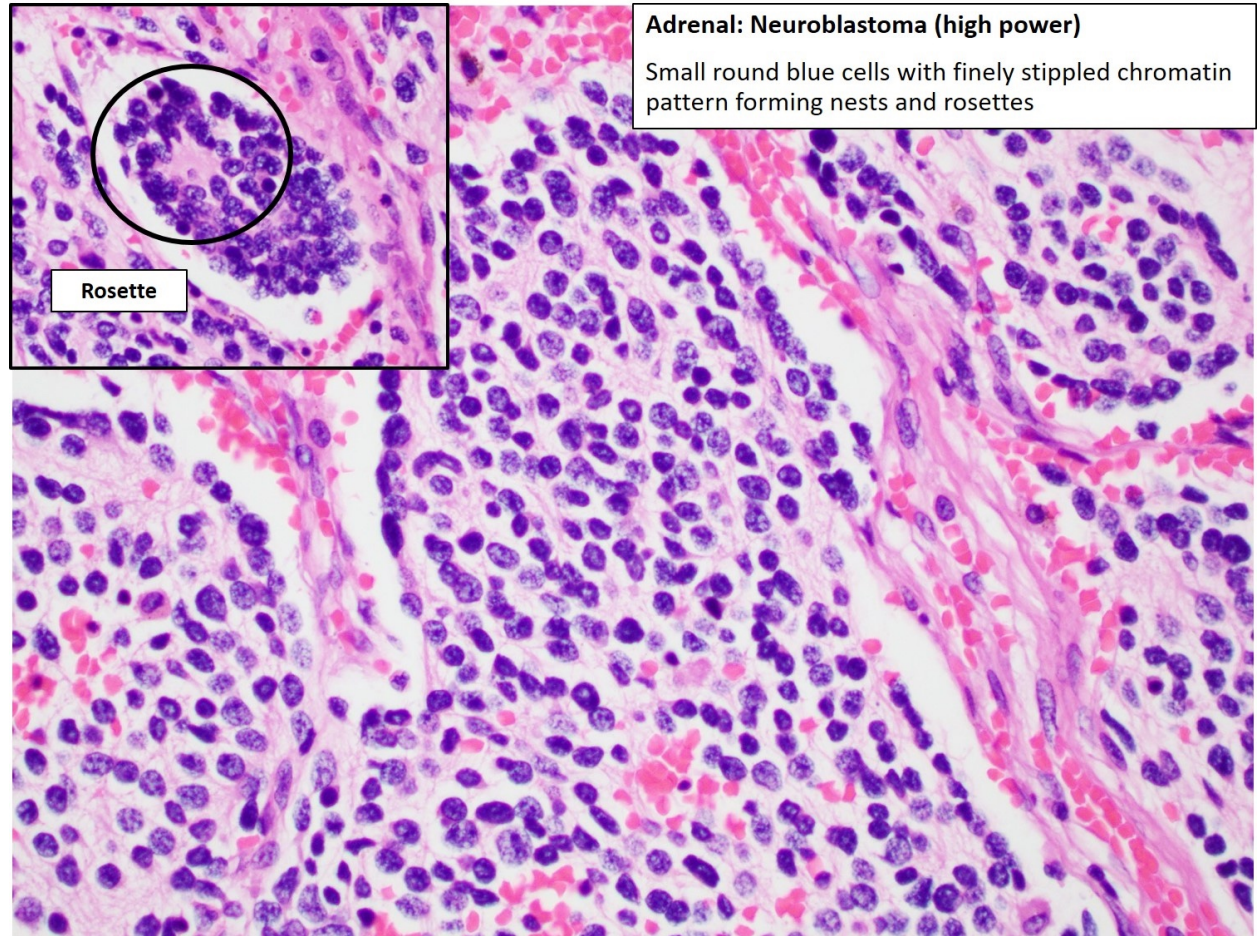
4months old child ,looks severe ill health,
malnourishment, on abdominal examination there is
abdominal mass , CT-scan of abdomen show adrenal
gland mass , after nephrectomy as show in below
picture with microscope .what is your diagnosis?.



Gross



Microscope



Activity

Diagnosis

Microscope and Gross



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