NÚCLEO DE QUITO

EL ROL DEL PATOLOGO EN EL DIAGNOSTICO Y MANEJO DE LA PATOLOGIA TIROIDEA

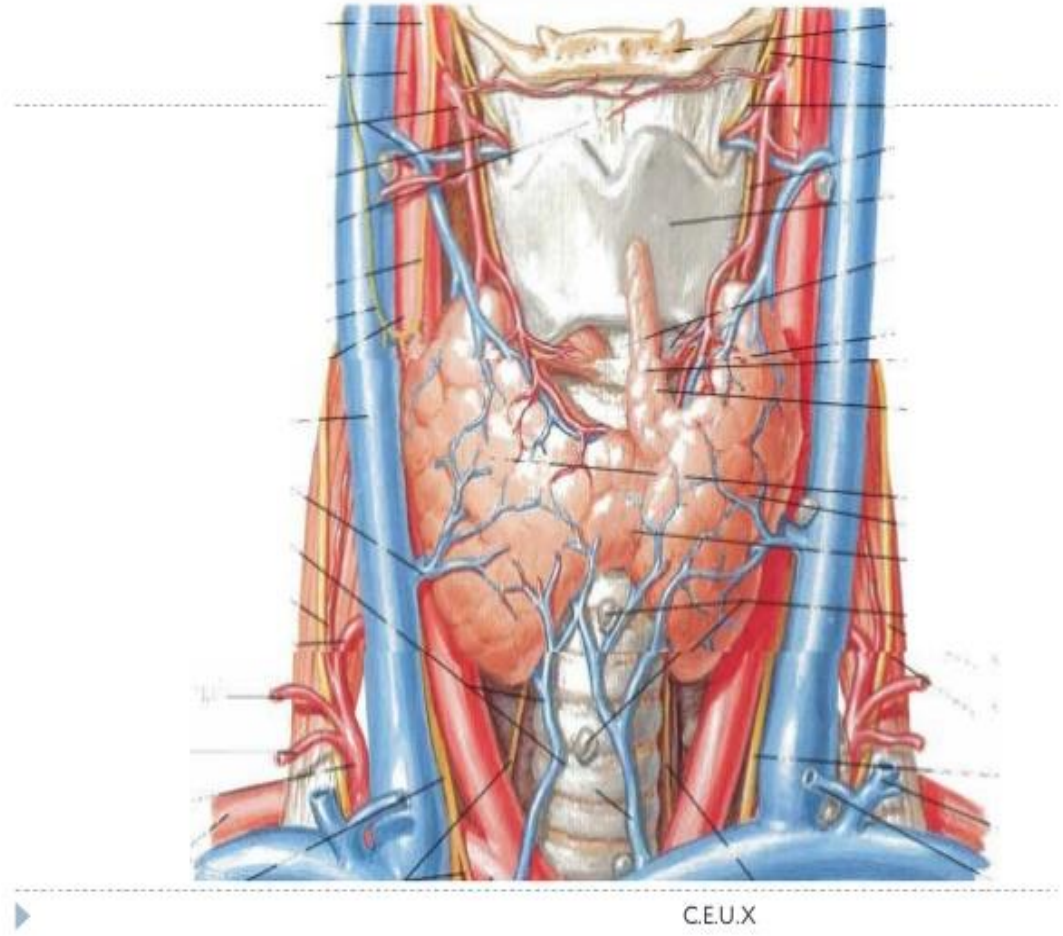
ANGELO NICOLALDE POZO

MEDICO PATOLOGO

SOLCA – HOSPITAL VOZANDES QUITO

La Glándula Tiroides: Generalidades

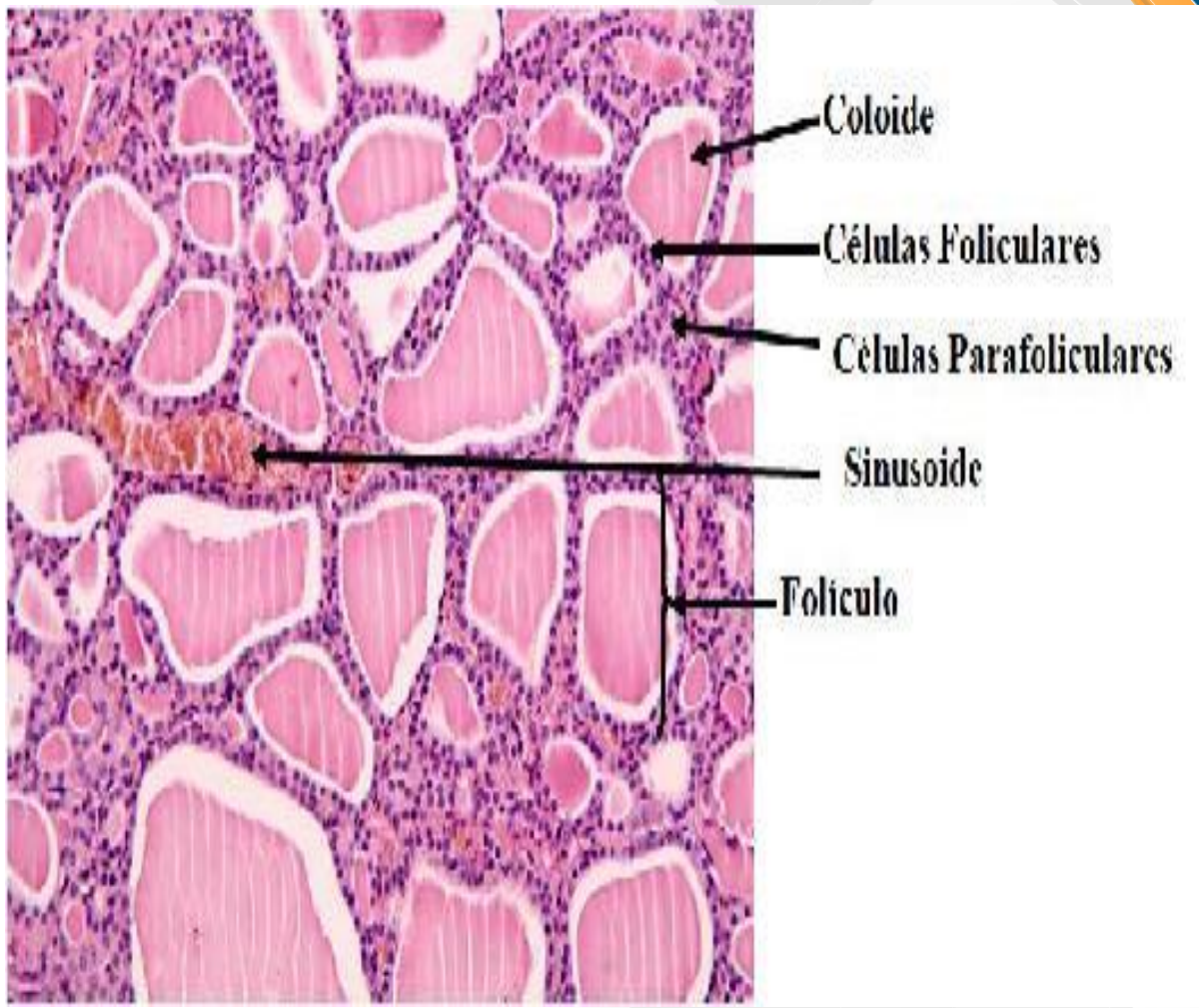
- Glándula Endocrina:
  - Levotiroxina (Metabolismo-Anabolismo)
  - Tirocalcitonina (Absorción de Calcio en Sistema Oseo)
  - Ubicada en el Cuello a los lados y por delante de la Laringe. Formada por dos Lóbulos unidos por el Istmo.
  - Pesa entre 7 y 20 gramos. Cada lóbulo mide entre 4 y 7 cm de diámetro mayor
  - Se desarrolla del Conducto Tirogloso: Endodermo de la base de la lengua
  - Examinable con inspección y palpación.



La Glándula Tiroides: Histología

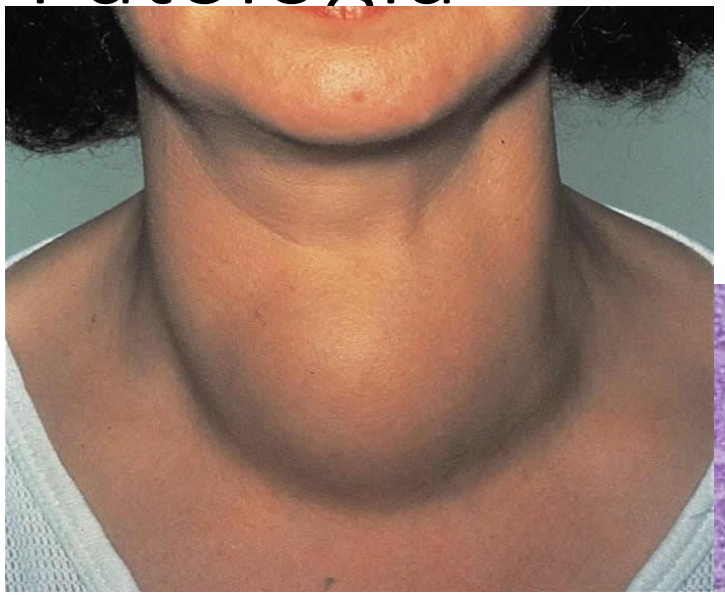
- Parénquima:
  - Folículo Tiroideo: epitelio folicular y coloide tiroideo.
  - Células C o Parafoliculares.

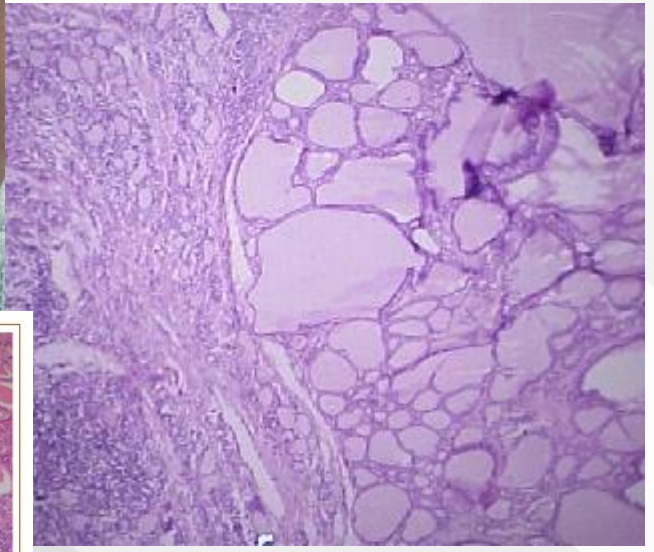
- Estroma:
  - Cápsula Fibroconectiva.
  - Intersticio: Tejido fibroconectivo laxo muy vascularizado.

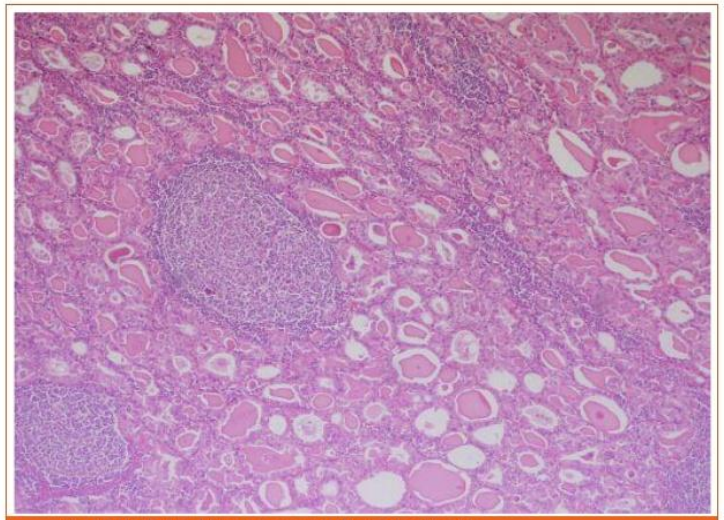


La Glándula Tiroides: Patología

- Clínicamente:
  - Hipo vs Hipertiroidismo
  - Eutiroidismo vs Hipotiroidismo Subclínico.
    - Cuantificaciones Hormonales (Relación T4-TSH).
- Histopatológicamente:
  - Hiperplasia Nodular o Difusa: Bocio
  - Inflamatorias:
    - Aguda Abscedada (rara)
    - Crónicas: Linfocitaria de Hashimoto, Fibrosante de Riedel, Subaguda Granulomatosa De Dequervain.



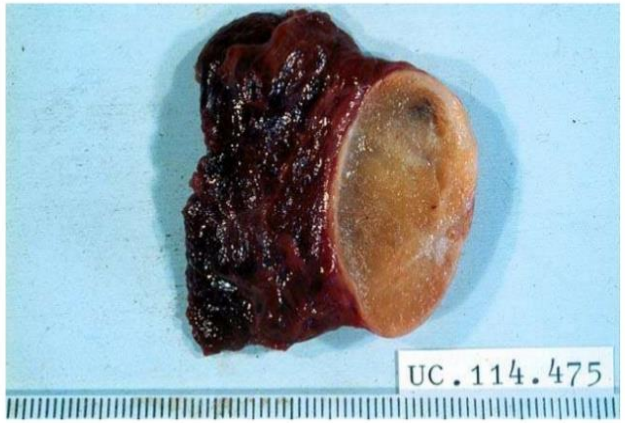


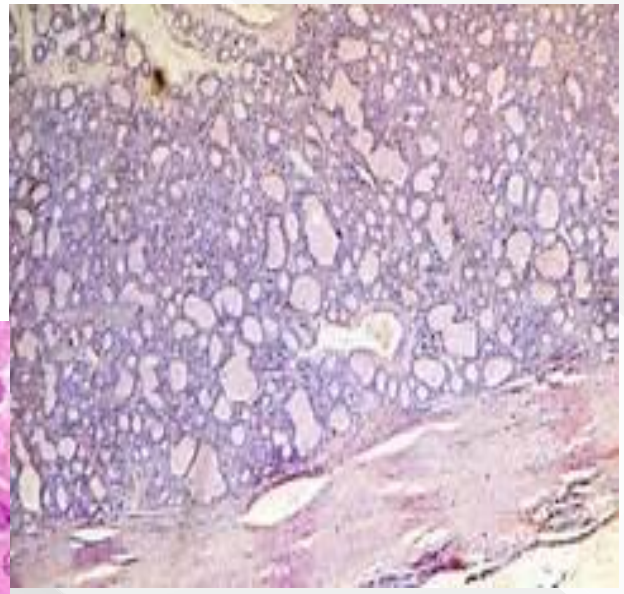


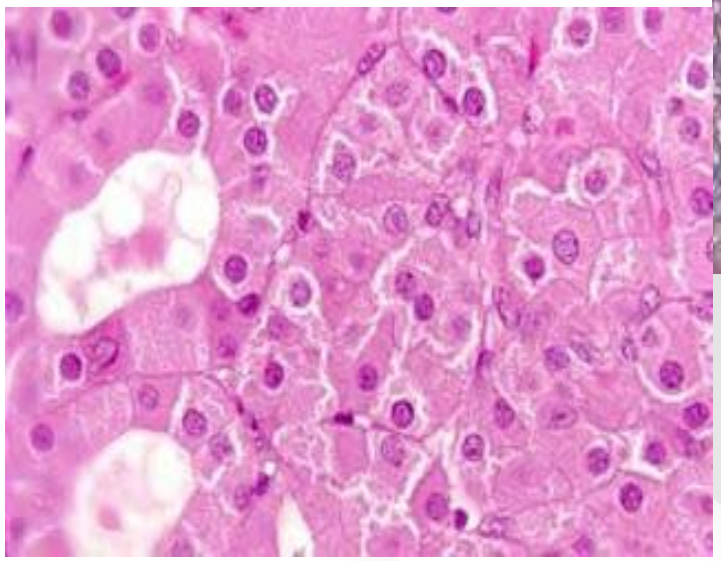
Tiroiditis de Hashimoto, aumento lupa, tinción HE

La Glándula Tiroides: Patología

- Tumorales:
  - Benignos:
    - Adenoma Folicular
    - Adenoma Folicular Oncocitico, Oncocitoma o Tumor de Células de Hurthle
    - Hiperplasia Papilar Nodular Benigna

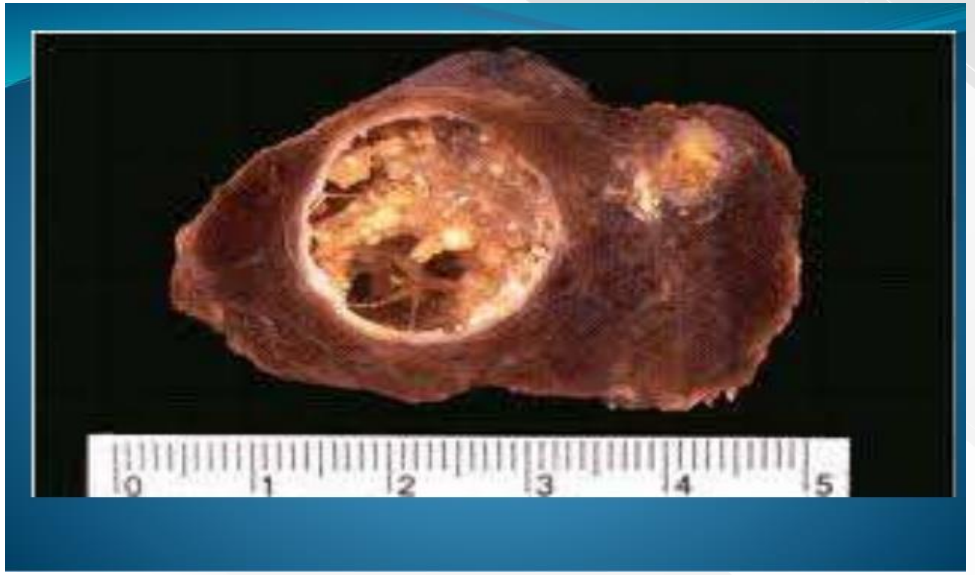


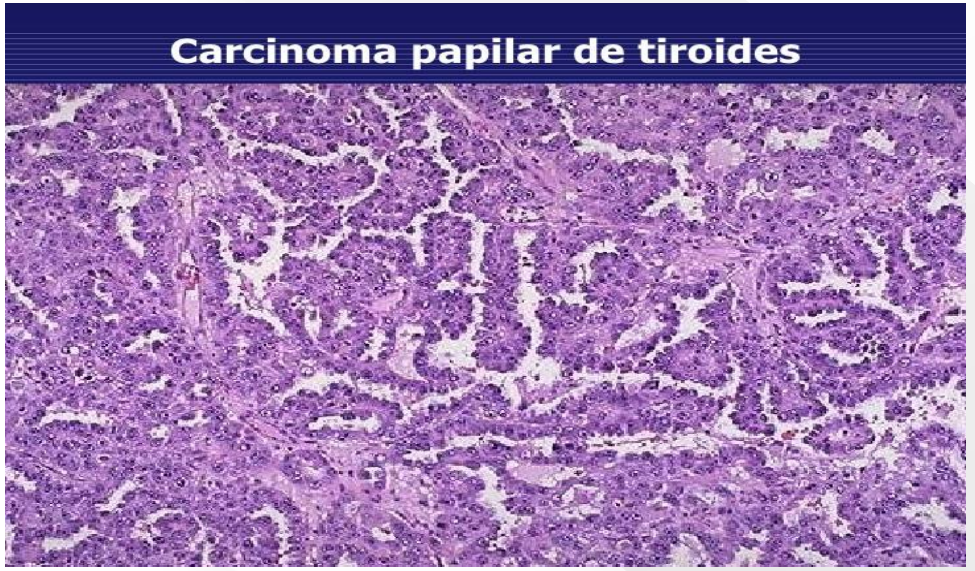




La Glándula Tiroides: Patología

- Tumorales:
  - Malignos:
    - Carcinoma Papilar y Variantes (80%)
    - Carcinoma Folicular
    - Carcinoma Oncocitico (Hurtle)
    - Carcinoma Medular
    - Carcinoma Indiferenciado o Anaplásico
    - Carcinoma Escamoso
    - Carcinoma Mixto
    - Tumores Metastásicos
    - Linfomas





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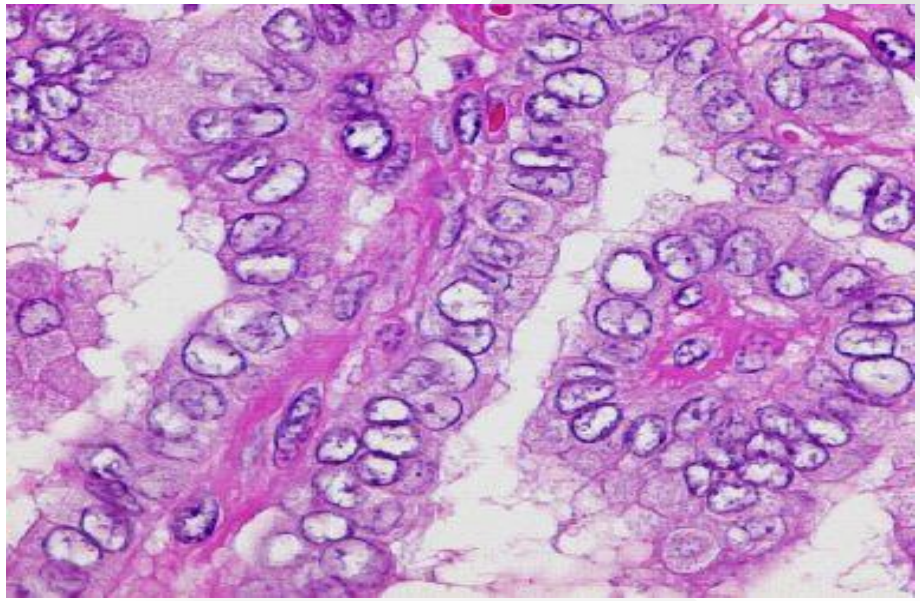
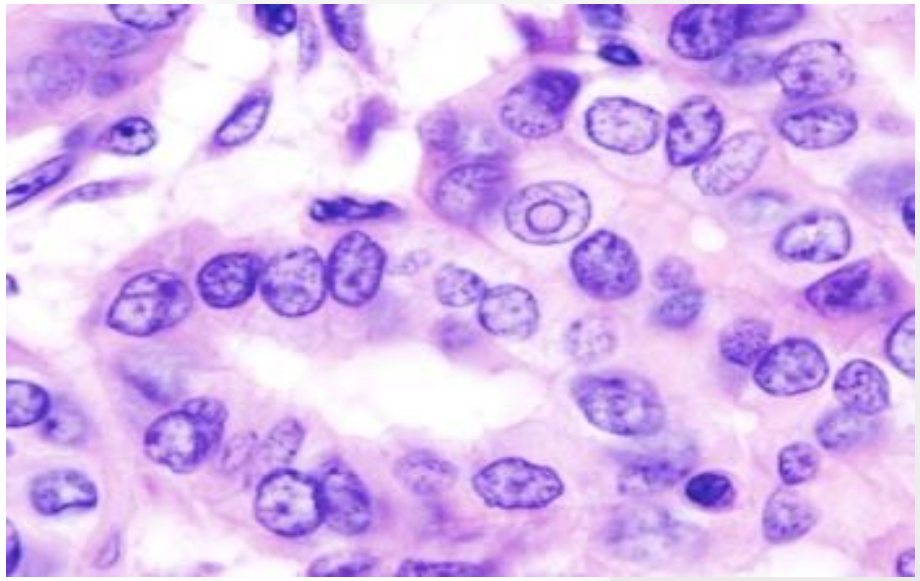
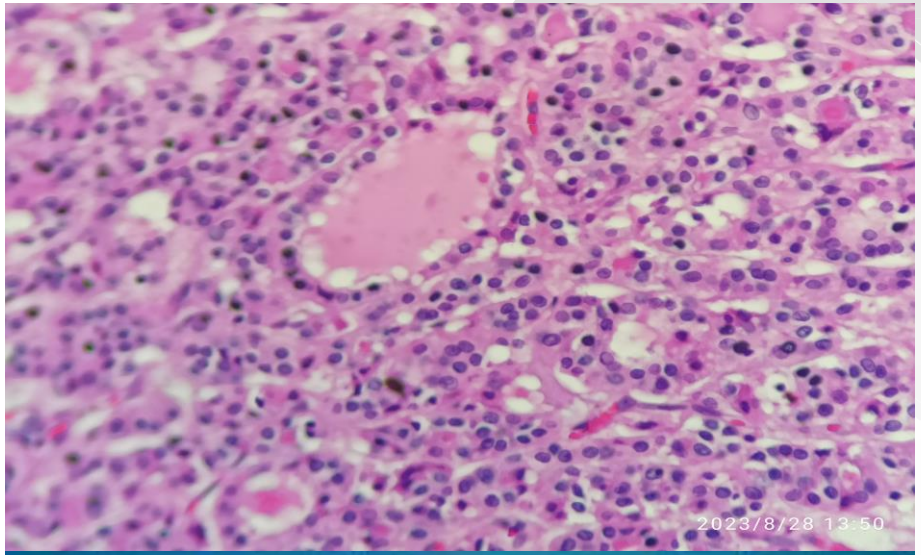


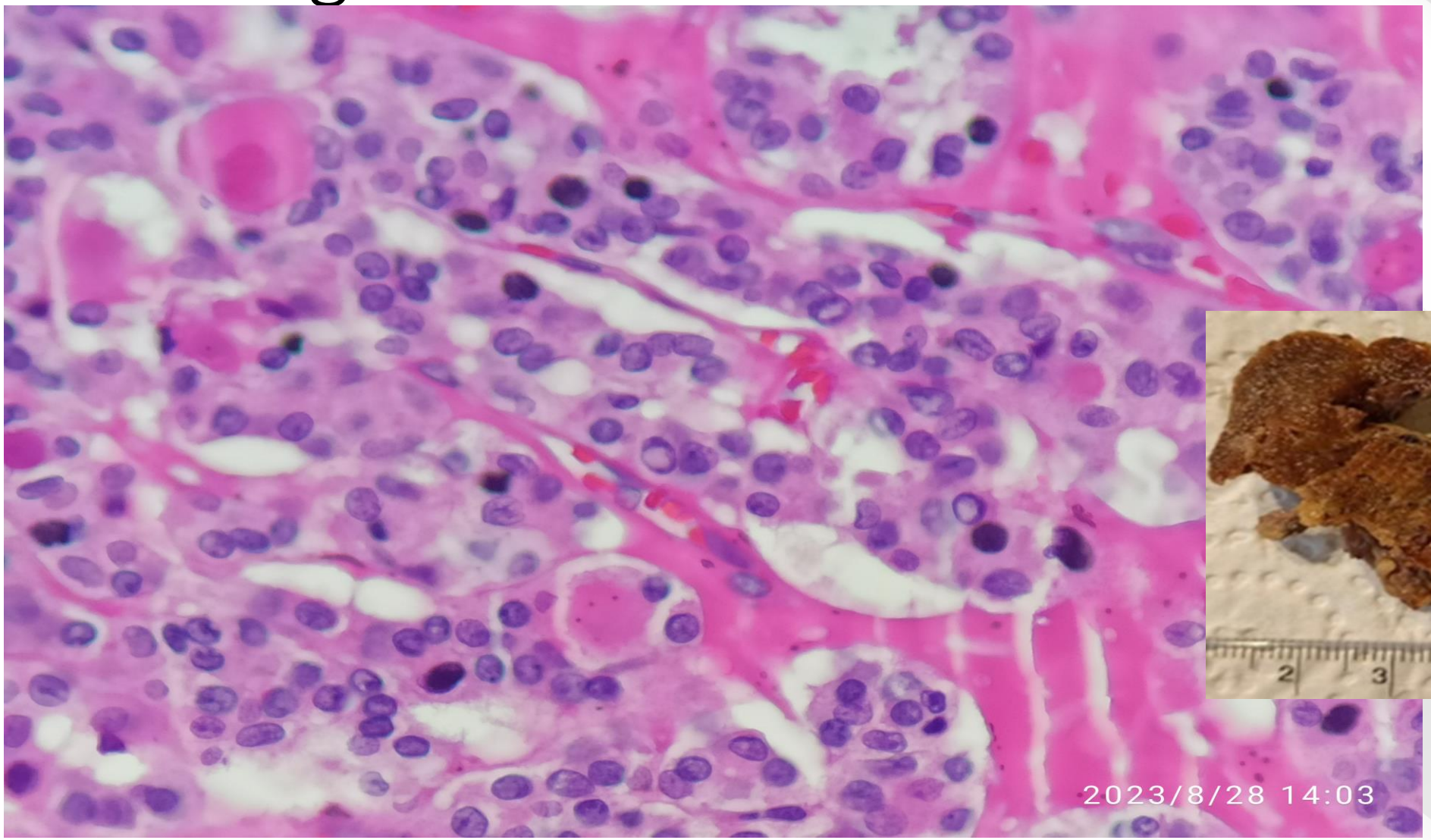


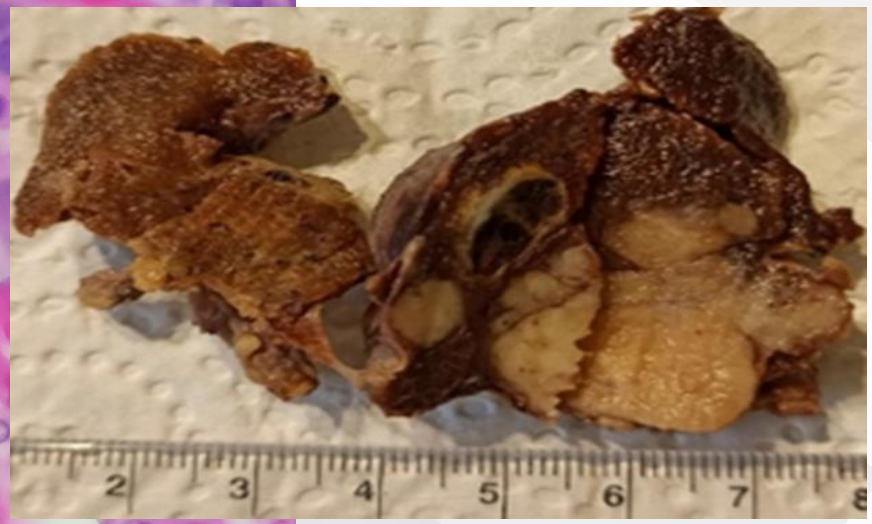
La Glándula Tiroides: Patología

- Tumorales:
  - Malignos:
    - Variantes de Carcinoma Papilar:
    - Folicular
    - Encapsulada
    - Microcarcinoma Papilar
    - Células Columnares
    - Oncocítica
    - Esclerosante Difuso



La Glándula Tiroides: Patología





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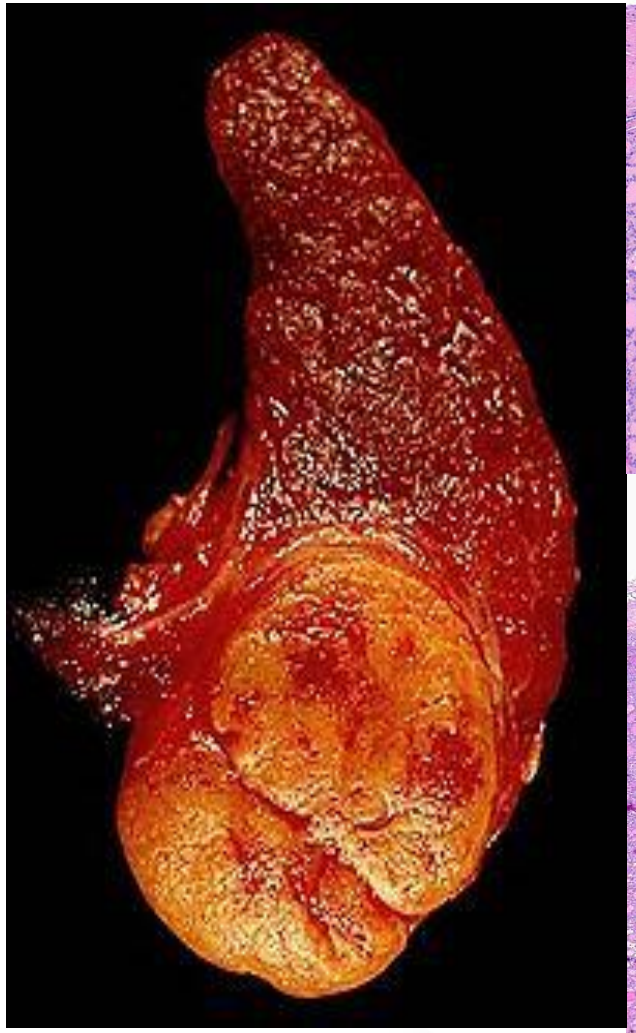
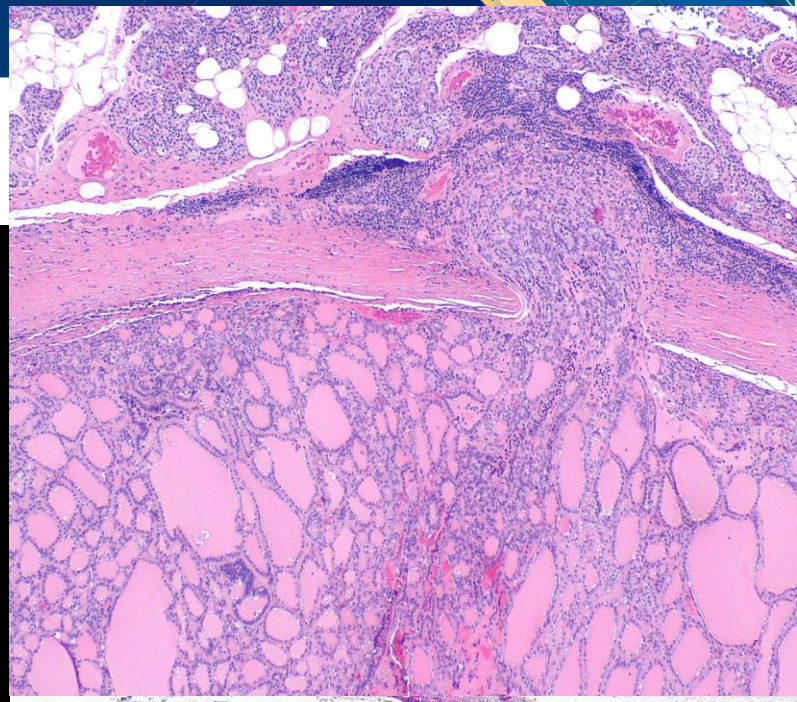
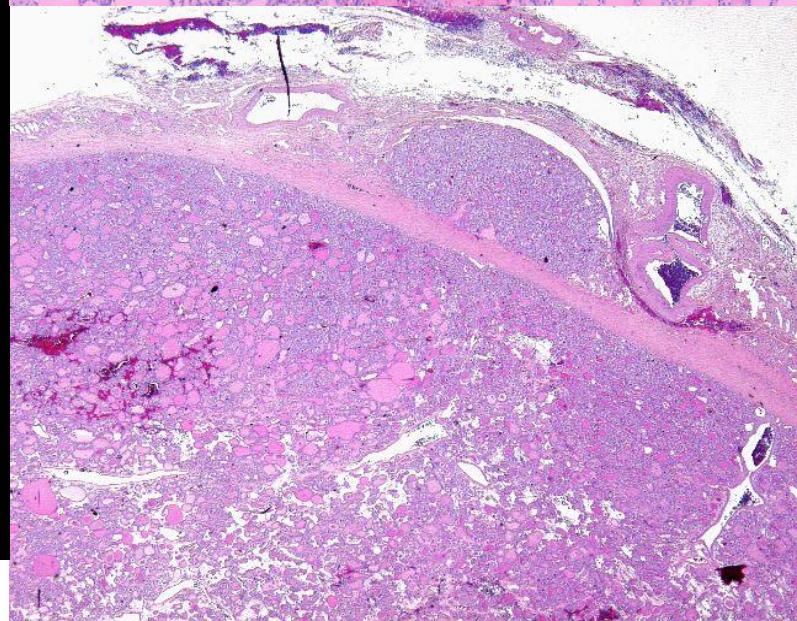
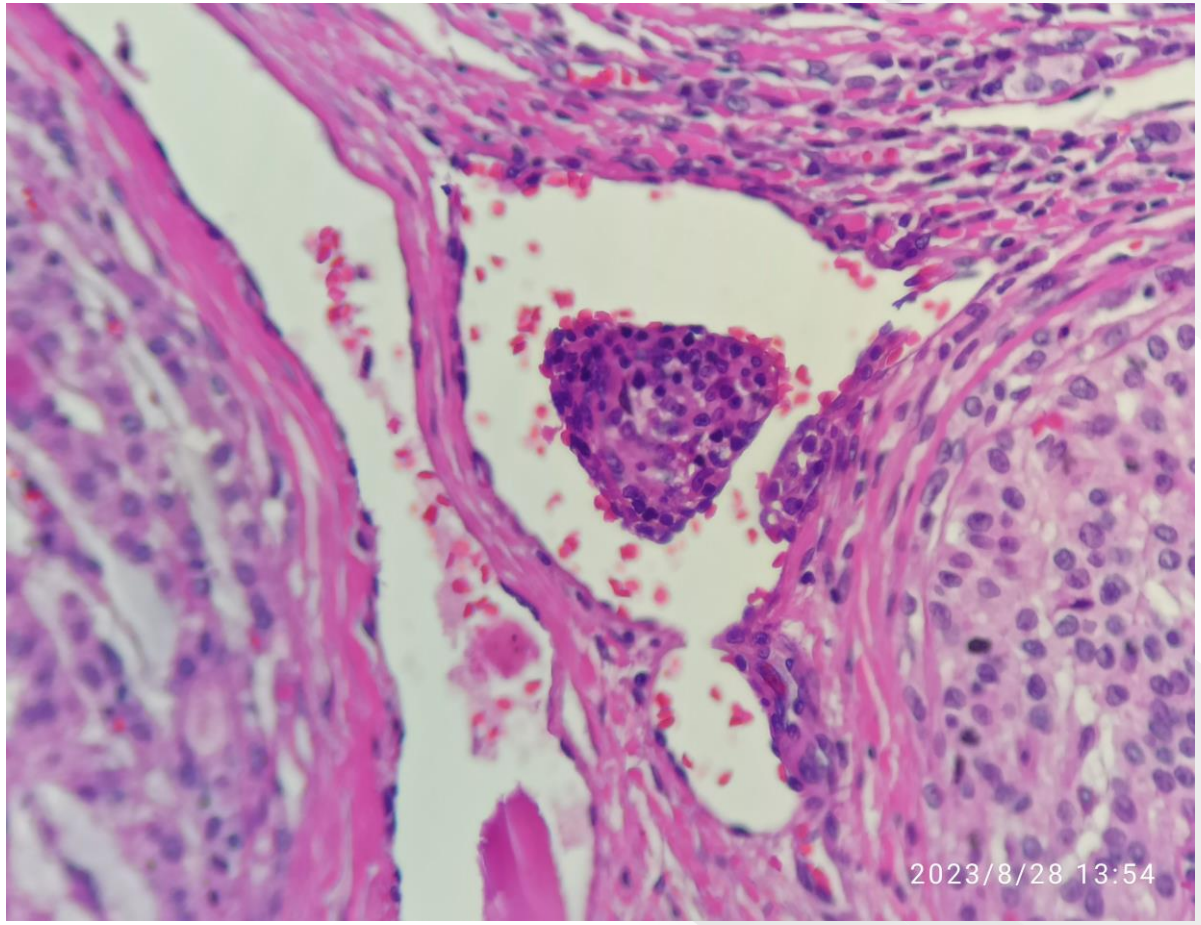






La Glándula Tiroides: Patología

- Tumorales:
  - Malignos:
    - Variantes de Carcinoma Folicular:
    - Mínimamente Invasivo
    - Encapsulado Angioinvasivo
    - Ampliamente Invasivo



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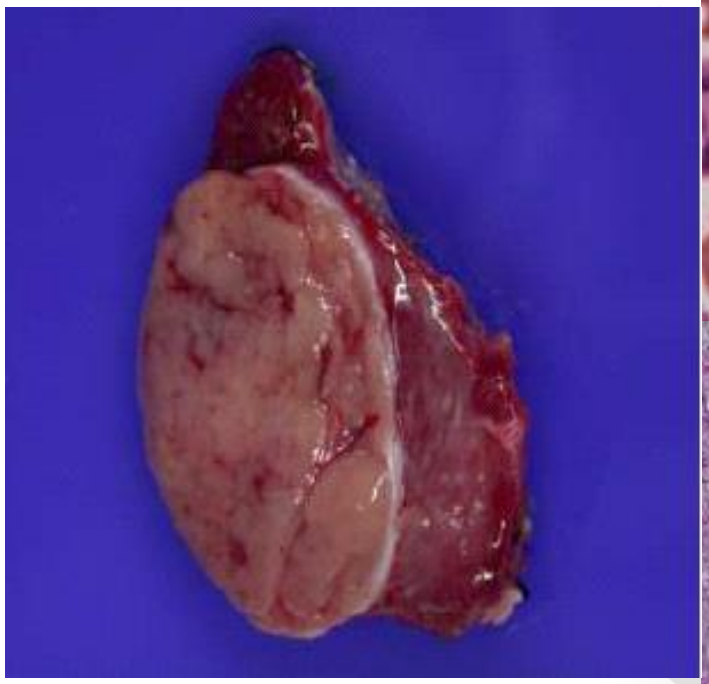

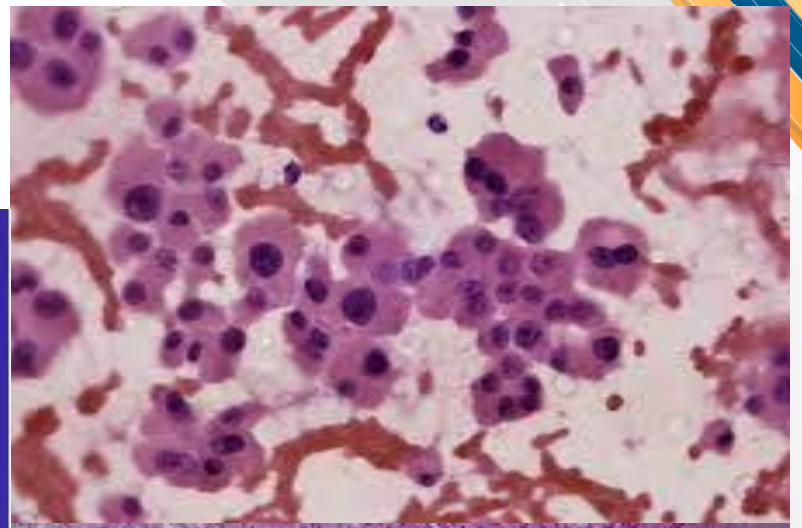

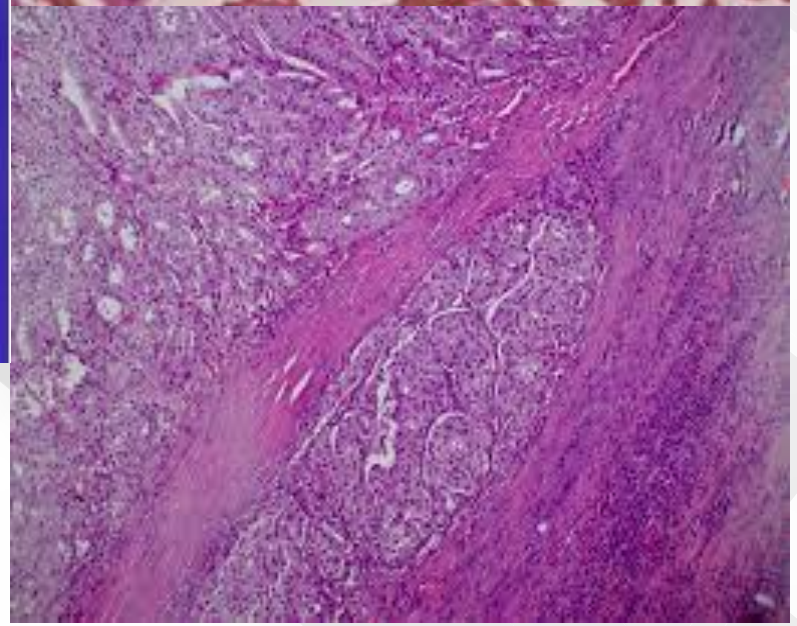

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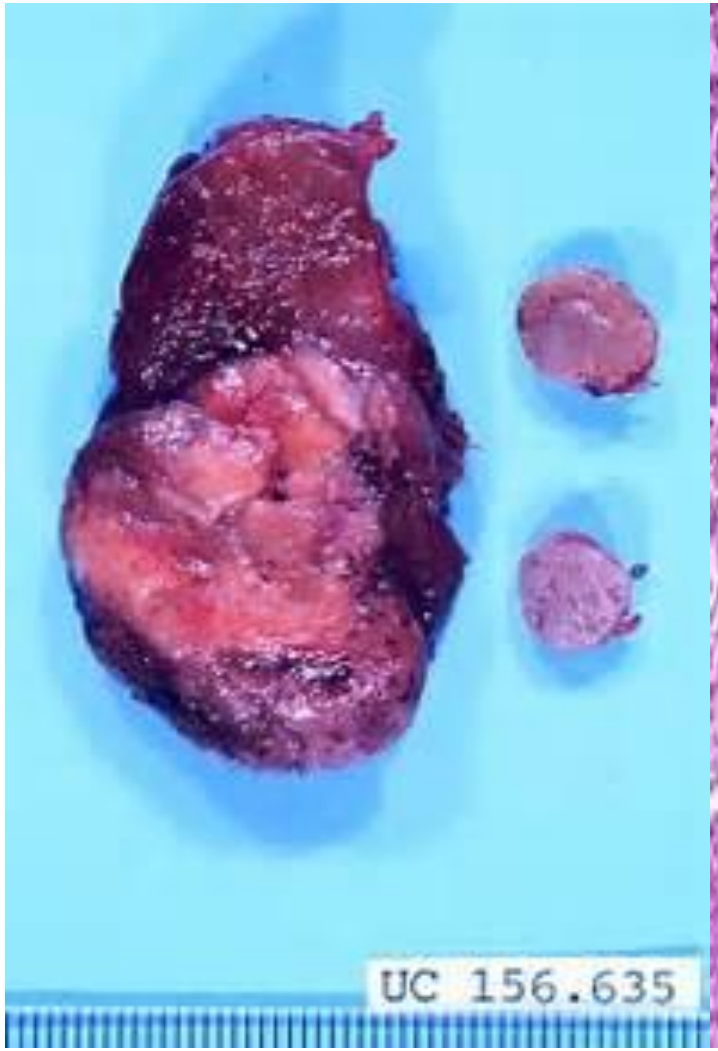

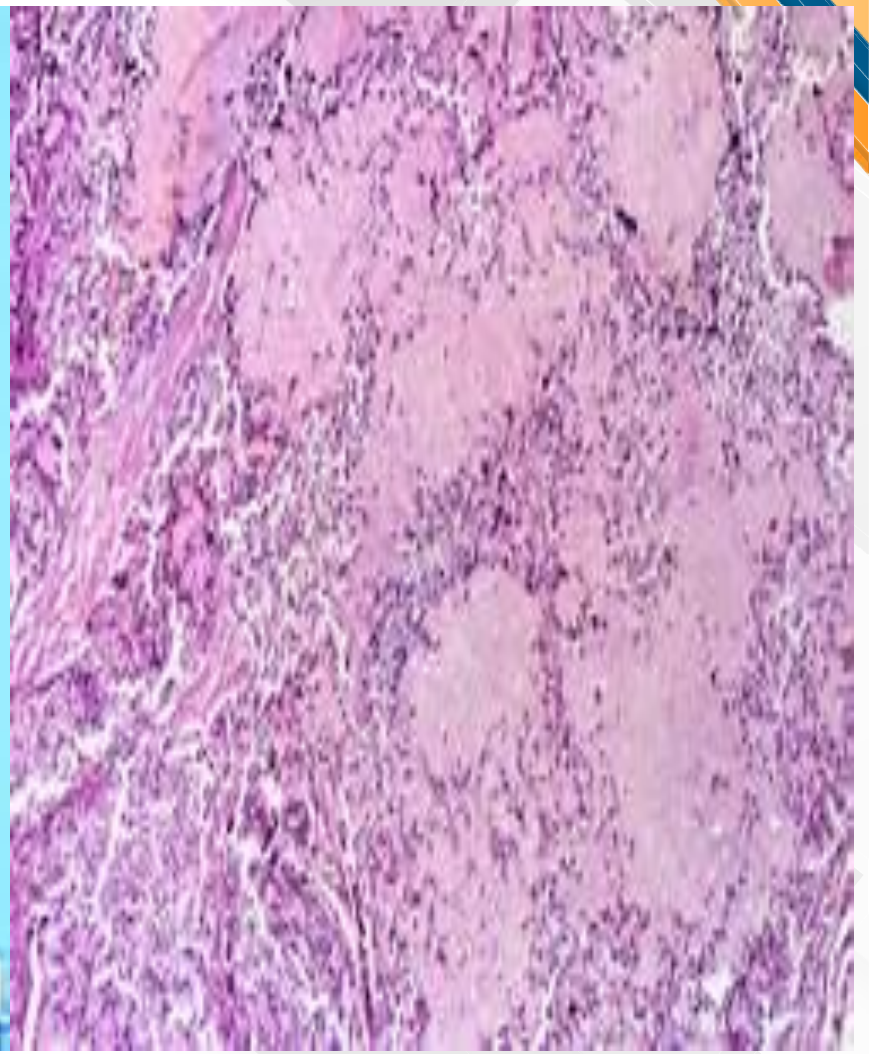

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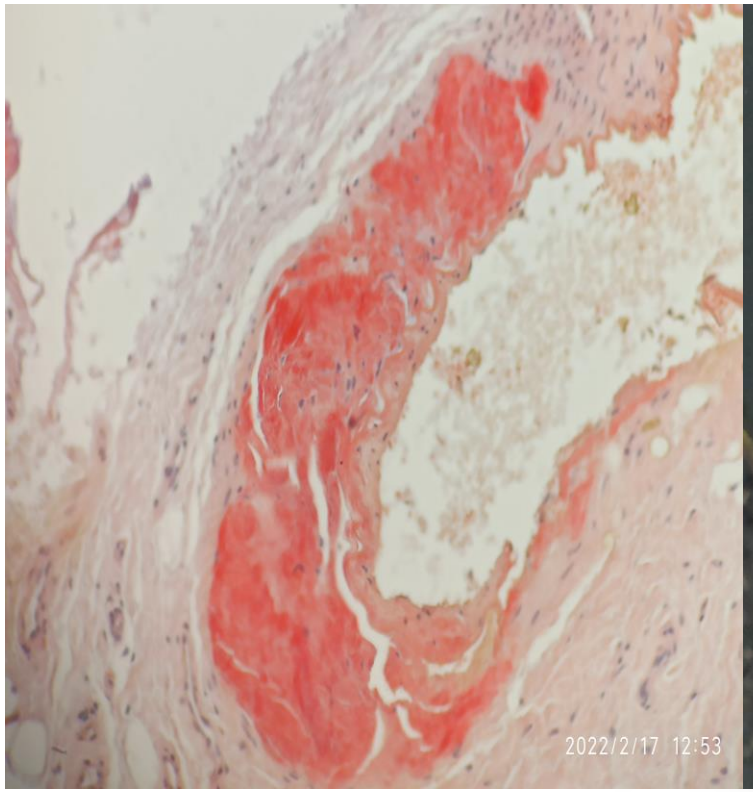

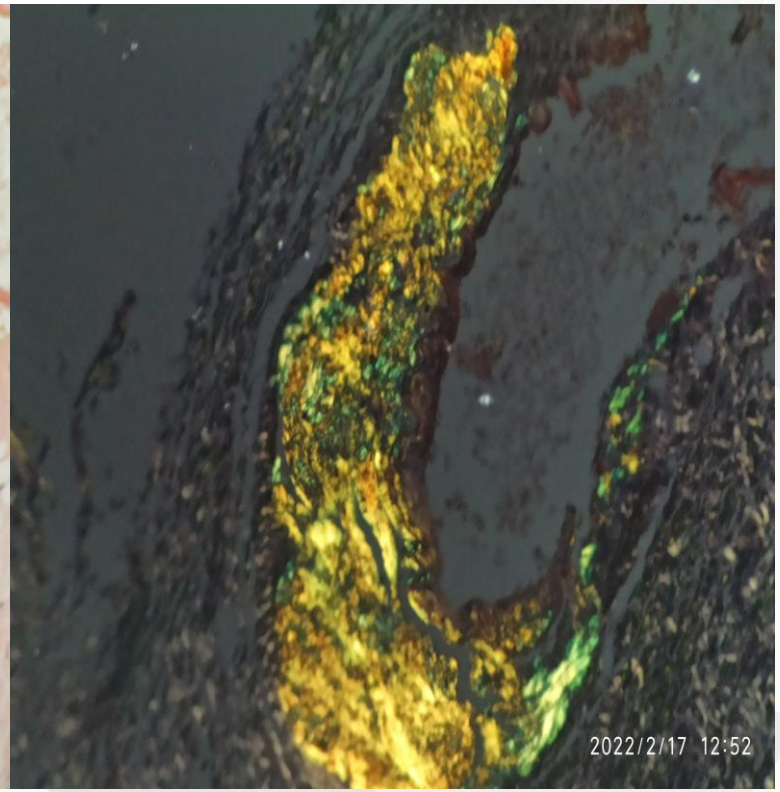

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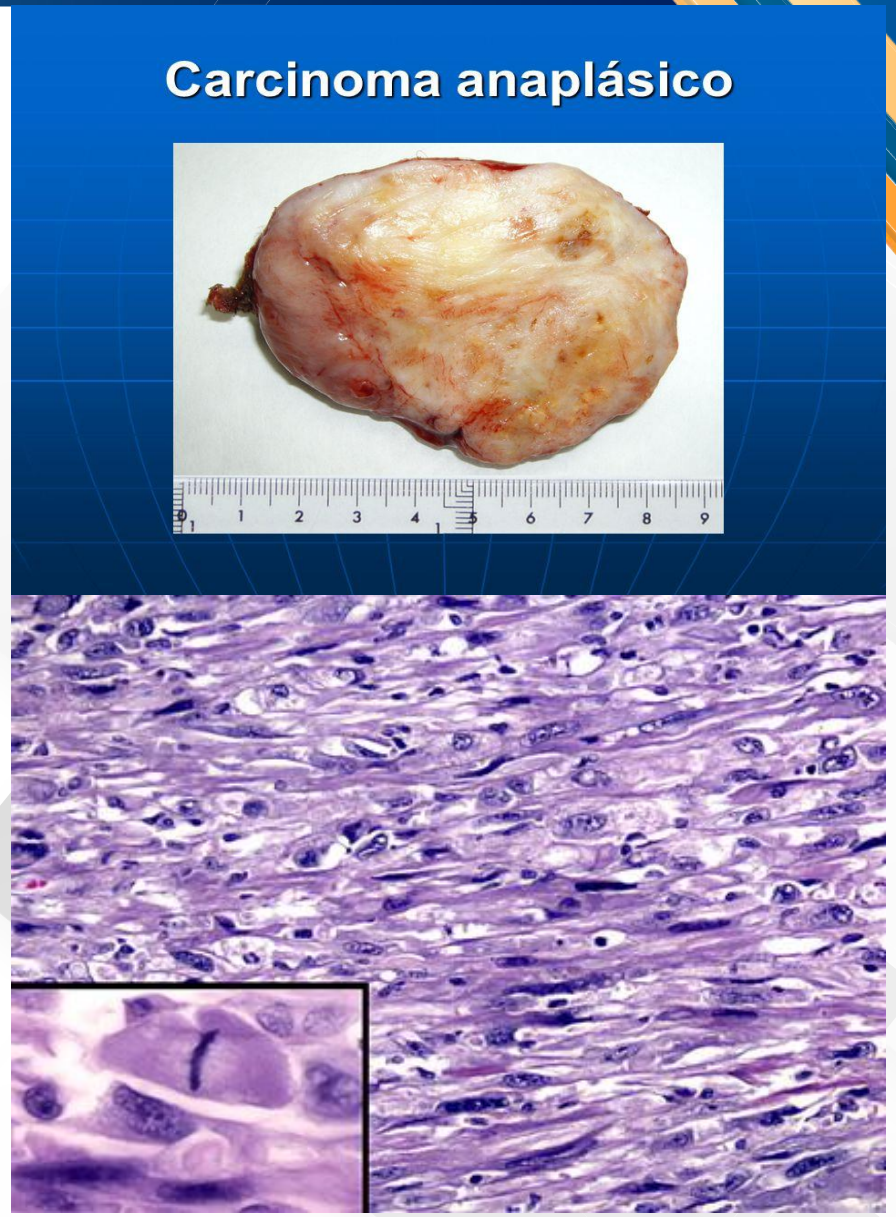

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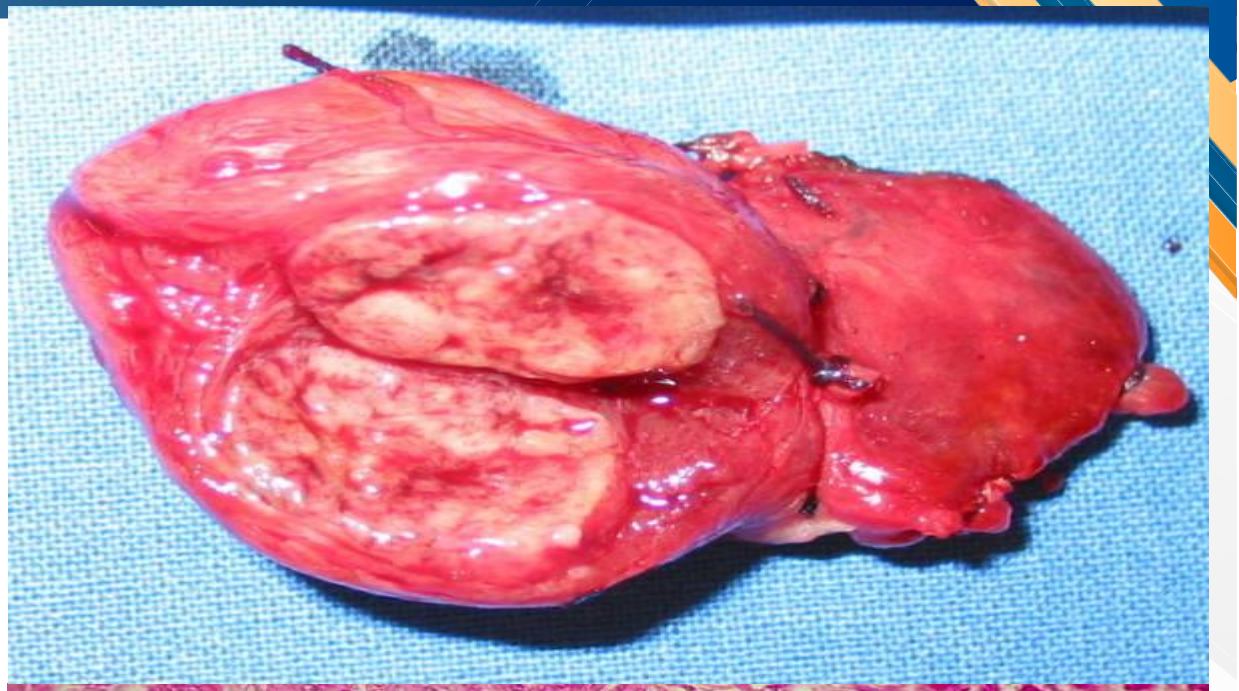
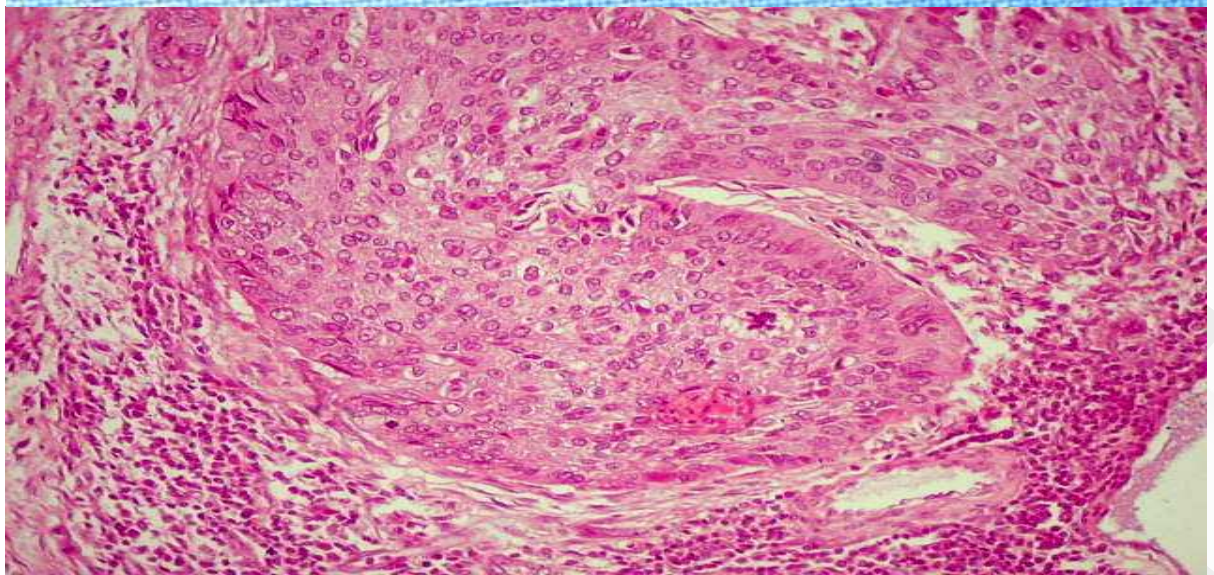
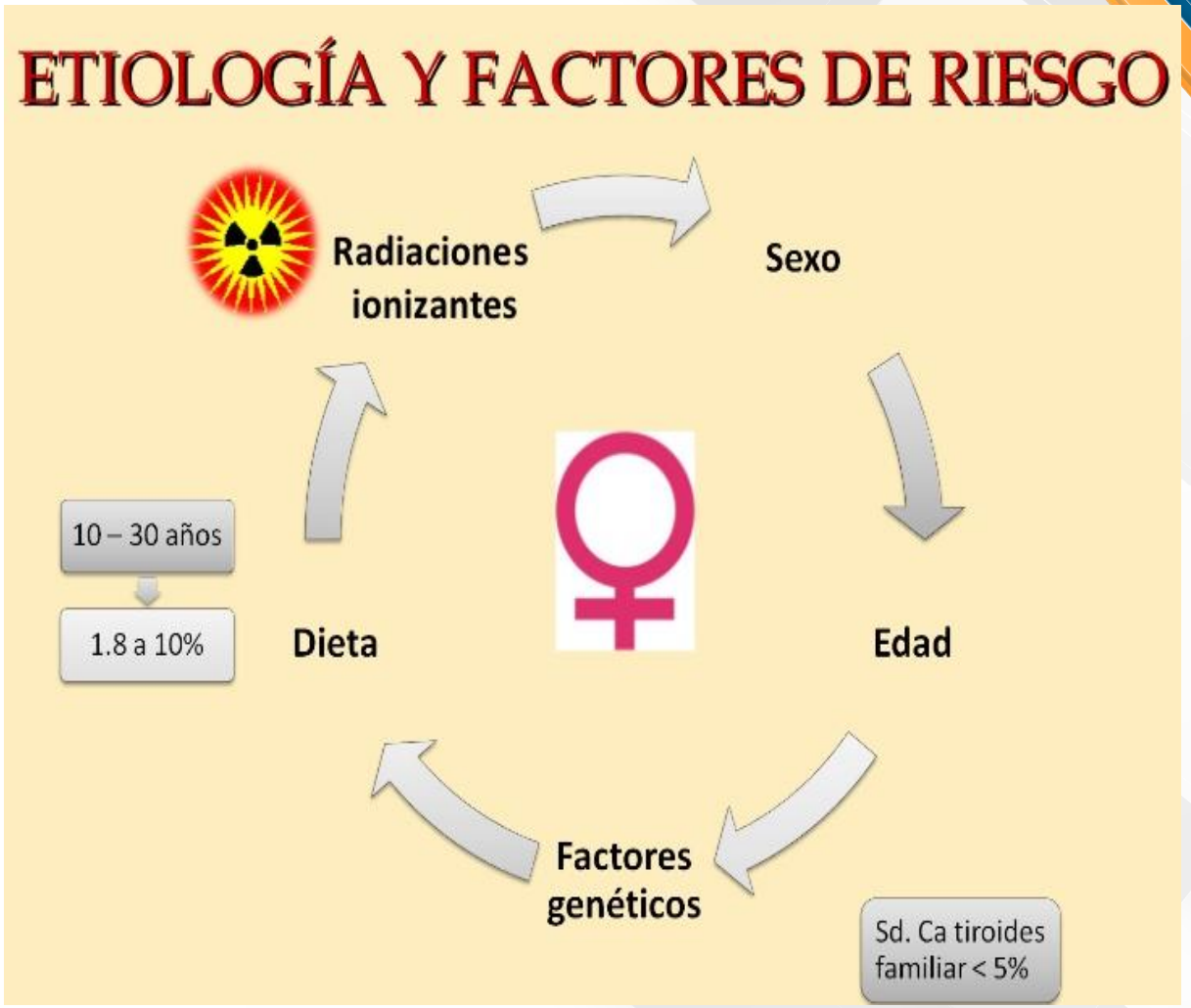




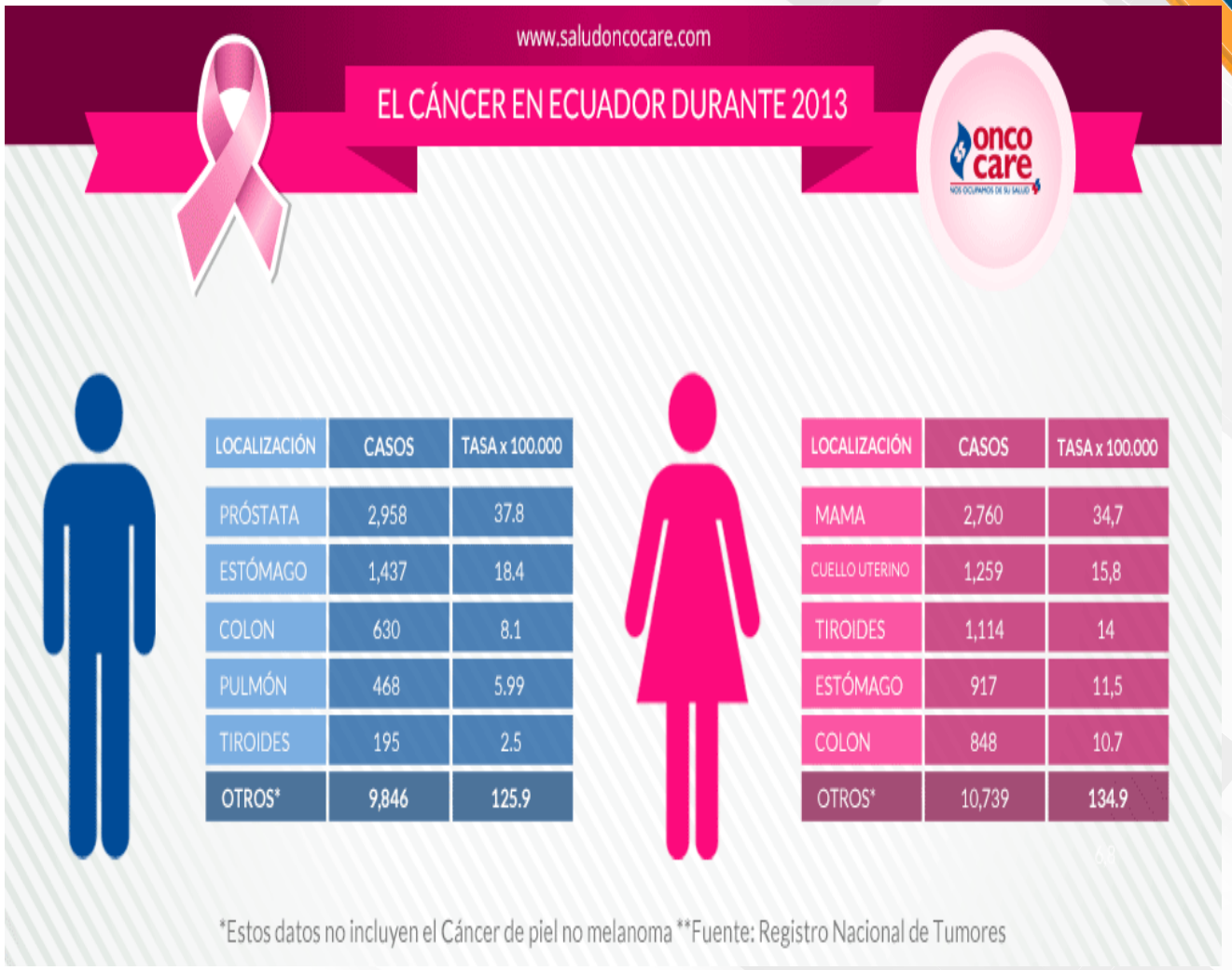
La Glándula Tiroides: Epidemiología

- Bocio 85% de Casos
- Tiroiditis 15 al 60% de Casos
- Nódulos Tiroideos Solitarios 2 a 4 %
  - Adenomas 90%
  - Carcinomas 1%
    - 15000 casos nuevos al año EUA.
  - Papilar 75-85%
  - Folicular 10-20%
  - Medular 5%
  - Anaplásico 2-4%
- Cuatro Veces Más Frecuente en Mujeres
- Sobrevida a 20 años 90%



La Glándula Tiroides: Epidemiología Ecuador

- Primer Lugar en Cáncer en Mujeres con 23.8 x100000 hb. Luego Mama y Cérvix (RNT 2015)
- Tercer Lugar Luego de Mama y Cérvix (RNT 2013)
- En hombres la tasa es 3.9x100000 hb. (RNT 2014).
- Cerca de 1000 casos nuevos anuales.
- Diez veces más frecuente en mujeres
- Aumento de casos conforme avanza la edad.
- Según la IARC ocupamos el 8vo puesto mundial en incidencia.
- Crecimiento en incidencia (Casos Nuevos) vs Estabilidad en la Mortalidad.



LOCALIZACIÓN	CASOS	TASA x 100.000
PRÓSTATA	2,958	37.8
ESTÓMAGO	1,437	18.4
COLON	630	8.1
PULMÓN	468	5.99
TIROIDES	195	2.5
OTROS*	9,846	125.9

LOCALIZACIÓN	CASOS	TASA x 100.000
MAMA	2,760	34,7
CUELLO UTERINO	1,259	15,8
TIROIDES	1,114	14
ESTÓMAGO	917	11,5
COLON	848	10.7
OTROS*	10,739	134.9

*Estos datos no incluyen el Cáncer de piel no melanoma **Fuente: Registro Nacional de Tumores

NÚCLEO DE QUITO

CITOPATOLOGIA DE LA GLANDULA TIROIDES Y SISTEMA BETHESDA DE REPORTE

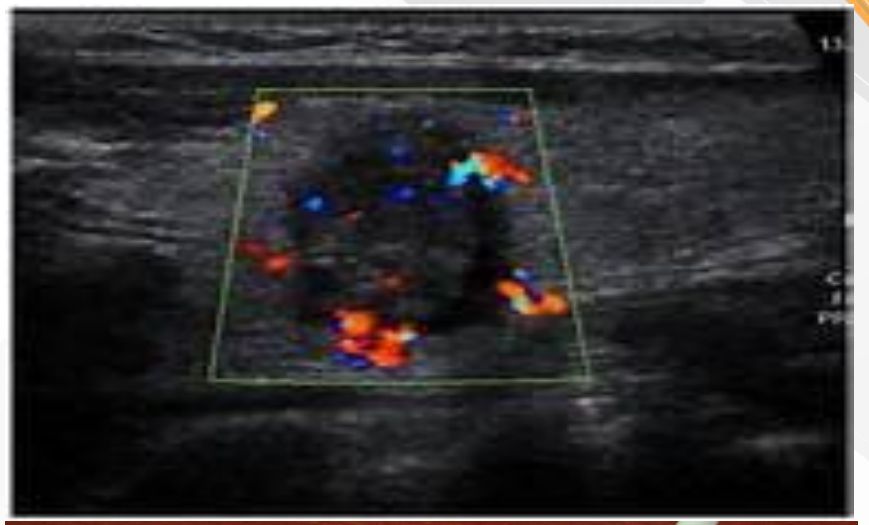
ANGELO NICOLALDE POZO

MEDICO PATOLOGO

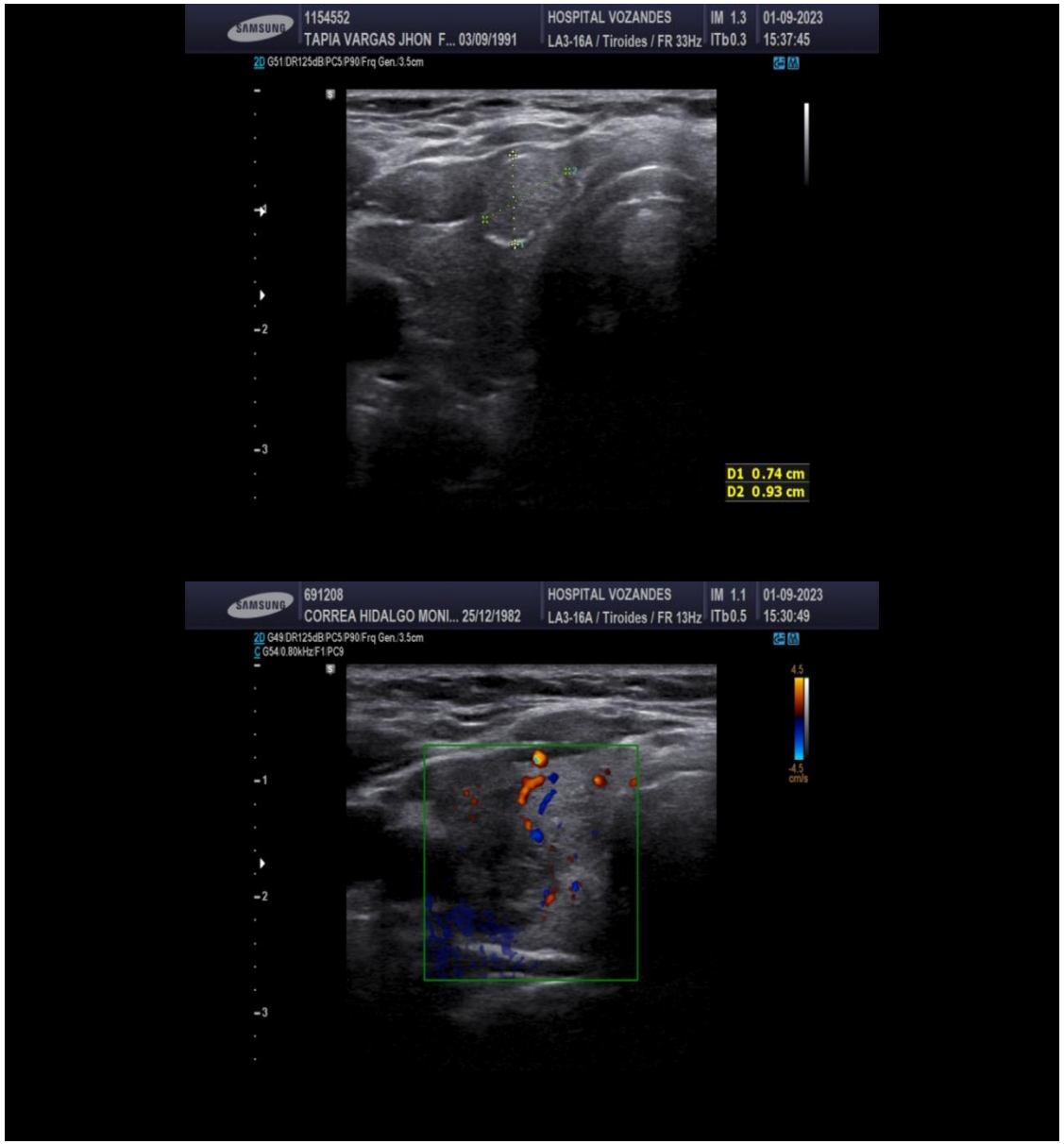
SOLCA – HOSPITAL VOZANDES QUITO

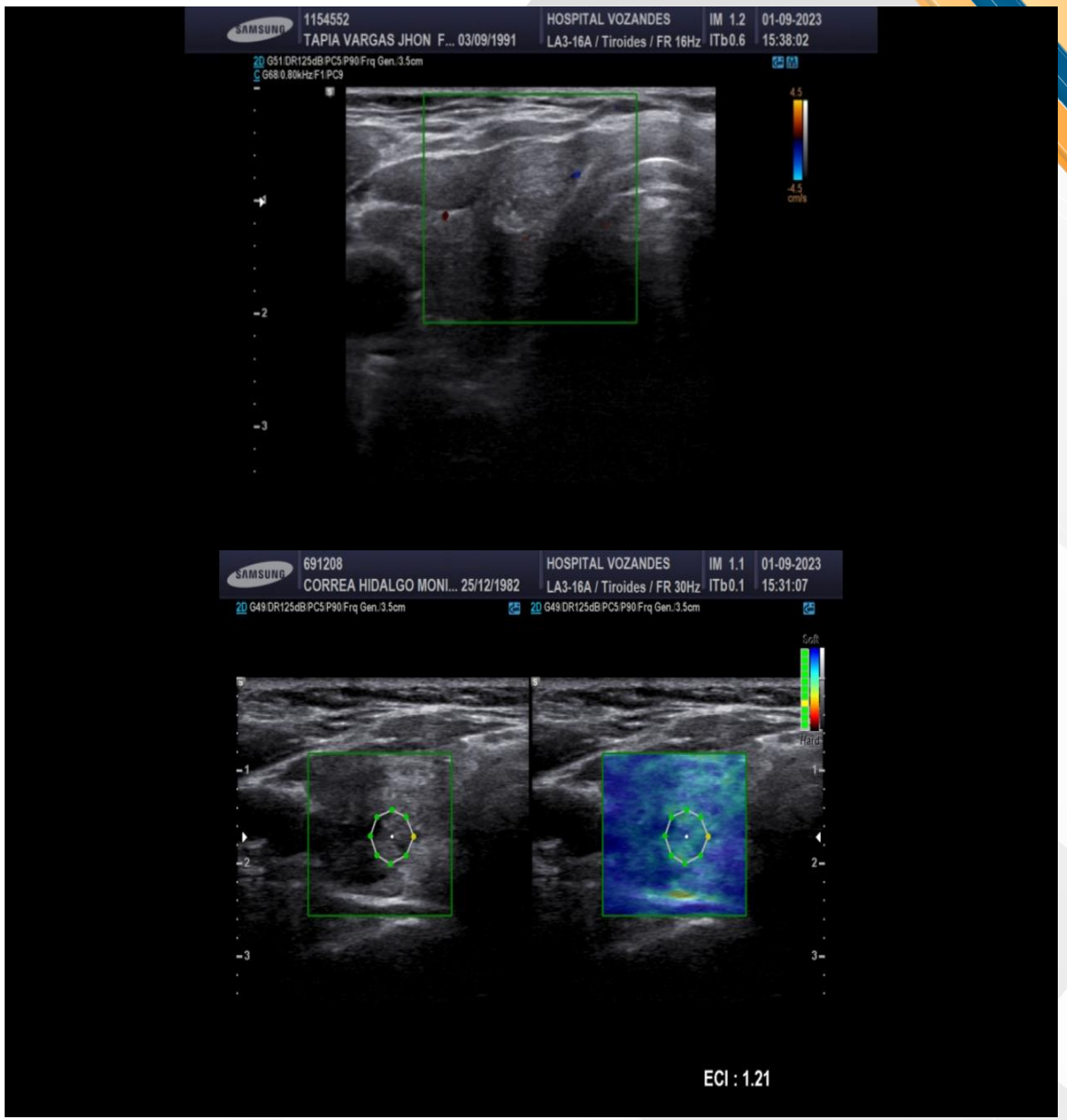
NODULO TIROIDEO: Sistemática de Análisis

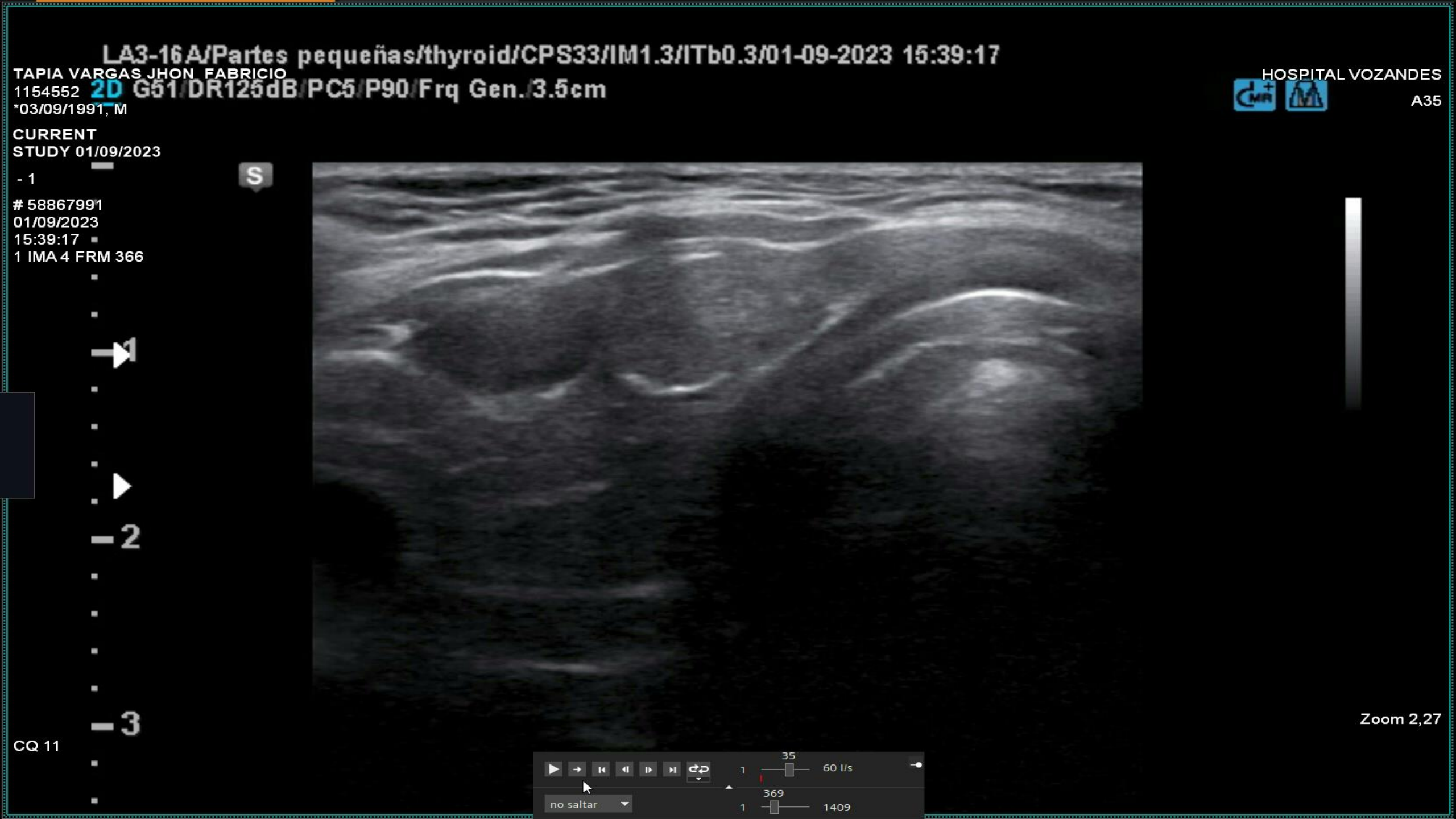
- Diagnóstico Clínico-Laboratorial
- Palpación de Nódulo
- Sospecha de Nódulo No Palpable o Tamizaje: Ecografía
  - Características Benignas-TIRADS I-II (vigilancia)
  - Características Sospechosas o Malignas –TIRADS III, IV o V (PAAF ecoguiada)



PAAF DE TIROIDES:






LA3-16A/Partes pequeñas/thyroid/CPS33/IM1.3/ITb0.3/01-09-2023 15:39:17
TAPIA VARGAS JHON FABRICIO
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HOSPITAL VOZANDES
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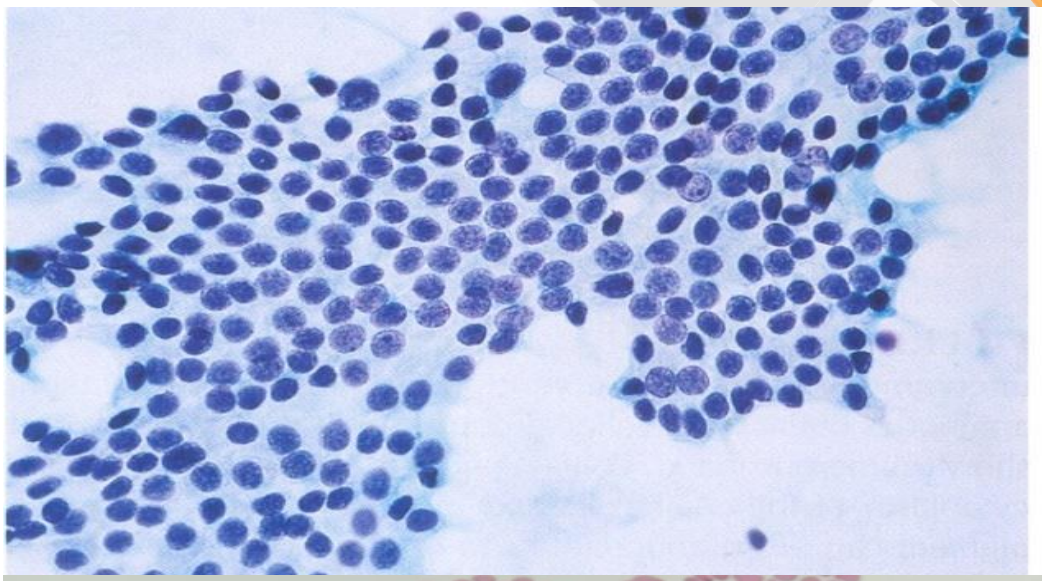
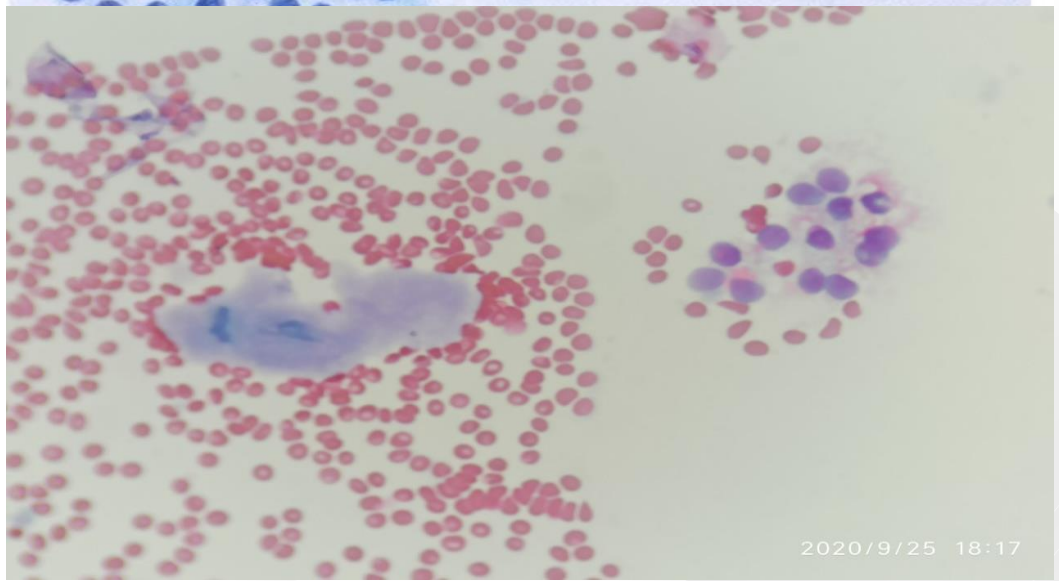
Zoom 2,27

PAAF: Sistemática de Análisis

- Sensibilidad 84 a 95 %
- Especificidad 83 a 100%
- Color, Consistencia, Cantidad de material, sensación al puncionar
- Fondo: coloide, serofibrinoso, hemorrágico.
- Componente celular:
  - celularidad (cantidad)
  - Tipos celulares y proporciones relativas
  - Características Morfológicas



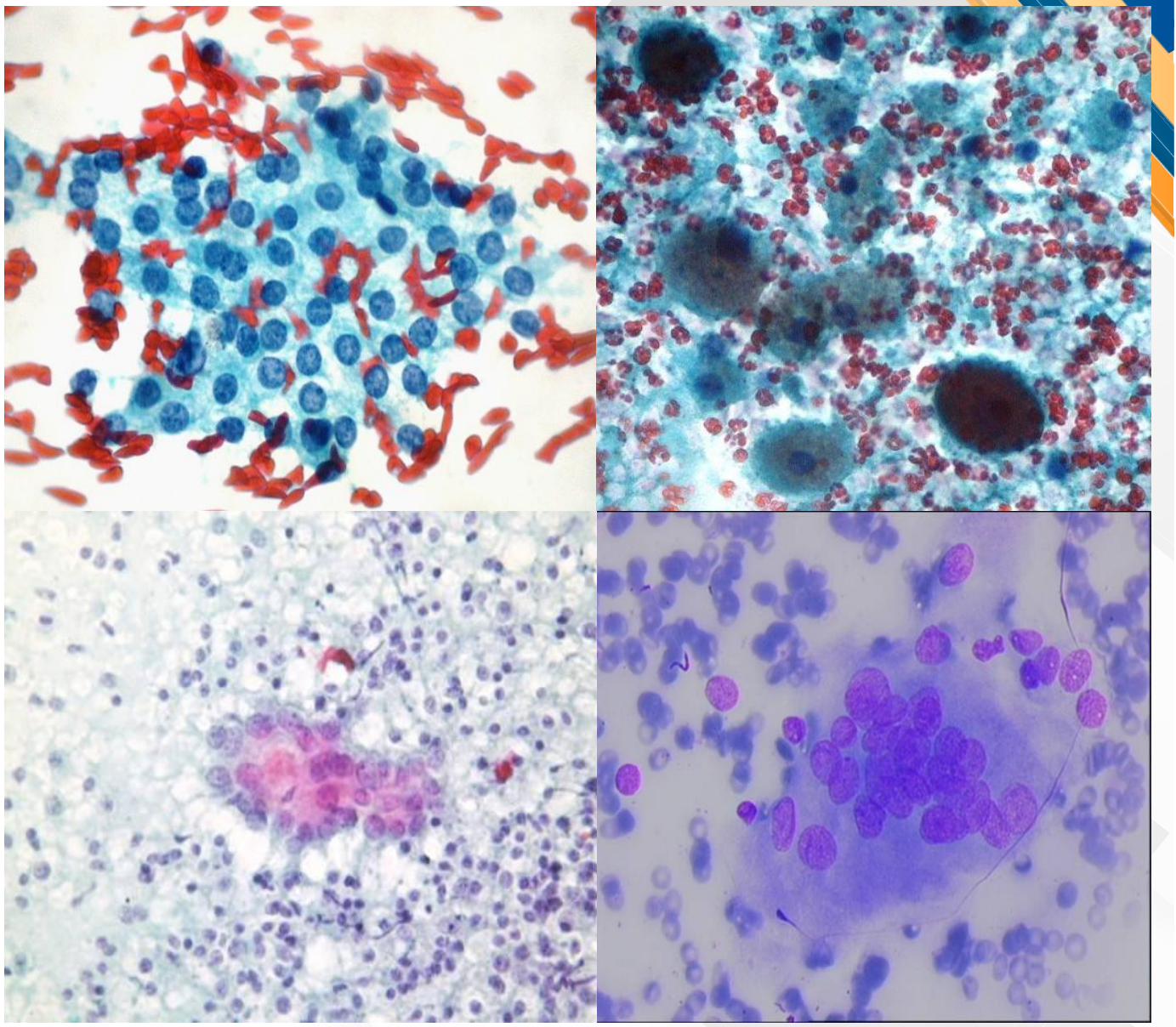


Sistema Bethesda de Citología Tiroidea: Categoría I

- MUESTRA NO DIAGNOSTICA O INSATISFACTORIA:
  - Criterio de Aceptabilidad: Contener celularidad y material coloide en suficiente cantidad y calidad.
    - Mínimo 6 grupos con al menos 10 células foliculares fácilmente visibles, con adecuada coloración.
  - Permite Eliminar Falsos Negativos
  - Solo Líquido de Quiste
  - Muestra Acelular
  - Material Hemorrágico
  - Excepto cuando hay atipia citológica

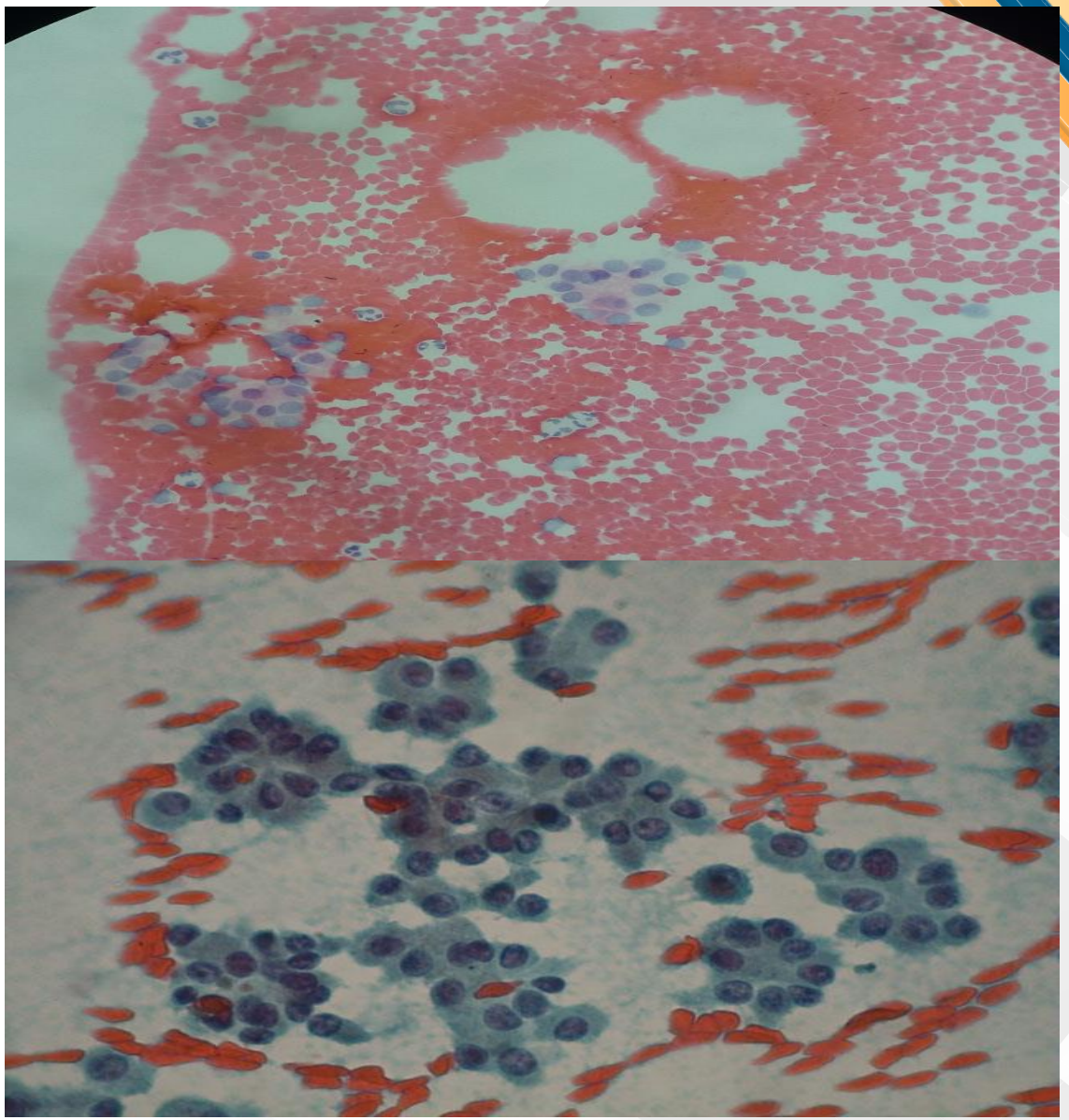
Sistema Bethesda de Citología Tiroidea: Categoría II

- RESULTADO BENIGNO:
  - Alto Grado de Certeza
  - Aproximadamente 65% de casos
  - Solo coloide denso (Quiste Coloidal)
  - Escasa a moderada celularidad
  - Láminas monocapa o con aspecto en “panal de abejas”.
  - Núcleos pequeños, redondos u ovales, uniformes, con tinción homogénea (Bocio Coloide Nodular)
  - Células Inflamatorias: linfocitos, hemosiderófagos, histiocitos, células gigantes multinucleadas, ocasionales Células de Hurthle (Tiroiditis: Hashimoto, Subaguda de DeQuervain, Riedel)



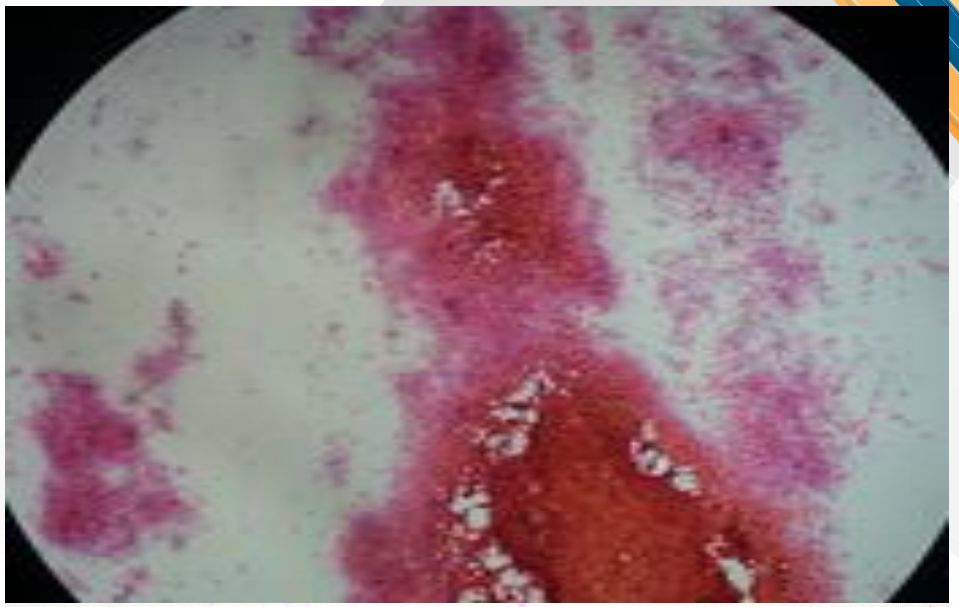
Sistema Bethesda de Citología Tiroidea: Categoría IV

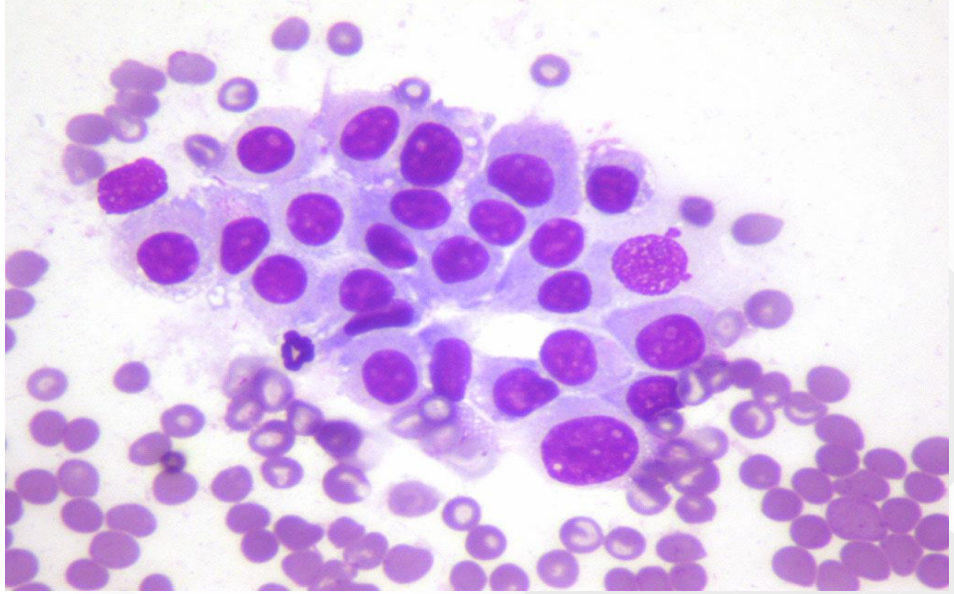
- NEOPLASIA FOLICULAR O PRESUNTA NEOPLASIA FOLICULAR:
  - Incluye Adenoma Folicular, Adenoma Folicular Oncocítico y Bocio Coloide Hiperplásico.
  - Muestras con celularidad de moderada a abundante, formando láminas ámplias, grupos tridimensionales o microfolículos
  - Sin Atipias Nucleares, o con Atipia Nuclear Leve (agrandamiento nuclear, nucléolo prominente), cromatina homogénea.
  - Sin signos de carcinoma papilar
  - Células de Hurthle (Siempre Explicitar)
  - Coloide más bien escaso, raramente moderado.



Sistema Bethesda de Citología Tiroidea: Categoría V

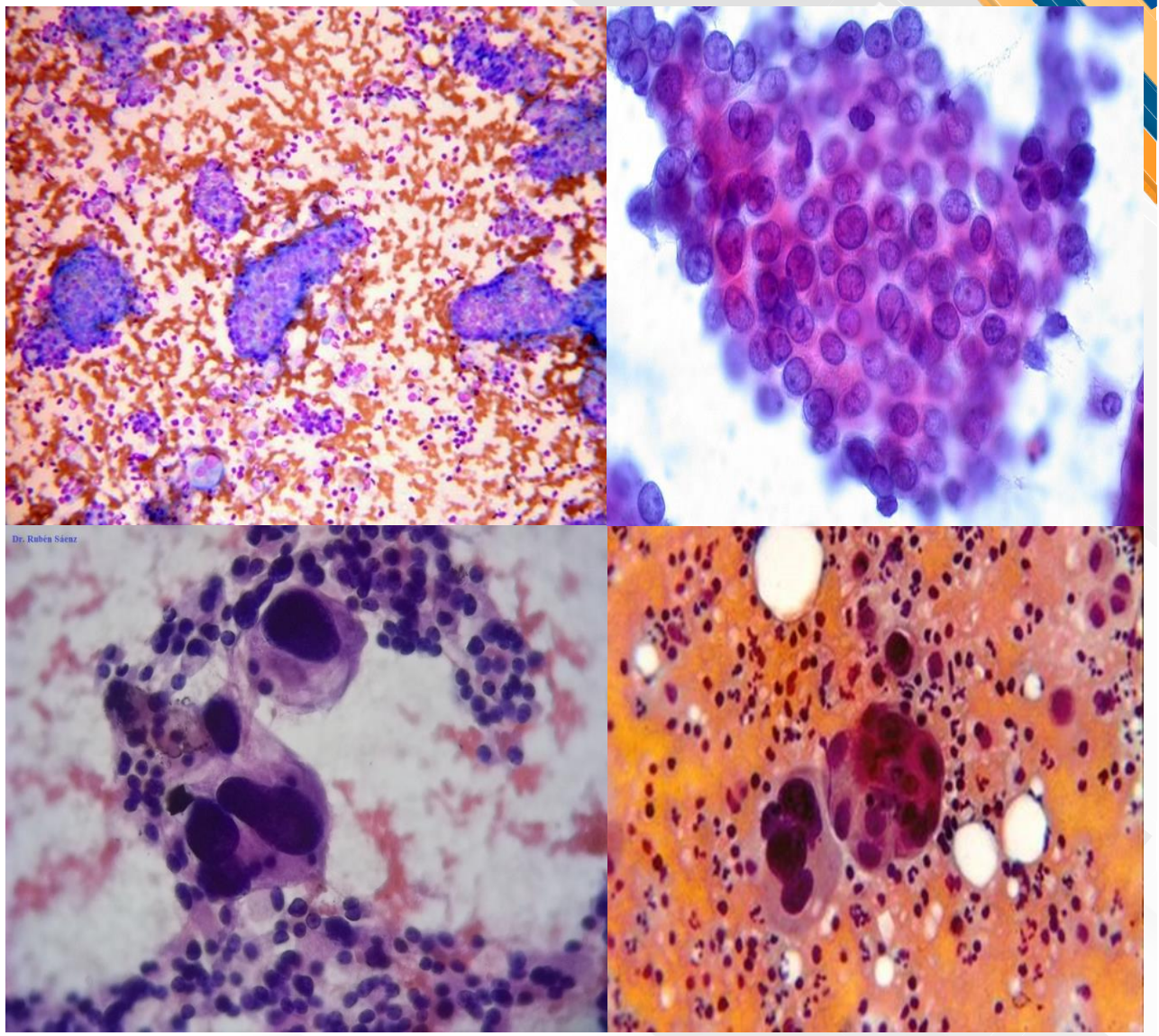
- DIAGNOSTICO PRESUNTIVO DE CANCER (SOSPECHOSO DE MALIGNIDAD):
  - Incluye Neoplasia Folicular, Neoplasia Folicular Oncocítica y Neoplasia Papilar.
  - Representa del 2 al 8% de las muestras.
  - Muestras con celularidad de moderada a abundante, formando láminas ámplias, grupos tridimensionales o macrofolículos
  - Con Atipias Nucleares (agrandamiento nuclear, palidez, hendiduras ocasionales, irregularidad de membrana nuclear, moldeamiento, pseudoinclusiones nucleares ocasionales), cromatina grumosa.
  - Células de Hurthle (Siempre Explicitar)
  - Coloide escaso o ausente.



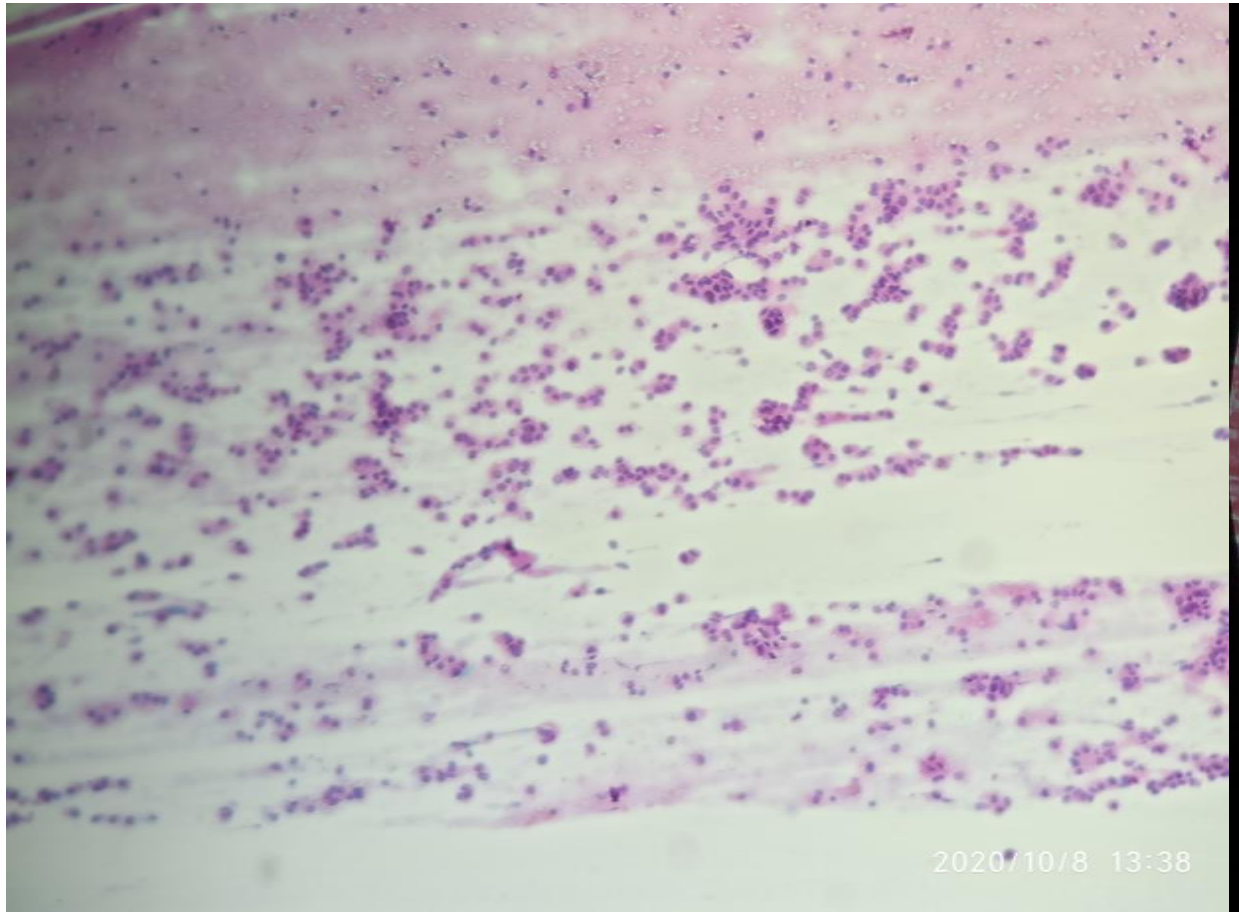


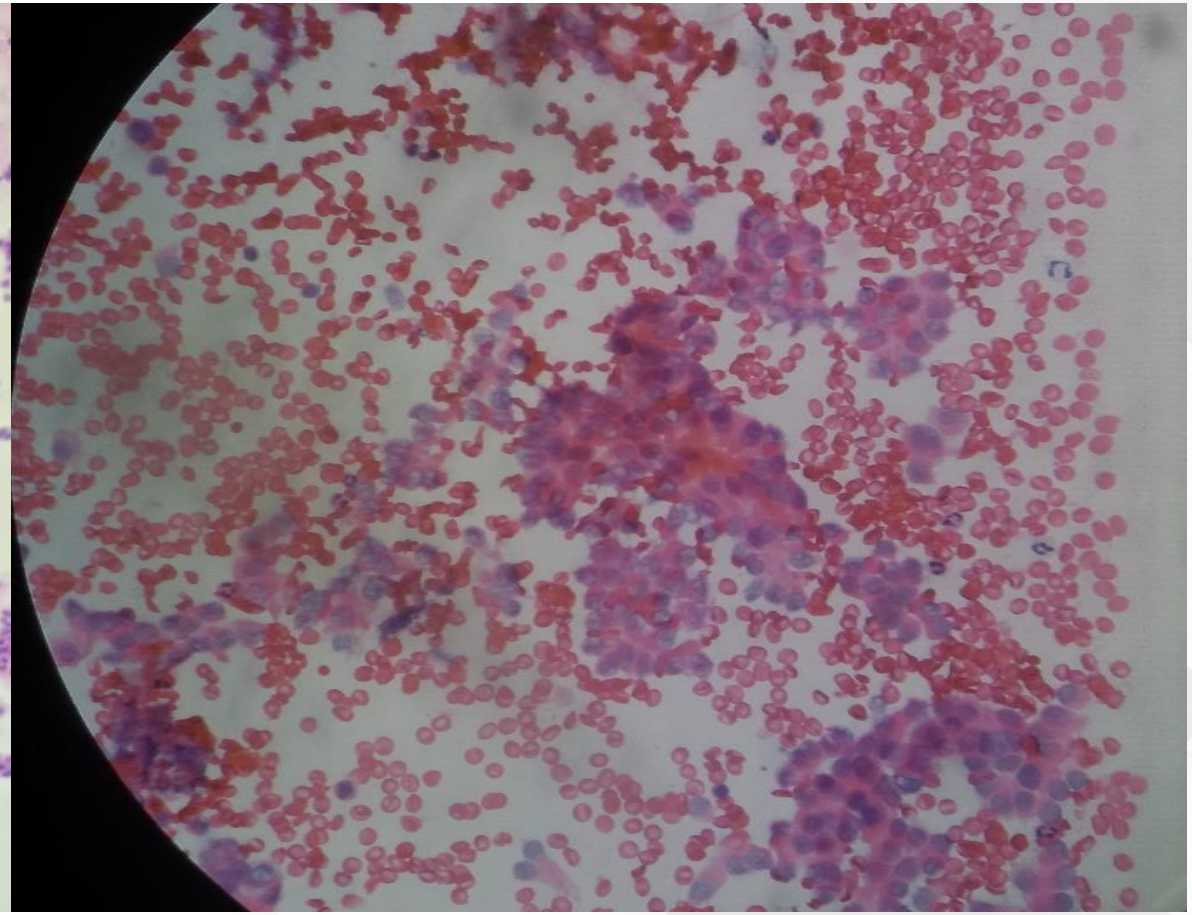
Sistema Bethesda de Citología Tiroidea: Categoría VI

- RESULTADO MALIGNO:
  - Incluye Carcinoma Papilar, Medular, Indiferenciado (Anaplásico), Escamoso, Metastásico, Linfoma.
  - No incluye al Carcinoma Folicular.
  - Representa del 4 al 8% de las muestras.
  - Muestras con celularidad de moderada a abundante, formando láminas ámplias, grupos tridimensionales o estructuras papilares
  - Con Atipias Nucleares (agrandamiento nuclear, hipercromasia, hendiduras nucleares incompletas y completas (en “grano de Café”) frecuentes, irregularidad de membrana nuclear, moldeamiento, pseudoinclusiones nucleares frecuentes), cromatina grumosa o en “vidrio esmerilado”.
  - Coloide escaso o ausente.

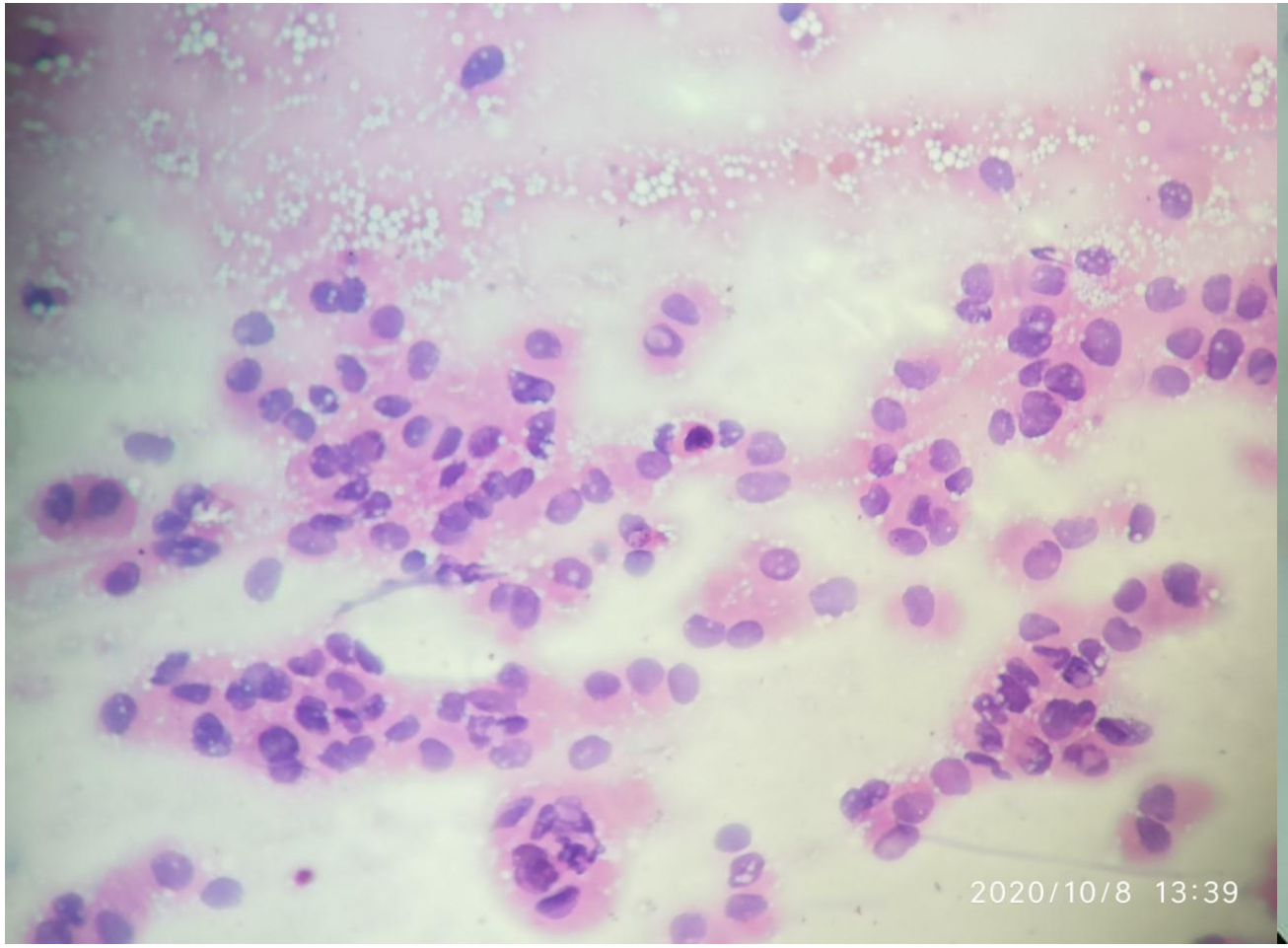


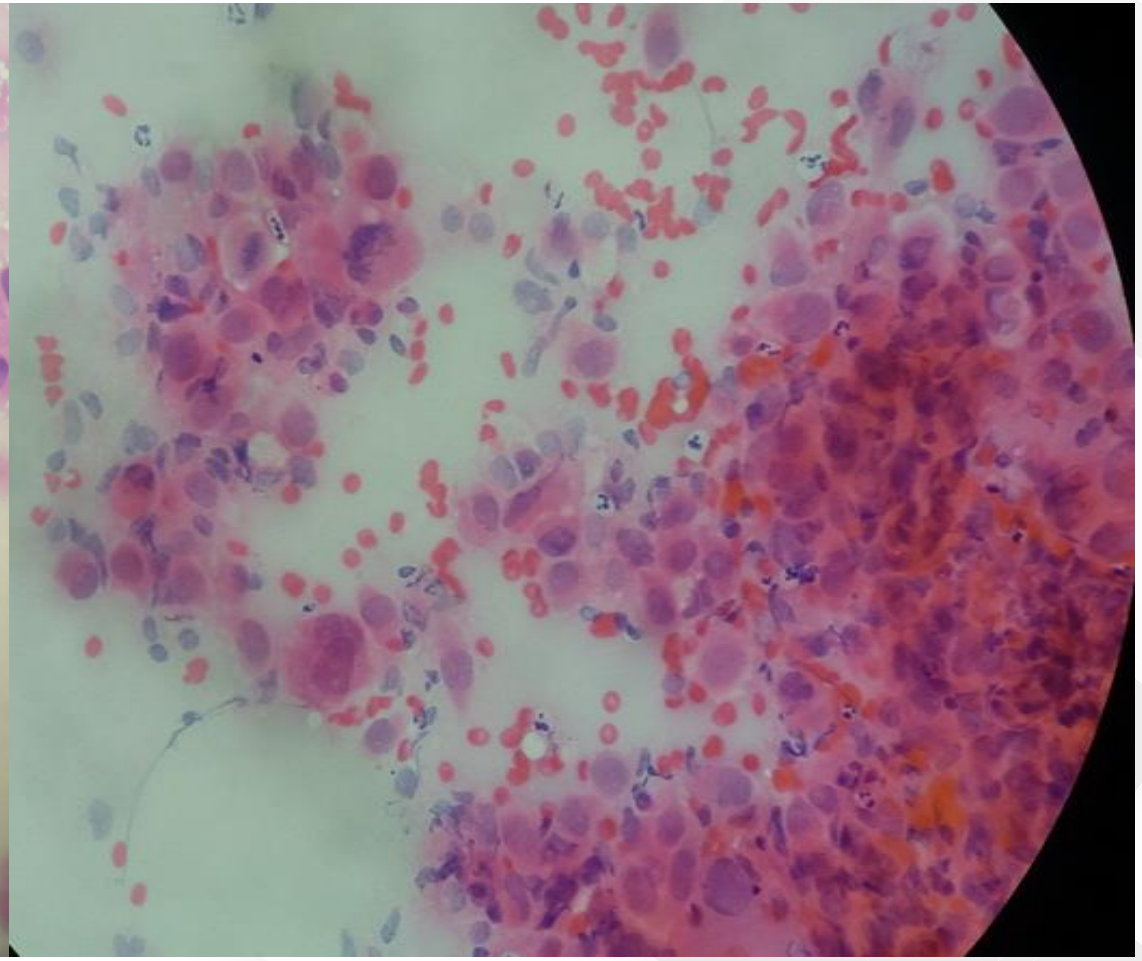
Sistema Bethesda de Citología Tiroidea: Categoría VI



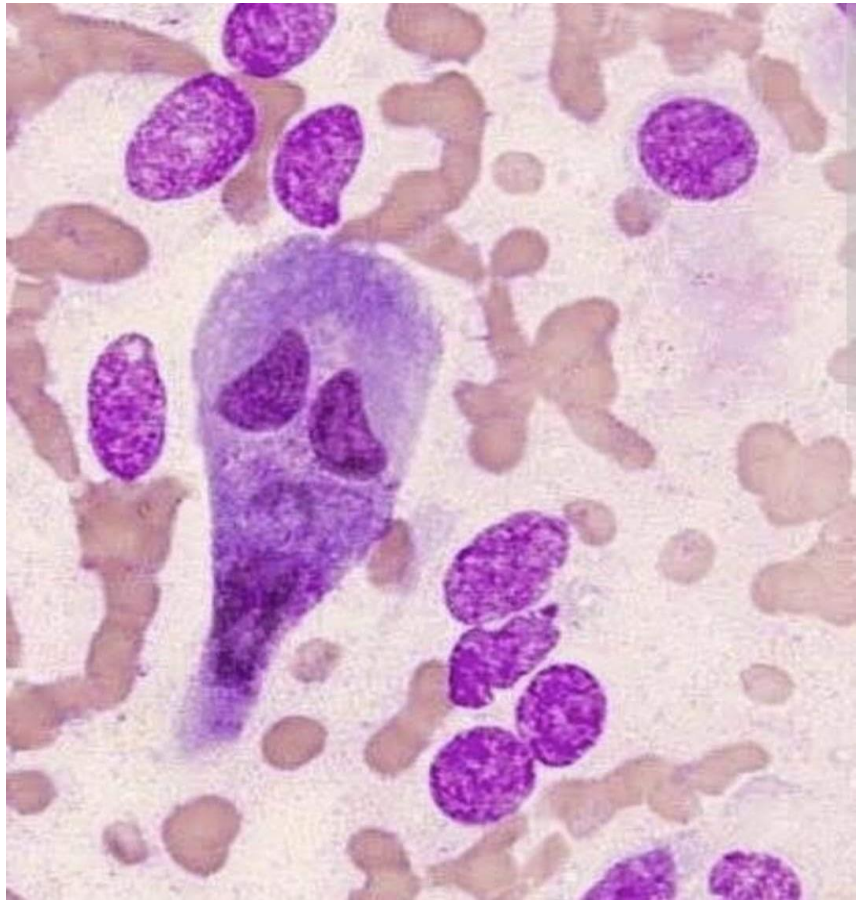


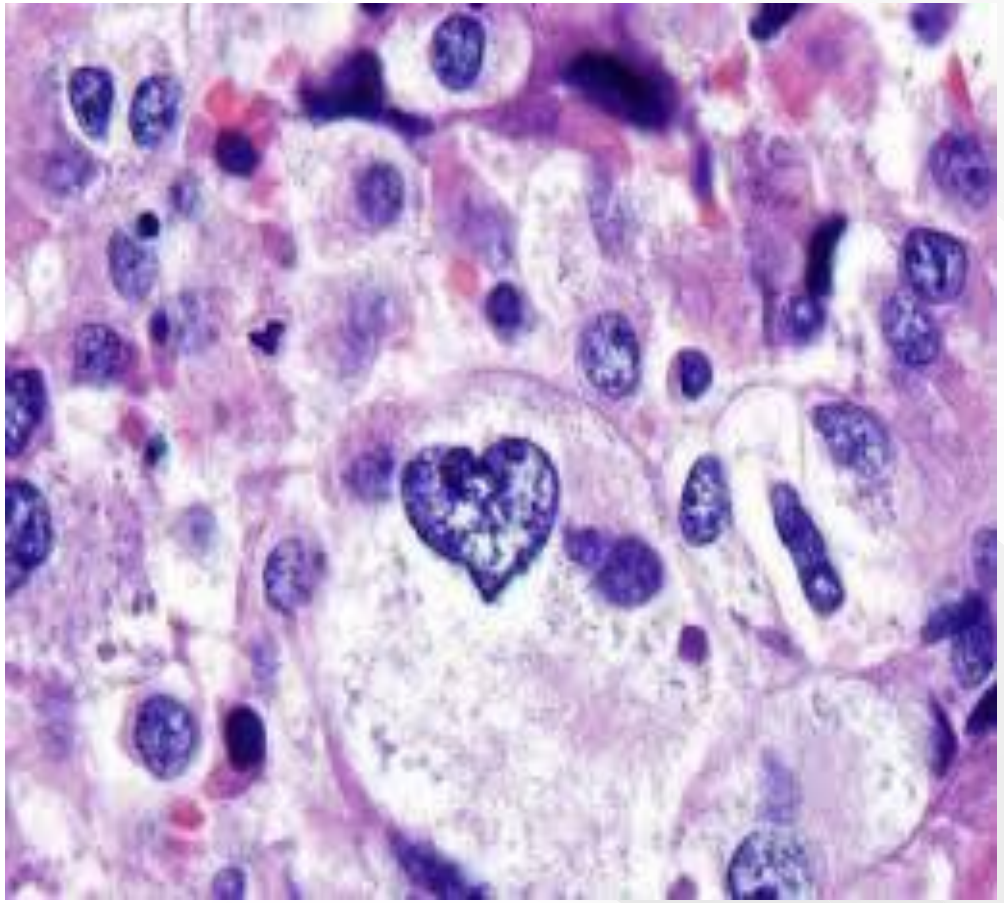
Sistema Bethesda de Citología Tiroidea: Categoría VI





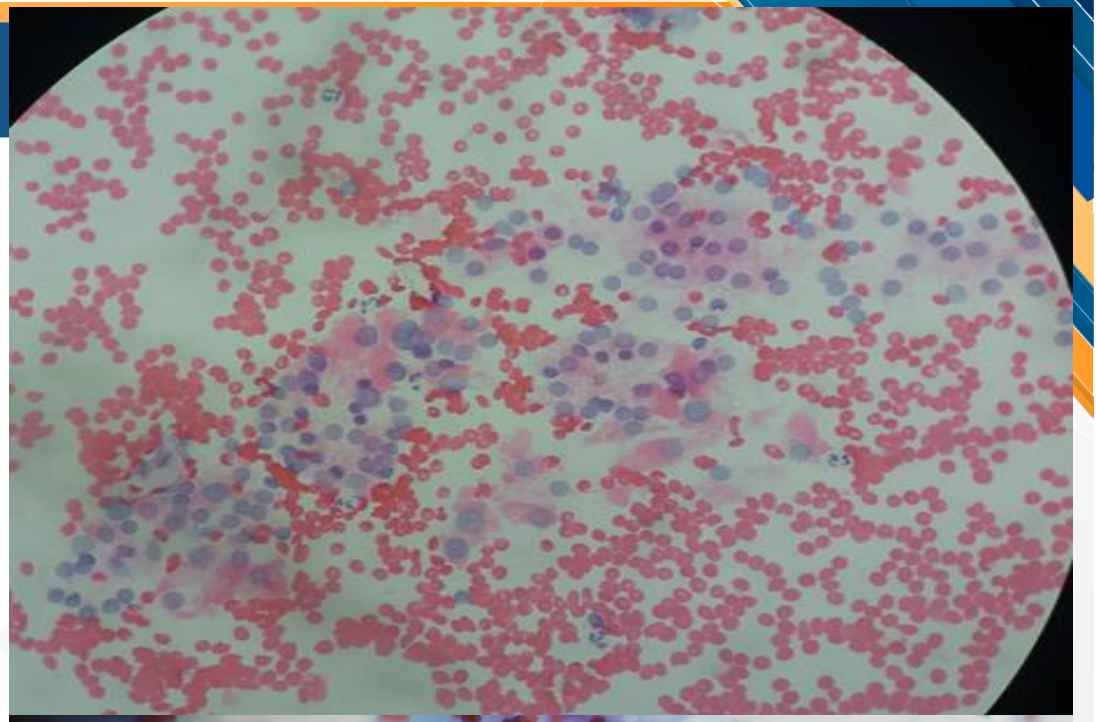
Sistema Bethesda de Citología Tiroidea: Categoría VI

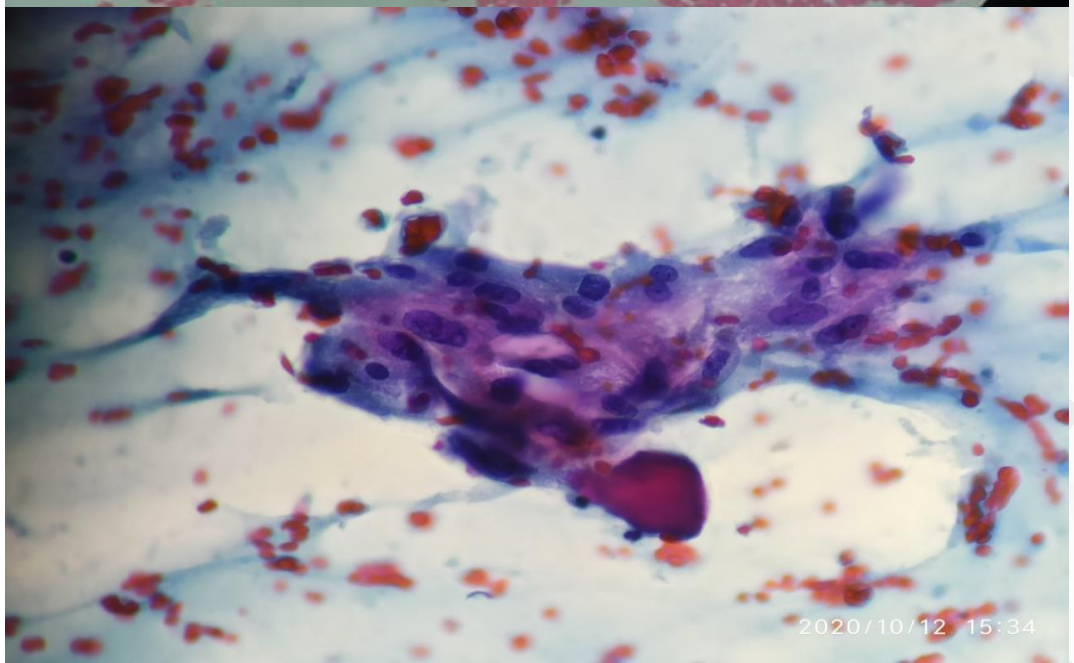




Sistema Bethesda de Citología Tiroidea: Categoría III

- ATIPIA DE SIGNIFICADO INCIERTO:
  - Muestras con células (foliculares, linfocitos u otras) con grado de Atipia Estructural o Nuclear Insuficiente para Encasillarlo en otra Categoria
  - Presencia de Atipias Citonucleares en Muestras con Artefactos Técnicos.
  - Grupos aislados o escasos con características atribuibles a carcinoma papilar en un contexto mayormente benigno o inflamatorio (Hashimoto).
  - Presencia de Células de Hurthle (vs Histiocito?)
  - Constituyen entre 3 y 18% de frotis. (Recomendado 7%)





NÚCLEO DE QUITO

Sistema Bethesda de Citología Tiroidea: Conducta Recomendada

Categoría Diagnóstica	Riesgo de Cáncer (%)	Conducta Recomendada
I: No Diagnóstica o Insatisfactoria		Repetir PAAF con guía ecográfica
II: Resultado Benigno	0 – 3	Seguimiento Clínico
III: Atipia de Significado Incierto	5 – 15	Repetir la PAAF
IV: Neoplasia Folicular o Presunta Neoplasia Folicular	15 - 30	Lobectomía Quirúrgica (Congelación Transoperatoria)
V: Diagnóstico Presuntivo de Cáncer	60 - 75	Lobectomía vs Tiroidectomía Total (Congelación Transoperatoria)
VI: Resultado Maligno	97 - 99	Tiroidectomía (Valorar Vaciamiento Ganglionar)

Ali, S; Cibas, E; 2011

NÚCLEO DE QUITO

PATOLOGIA QUIRURGICA DE LA GLANDULA TIROIDES: EL ESTUDIO TRANSOPERATORIO

ANGELO NICOLALDE POZO

MEDICO PATOLOGO

SOLCA – HOSPITAL VOZANDES QUITO

NÚCLEO DE QUITO

EL ESTUDIO TRANSOPERATORIO

- Estudio Citológico (Impronta) o Histopatológico (Congelación de Tejidos) Rápido (15-20 minutos), que se realiza mientras el paciente está siendo intervenido quirúrgicamente.
- Objetivos:
  - Determinar Calidad de Muestra para Estudios Posteriores (Hay o No Tumor)
  - Establecer Criterios de Malignidad del Tejido Estudiado (Positivo, Negativo o Diferido).
  - Establecer el Estado de los Márgenes de la Resección (Comprometidos, Libres, Distancia en cm o mm).

Sensibilidad: 86%

Especificidad: 88-90%

NÚCLEO DE QUITO

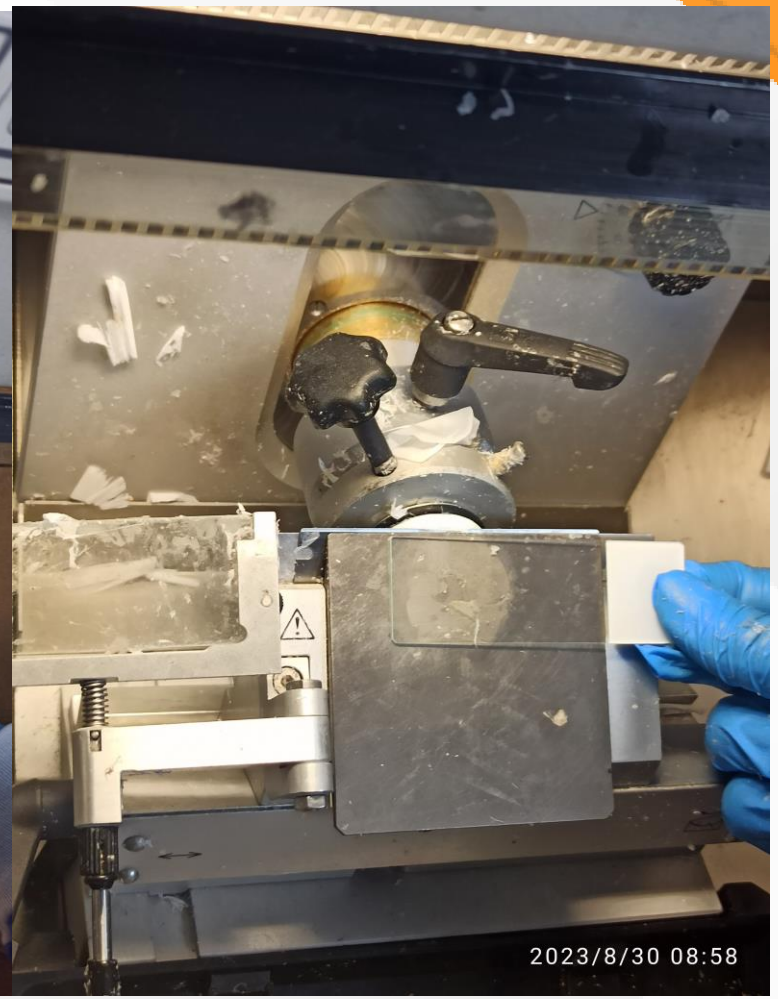
EL ESTUDIO TRANSOPERATORIO

NÚCLEO DE QUITO

EL ESTUDIO TRANSOPERATORIO

NÚCLEO DE QUITO

EL ESTUDIO TRANSOPERATORIO



NÚCLEO DE QUITO

EL ESTUDIO TRANSOPERATORIO

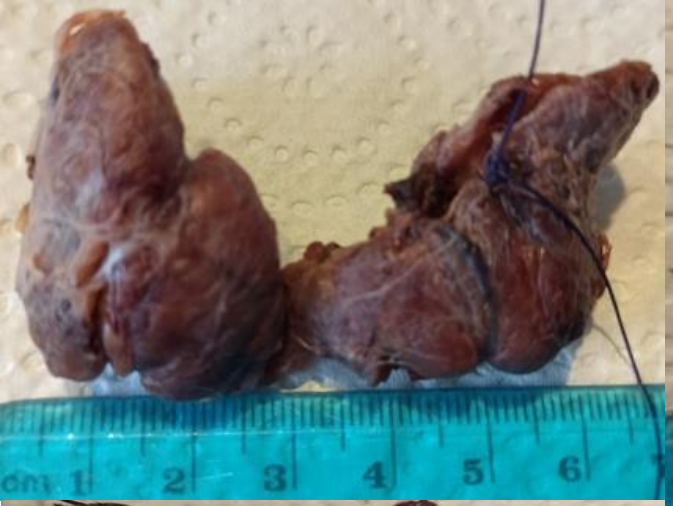
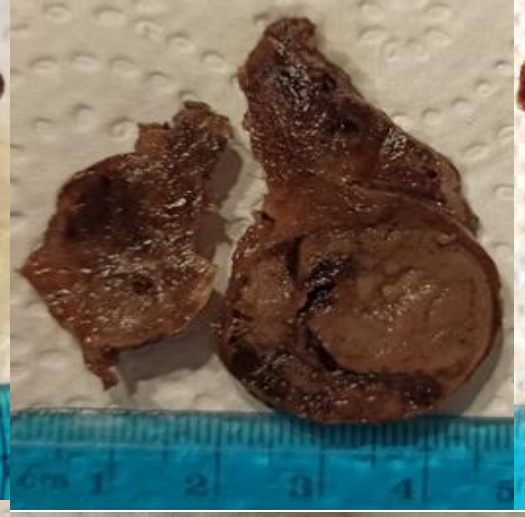
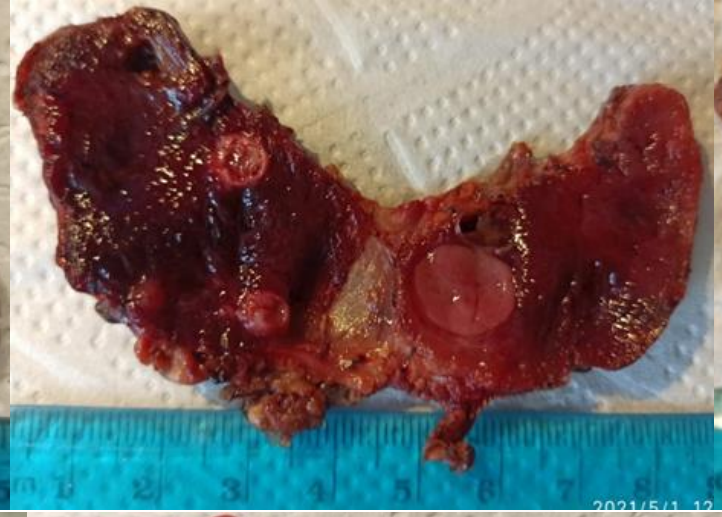
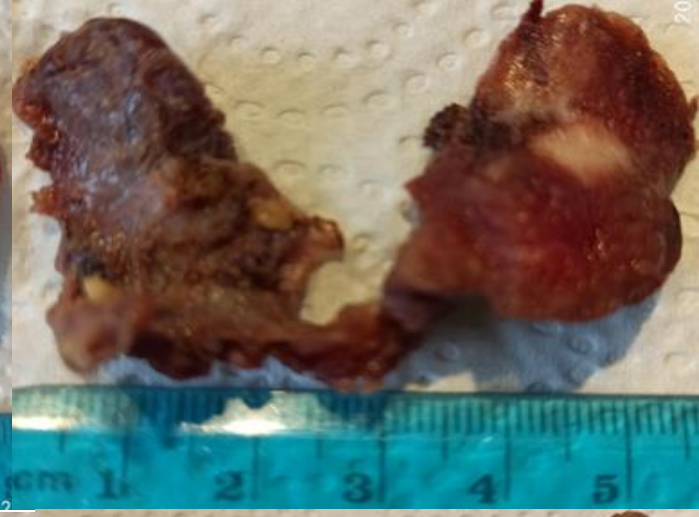
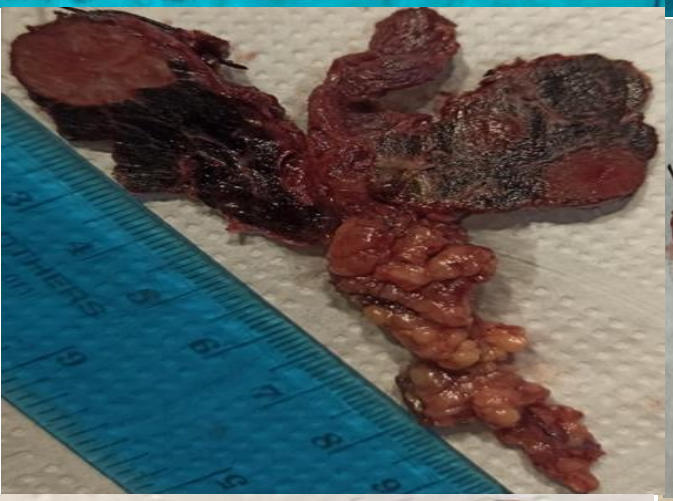
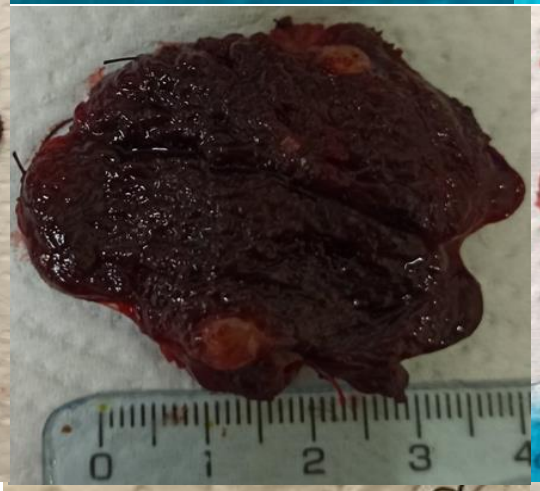
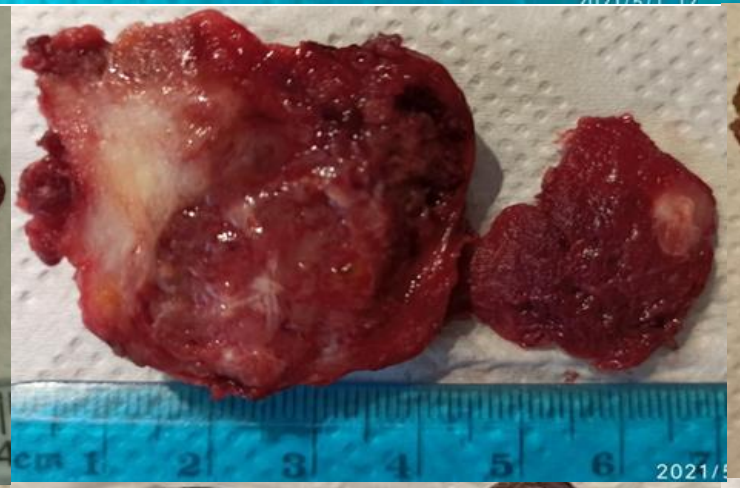
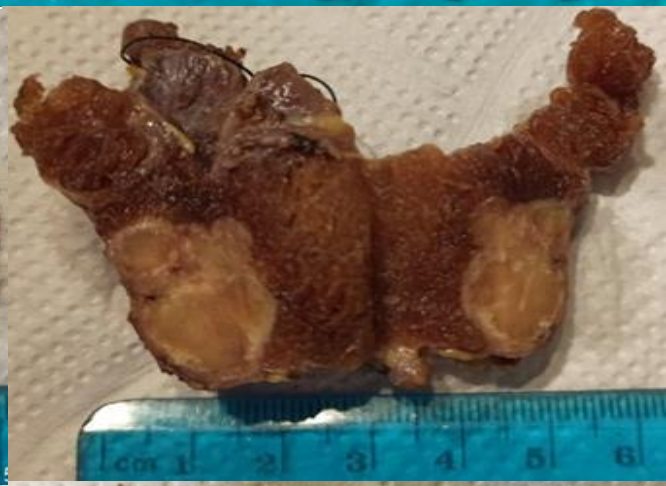
NÚCLEO DE QUITO

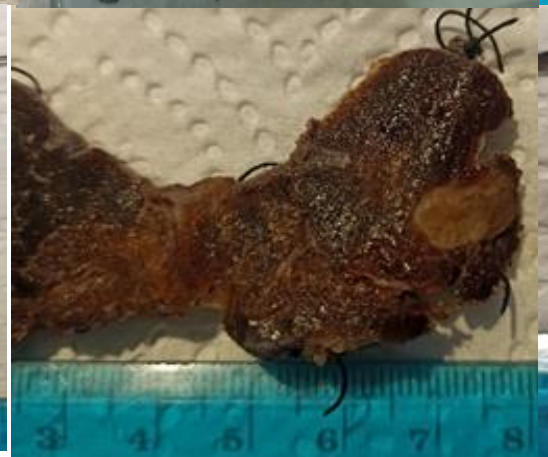
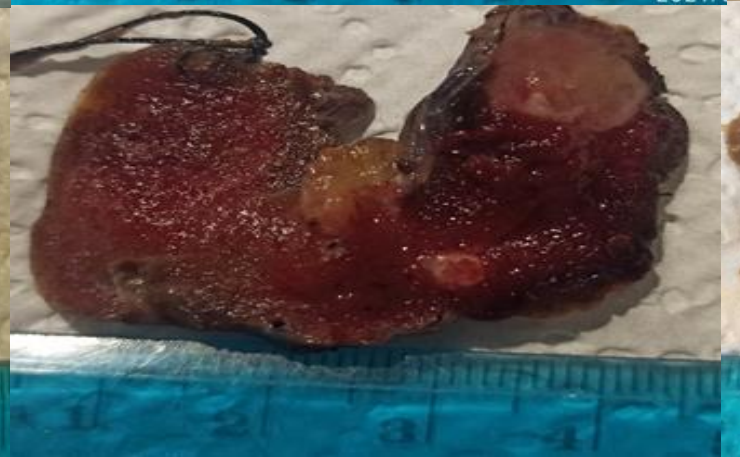
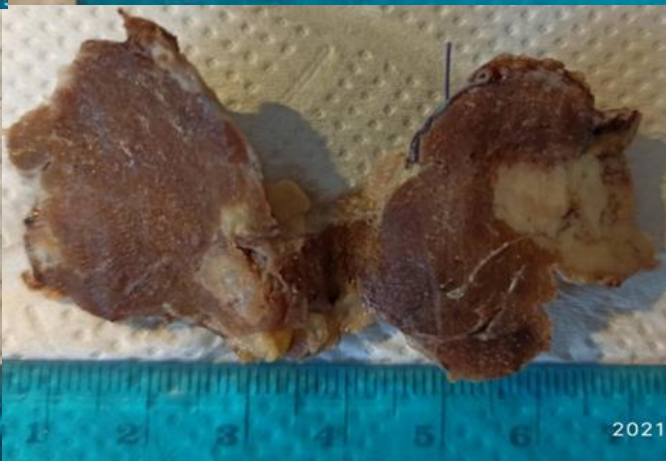
PATOLOGIA QUIRURGICA DE LA GLANDULA TIROIDES Y SISTEMA CAP DE REPORTE

ANGELO NICOLALDE POZO

MEDICO PATOLOGO

SOLCA – HOSPITAL VOZANDES QUITO

Contenido del Reporte Histopatológico

- Surgical Pathology Cancer Case Summary
- Protocol posting date: August 2019
- THYROID GLAND:
- Procedure (Note A)
- ___ Total thyroidectomy
- ___ Right lobectomy
- ___ Left lobectomy
- ___ Right partial excision#
- ___ Left partial excision#
- ___ Partial excision# (specify type, if possible):

  _____

- ___ Right lobectomy with isthmusectomy (hemithyroidectomy)
- ___ Left lobectomy with isthmusectomy (hemithyroidectomy)
- ___ Right lobe with partial left lobectomy (subtotal or near total thyroidectomy)
- ___ Left lobe with partial right lobectomy (subtotal or near total thyroidectomy)
- ___ Completion thyroidectomy (reoperative)
- # Anything less than a lobectomy, including substernal excision

Contenido del Reporte Histopatológico

- Tumor Focality (Note B)
- ___ Unifocal
- ___ Multifocal
- ___ Cannot be determined
- Tumor Site (select all that apply) (Note B)
- ___ Right lobe
- ___ Left lobe
- ___ Isthmus
- ___ Pyramidal lobe
- ___ Other (specify): _____
- **Tumor Size (Note C)**
- Greatest dimension (centimeters): ___ cm
- + Additional dimensions (centimeters): ___ x ___ cm
- ___ Cannot be determined (explain): _____

- **Histologic Type (Notes D through H)**
- *Papillary Carcinomas*
- ___ Papillary carcinoma, classic (usual, conventional)
- ___ Papillary carcinoma, follicular variant, encapsulated/well demarcated, with tumor capsular invasion
- ___ Papillary carcinoma, follicular variant, encapsulated/well demarcated, noninvasive[#]
- ___ Papillary carcinoma, follicular variant, infiltrative
- ___ Papillary carcinoma, tall cell variant
- ___ Papillary carcinoma, hobnail variant
- ___ Papillary carcinoma, columnar cell variant
- ___ Papillary carcinoma, solid/trabecular variant
- ___ Papillary carcinoma, cribriform-morular variant
- ___ Papillary carcinoma, diffuse sclerosing variant
- ___ Papillary carcinoma, other variant (specify): _____
- ___ Papillary carcinoma
- [#] *A subset of noninvasive tumors can now be reclassified as NIFTP.*
- +____ Noninvasive follicular thyroid neoplasm with papillary like nuclear features (NIFTP)[##]
- [##] *This category is not overtly malignant; reporting is optional and only size, laterality, and margin status are reported.*

Contenido del Reporte Histopatológico

- *Follicular Carcinomas*
- ___ Follicular carcinoma, minimally invasive
- ___ Follicular carcinoma, encapsulated angioinvasive
- ___ Follicular carcinoma, widely invasive
- ___ Follicular carcinoma, minimally invasive, other variant (specify): _____
- ___ Follicular carcinoma, encapsulated angioinvasive, other variant (specify): _____
- ___ Follicular carcinoma, widely invasive, other variant (specify): _____
- ___ Follicular carcinoma, NOS

- *Oncocytic (Hürthle cell) Carcinomas*
- ___ Oncocytic (Hürthle cell) carcinoma, minimally invasive
- ___ Oncocytic (Hürthle cell) carcinoma, encapsulated angioinvasive
- ___ Oncocytic (Hürthle cell) carcinoma, widely invasive
-
- *Poorly Differentiated Thyroid Carcinoma*
- ___ Poorly differentiated thyroid carcinoma
-
- *Anaplastic Carcinomas*
- ___ Undifferentiated (anaplastic) carcinoma, focal or minor component without extrathyroidal extension
- ___ Undifferentiated (anaplastic) carcinoma, major component
- ___ Undifferentiated (anaplastic) carcinoma, NOS

Contenido del Reporte Histopatológico

- *Medullary Carcinomas*
- ___ Medullary carcinoma
- ___ Medullary microcarcinoma
- ___ Mixed (composite) medullary carcinoma and follicular epithelial-derived carcinoma (specify): _____
-
- ___ Carcinoma, type cannot be determined
- ___ Other histologic type not listed (specify): _____
- **Margins (Note I)**
- ___ Cannot be assessed
- ___ Uninvolved by carcinoma
- + Distance of invasive carcinoma from closest margin (millimeters): ___ mm
- ___ Involved by carcinoma
- + Site(s) of involvement:
- **Angioinvasion (Vascular Invasion) (Note J)**
- ___ Not identified
- ___ Present
- + Extent:
- + ___ Focal (less than 4 vessels)
- + ___ Extensive (4 or more vessels)
- ___ Cannot be determined
- **Lymphatic Invasion (Note J)**
- ___ Not identified
- ___ Present
- ___ Cannot be determined
- **+ Perineural Invasion**
- +___ Not identified
- +___ Present
- +___ Cannot be determined

Contenido del Reporte Histopatológico

- **+ Mitotic Rate: ____ per 2 mm^2**
- *Note: Mitoses should be counted in 10 consecutive high-power fields (HPF) at 400x in the most mitotically active area. For most microscopes, 10 HPF is roughly equivalent to 2.5 mm^2*
-
- **Extrathyroidal Extension (Note K)**
- ___ Not identified
- ___ Present, microscopic strap muscle invasion only, with no clinical/macroscopic evidence of invasion
- ___ Present, clinical/macroscopic AND histologically confirmed
- ___ Invading only strap muscles (ie, pT3b)
- ___ Invading subcutaneous soft tissues, larynx, trachea, esophagus or recurrent laryngeal nerve (ie, pT4a)
- ___ Invading prevertebral fascia or encasing the carotid artery or mediastinal vessels (ie, pT4b)
- ___ Cannot be determined

- **Regional Lymph Nodes (Note L)**
- ___ No lymph nodes submitted or found
- **Number of Lymph Nodes Involved: _____**
- ___ Number cannot be determined (explain): _____
- **Nodal Levels Involved (select all apply)**
- ___ Level VI - pretracheal, paratracheal and prelaryngeal/Delphian, perithyroidal (central compartment dissection)
- ___ Level VII (superior mediastinal lymph nodes)
- ___ Right Lateral Level I
- ___ Right Lateral Level II
- ___ Right Lateral Level III
- ___ Right Lateral Level IV
- ___ Right Lateral Level V

Contenido del Reporte Histopatológico

- ___ Left Lateral Level I
- ___ Left Lateral Level II
- ___ Left Lateral Level III
- ___ Left Lateral Level IV
- ___ Left Lateral Level V
- ___ Other (specify): _____
- ___ Cannot be determined (explain): _____
- **Size of Largest Metastatic Deposit:**
- ___ Specify (centimeters): ____cm
- ___ Cannot be determined (explain): _____
- **Extranodal Extension (ENE)**
- ___ Not identified
- ___ Present
- ___ Cannot be determined
- **Number of Lymph Nodes Examined: ____**
- **Nodal Levels Examined (select all apply)**
- ___ Level VI - pretracheal, paratracheal and prelaryngeal/Delphian, perithyroidal (central compartment dissection)
- ___ Level VII (superior mediastinal lymph nodes)
- ___ Right Lateral Level I
- ___ Right Lateral Level II
- ___ Right Lateral Level III
- ___ Right Lateral Level IV
- ___ Right Lateral Level V
- ___ Left Lateral Level I
- ___ Left Lateral Level II
- ___ Left Lateral Level III
- ___ Left Lateral Level IV
- ___ Left Lateral Level V
- ___ Other (specify): _____
- ___ Cannot be determined (explain): _____

Contenido del Reporte Histopatológico

- **Pathologic Stage Classification (pTNM, AJCC 8th Edition) (Note M)**
- **TNM Descriptors (required only if applicable) (select all that apply)**
- ___ m (multiple primary tumors)
- ___ r (recurrent)
- ___ y (posttreatment)
-
- *For Papillary, Follicular, Poorly Differentiated, Oncocytic (Hürthle cell) Cell, and Anaplastic Thyroid Carcinoma*
- **Primary Tumor (pT)**
- ___ pTX: Primary tumor cannot be assessed
- ___ pT0: No evidence of primary tumor
- ___ pT1: Tumor ≤2 in greatest dimension, limited to the thyroid
- ___ pT1a: Tumor ≤1 cm in greatest dimension limited to the thyroid
- ___ pT1b: Tumor >1 cm but ≤2 cm in greatest dimension, limited to the thyroid
- __ pT2: Tumor >2 cm, but ≤4 cm in greatest dimension, limited to thyroid
- ___ pT3: Tumor >4 cm limited to the thyroid, or gross extrathyroidal extension invading only strap muscles
- ___ pT3a: Tumor >4 cm limited to the thyroid
- ___ pT3b: Gross extrathyroidal extension invading only strap muscles (sternohyoid, sternothyroid, thyrohyoid, or omohyoid muscles) from a tumor of any size
- ___ pT4: Includes gross extrathyroidal extension beyond the strap muscles
- ___ pT4a: Gross extrathyroidal extension invading subcutaneous soft tissues, larynx, trachea, esophagus, or recurrent laryngeal nerve from a tumor of any size
- ___ pT4b: Gross extrathyroidal extension invading prevertebral fascia or encasing the carotid artery or mediastinal vessels from a tumor of any size
- *Note: There is no category of carcinoma in situ (pTis) relative to carcinomas of thyroid gland.*

Contenido del Reporte Histopatológico

- *For Medullary Thyroid Carcinoma*
- **Primary Tumor (pT)**
- ___ pTX: Primary tumor cannot be assessed
- ___ pT0: No evidence of primary tumor
- ___ pT1: Tumor ≤2 in greatest dimension, limited to the thyroid
- ___ pT1a: Tumor ≤1 cm in greatest dimension limited to the thyroid
- ___ pT1b: Tumor >1 cm but ≤2 cm in greatest dimension, limited to the thyroid
- ___ pT2: Tumor >2 cm, but ≤4 cm in greatest dimension, limited to thyroid
- ___ pT3: Tumor >4 cm or with extrathyroidal extension
- ___ pT3a: Tumor >4 cm in greatest dimension limited to the thyroid
- ___ pT3b: Tumor of any size with gross extrathyroidal extension invading only strap muscles (sternohyoid, sternothyroid, thyrohyoid or omohyoid muscles)

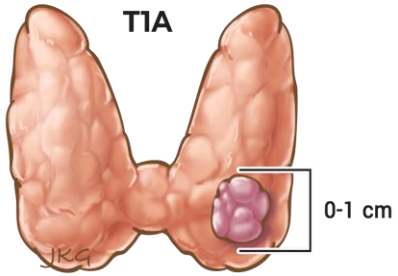
___pT4: Advanced disease

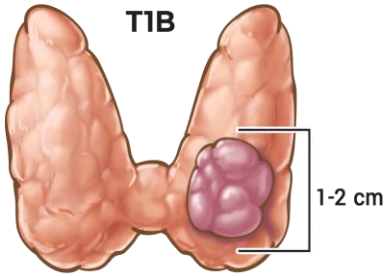
- ___pT4a: Moderately advanced disease; tumor of any size with gross extrathyroidal extension into the nearby tissues of the neck, including subcutaneous soft tissue, larynx, trachea, esophagus, or recurrent laryngeal nerve
- ___pT4b: Very advanced disease; tumor of any size with extension toward the spine or into nearby large blood vessels, gross extrathyroidal extension invading the prevertebral fascia, or encasing the carotid artery or mediastinal vessels
- *For All Carcinomas of the Thyroid*
- **Regional Lymph Nodes (pN)[#]**
- ___ pNX: Regional lymph nodes cannot be assessed
- ___ pN0: No evidence of locoregional lymph node metastasis[#]
- ___ pN0a: One or more cytologically or histologically confirmed benign lymph nodes
- ___ pN1: Metastasis to regional nodes
- ___ pN1a: Metastasis to level VI or VII (pretracheal, paratracheal, or prelaryngeal/Delphian, or upper mediastinal) lymph nodes. This can be unilateral or bilateral disease.

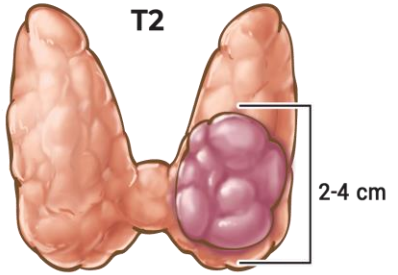
Contenido del Reporte Histopatológico

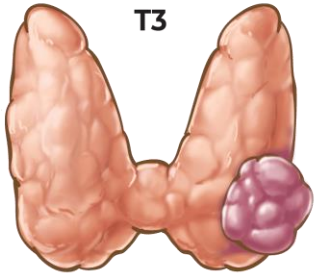
- ___ pN1b: Metastasis to unilateral, bilateral, or contralateral lateral neck lymph nodes (levels I, II, III, IV, or V) or retropharyngeal lymph nodes
- *[#] N0b is defined as no radiologic or clinical evidence of locoregional lymph node metastasis.*
-
- **Distant Metastasis (pM) (required only if confirmed pathologically in this case)**
- ___ pM1: Distant metastasis
- Specify site(s), if known: _____
-
- **+ Additional Pathologic Findings (select all that apply)**
- + ___ Adenoma
- + ___ Adenomatoid nodule(s) or nodular follicular disease (eg, nodular hyperplasia, goitrous thyroid)
- + ___ Diffuse hyperplasia (Graves disease)
- + ___ Thyroiditis (specify type): _____
- + ___ Parathyroid gland(s) present (specify number, location, and findings): _____
- + ___ C-cell hyperplasia (specify type and focality if applicable): _____
- + ___ None identified
- + ___ Other (specify): _____
-
- **+ Ancillary Studies**
- *Note: For reporting molecular testing and other cancer biomarker testing results, the CAP Thyroid Biomarker Template should be used. Pending biomarker studies should be listed in the Comments section of this report.*
-
- **+ Clinical History (select all that apply)**
- + ___ Radiation exposure (specify type): _____
- + ___ No known radiation exposure
- + ___ Family history of thyroid cancer
- + ___ Postoperative serum marker (specify type and result): _____
- + ___ Other (specify): _____
-
- **+ Comment(s)**

ESTADIAJE DE CA DIFERENCIADO DE TIROIDES

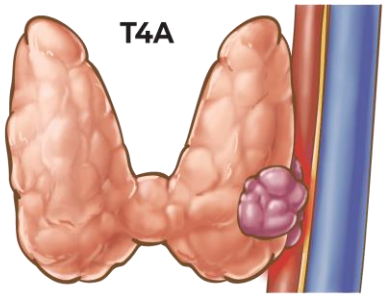




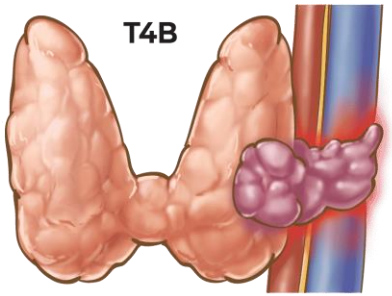




Tumor extending minimally outside of the thyroid gland

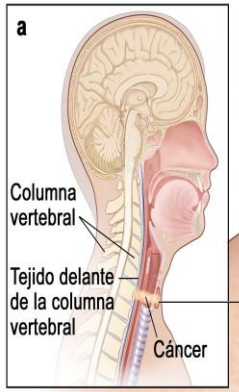


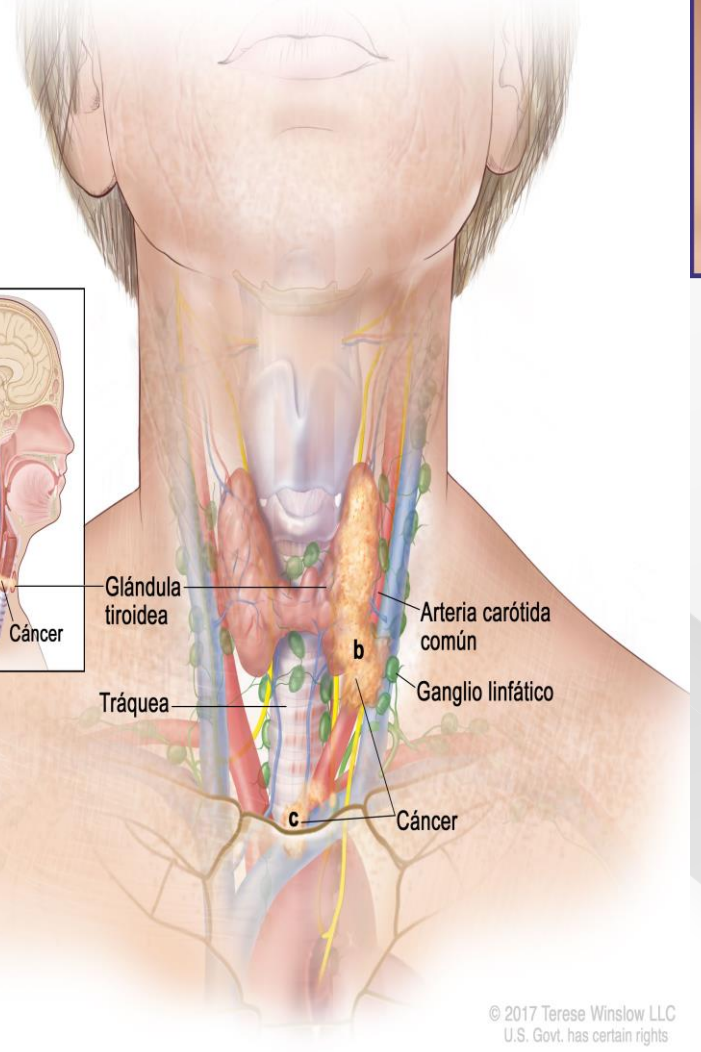
Extensive tumor invasion of other structures with surgical resection still possible



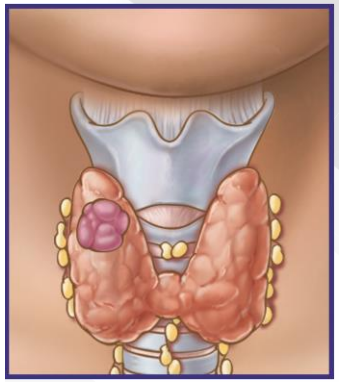
Extensive tumor invasion of other structures but surgical removal is not possible

Cáncer de tiroides papilar y folicular en estadio IVA en pacientes de 55 años o más



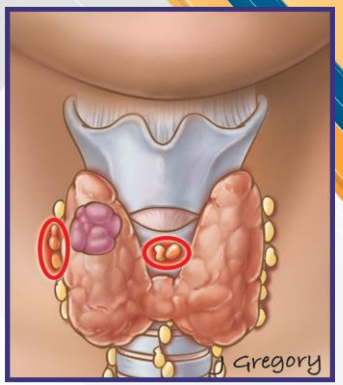


NX Regional (nearby) lymph nodes cannot be assessed.



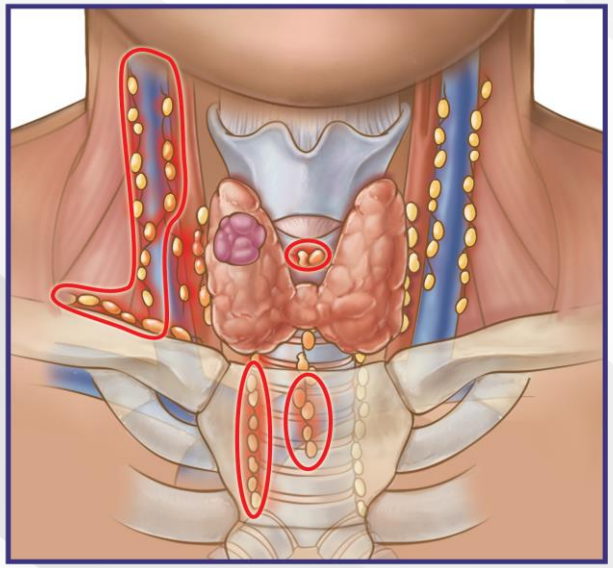
N0

No lymph nodes involved.



N1a

Only lymph nodes near the thyroid are involved.

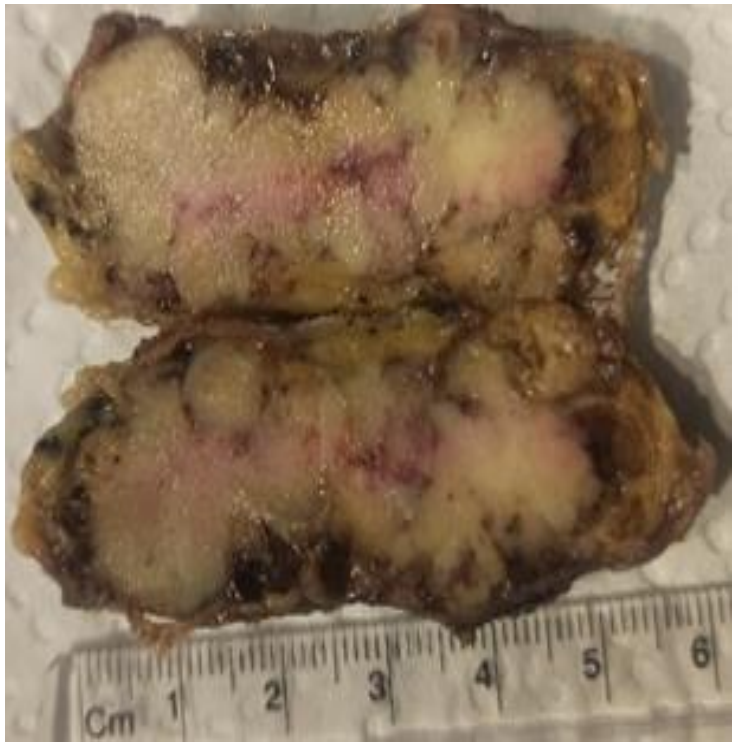


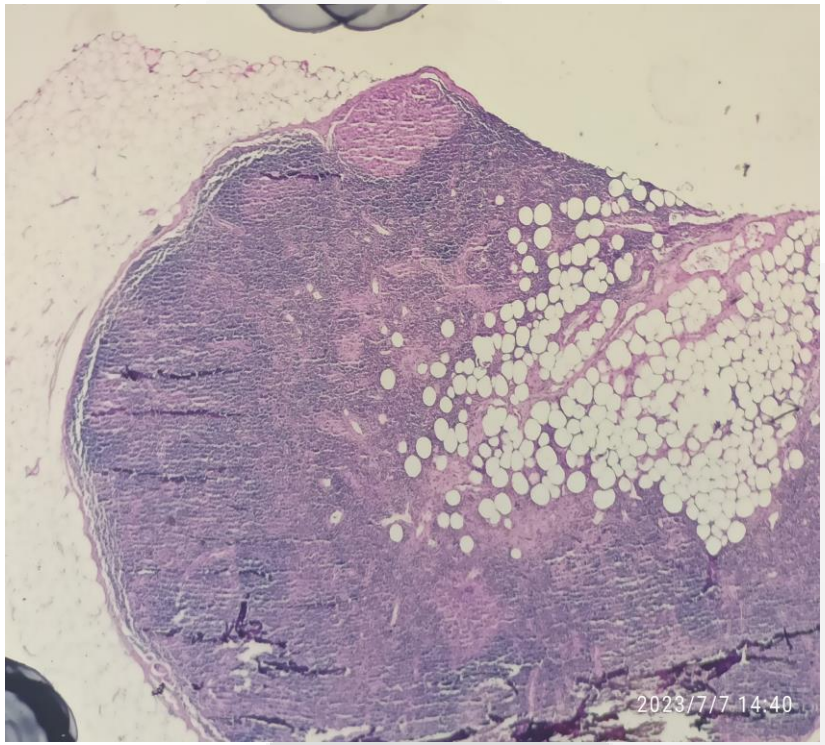
N1b

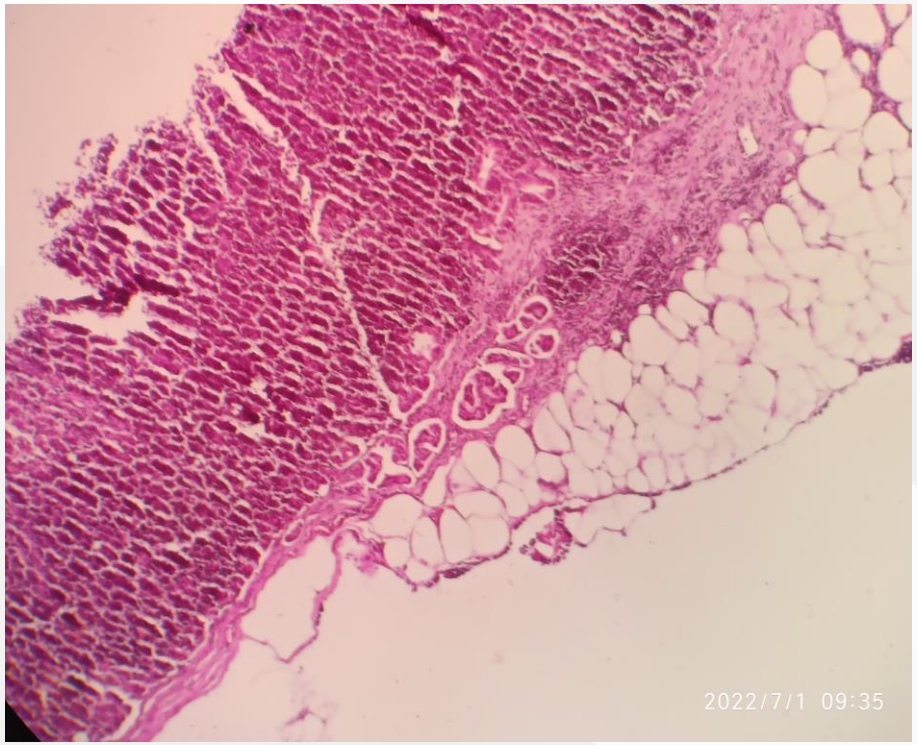
Spread to other lymph nodes in the neck (called cervical) or to lymph nodes behind the throat (retropharyngeal) or in the upper chest (superior mediastinal).

NÚCLEO DE QUITO

EL ESTUDIO GANGLIONAR







NÚCLEO DE QUITO

PRUEBAS ESPECIALES

INMUNOHISTOQUIMICA:

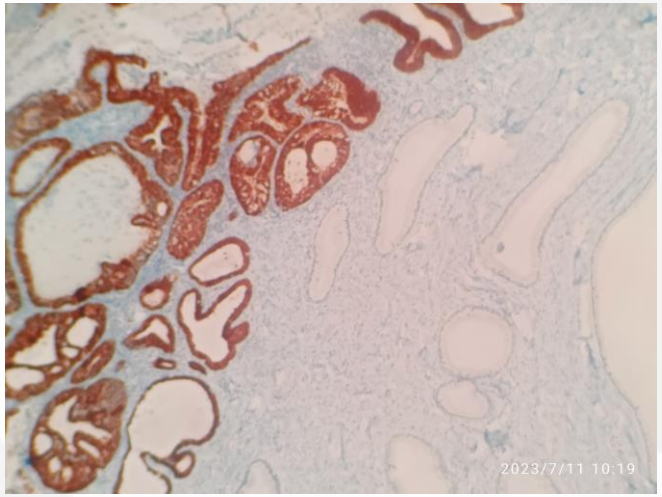
- Citoqueratina (CK19).
- Galectina-3
- Ki67
- S-100, Calcitonina y Neuroendocrinos (Ca Medular)
- PAX-8 (Ca Anaplásico)

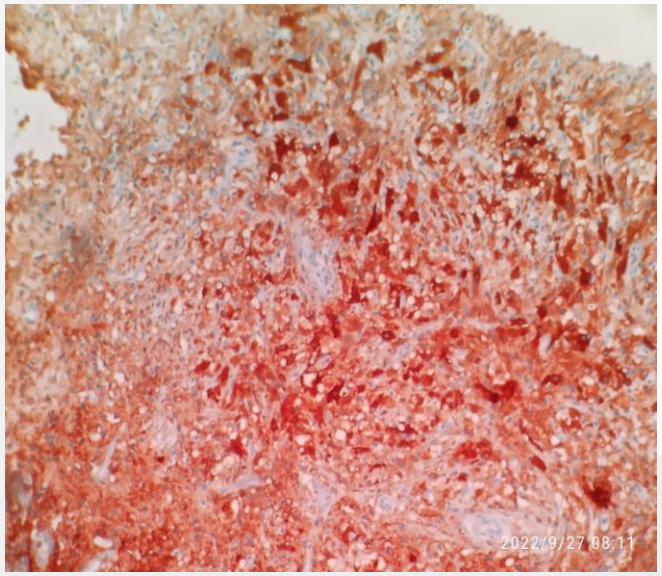
Metástasis de Primario Desconocido

- TTF-1
- Tiroglobulina

MARCADORES MOLECULARES Individuales y/o en Paneles para Perfilamiento Genético:

- N, H Y K RAS.
- RET/PTC (Ca Medular y Sn MEN)
- BRAF V600E
- PAX 8-PPARG
- P53
- B-Catenina





NÚCLEO DE QUITO

PRUEBAS ESPECIALES

GRACIAS