



International Agency for Research on Cancer



**World Health
Organization**



The 2017 WHO Classification of Tumours of Pituitary Gland

A Summary

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(1821-1902)



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EVOLUÇÃO

AVALIAÇÃO MORFOLÓGICA

*HISTOQUÍMICA/Impregnação
Argêntica*

IMUNOHISTOQUÍMICA

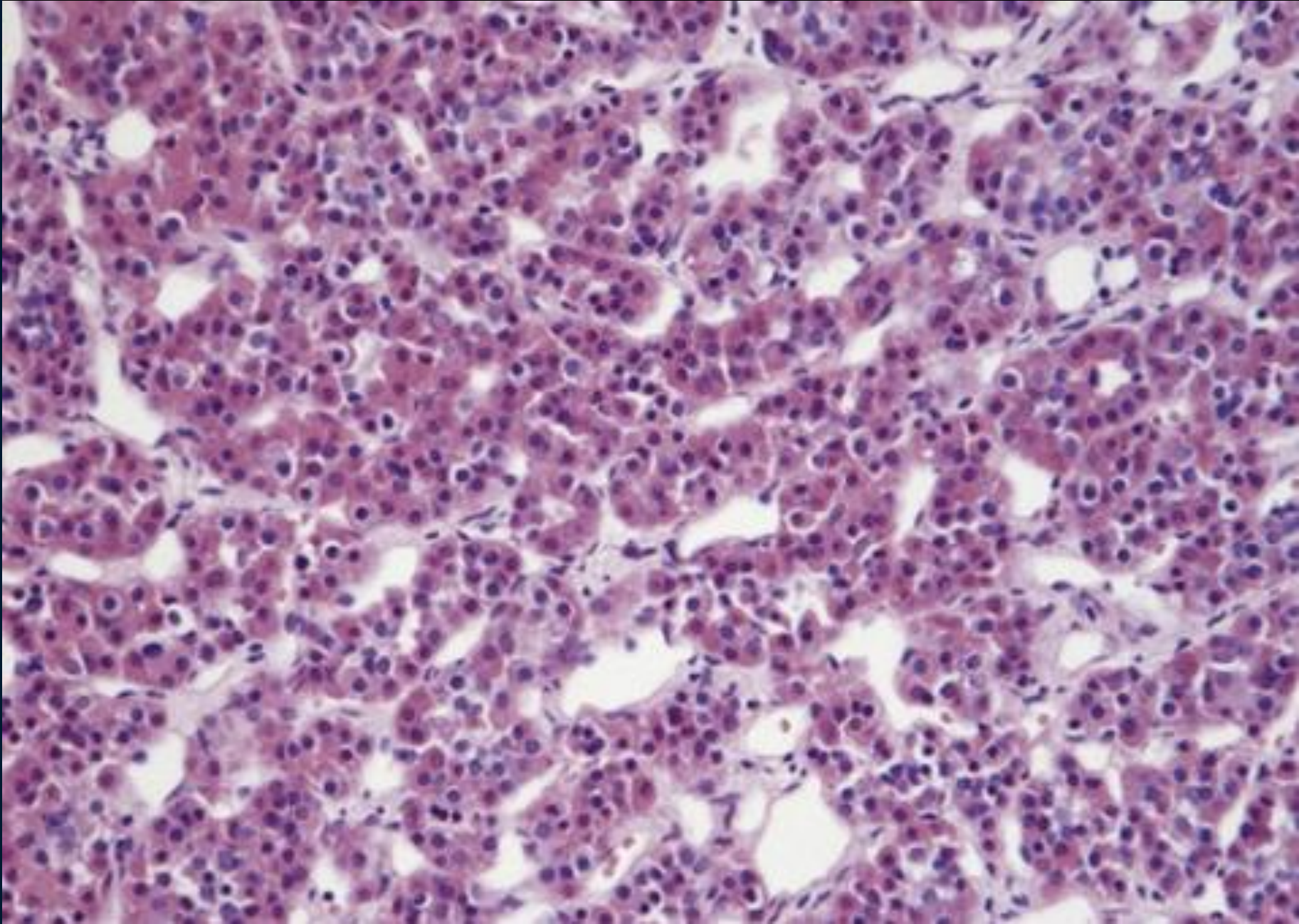


Table 1 2017 WHO classification of tumors of the pituitary gland. Modified from WHO classification of tumors of the pituitary gland [37]

Pituitary adenomas	Somatotroph adenoma Lactotroph adenoma Thyrotroph adenoma Corticotroph adenoma Gonadotroph adenoma Null-cell adenoma Plurihormonal and double adenomas
Pituitary carcinoma	
Pituitary blastoma	
Tumors of the posterior pituitary	Pituicytoma Granular cell tumor of the sella Spindle cell oncocyoma Sellar ependymoma
Neuronal and paraneuronal tumors	Gangliocytoma and mixed gangliocytoma-adenoma Neurocytoma Paraganglioma Neuroblastoma
Craniopharyngioma	Adamantinomatous craniopharyngioma Papillary craniopharyngioma
Mesenchymal and stromal tumors	Meningioma Schwannoma Chordoma, NOS Chondroid chordoma “Dedifferentiated” chordoma Solitary fibrous tumor/hemangiopericytoma Grade 1 SFT/HPC Grade 2 SFT/HPC Grade 3 SFT/HPC
Hematolymphoid tumors	
Germ cell tumors	Germinoma Yolk sac tumor Embryonal carcinoma Choriocarcinoma

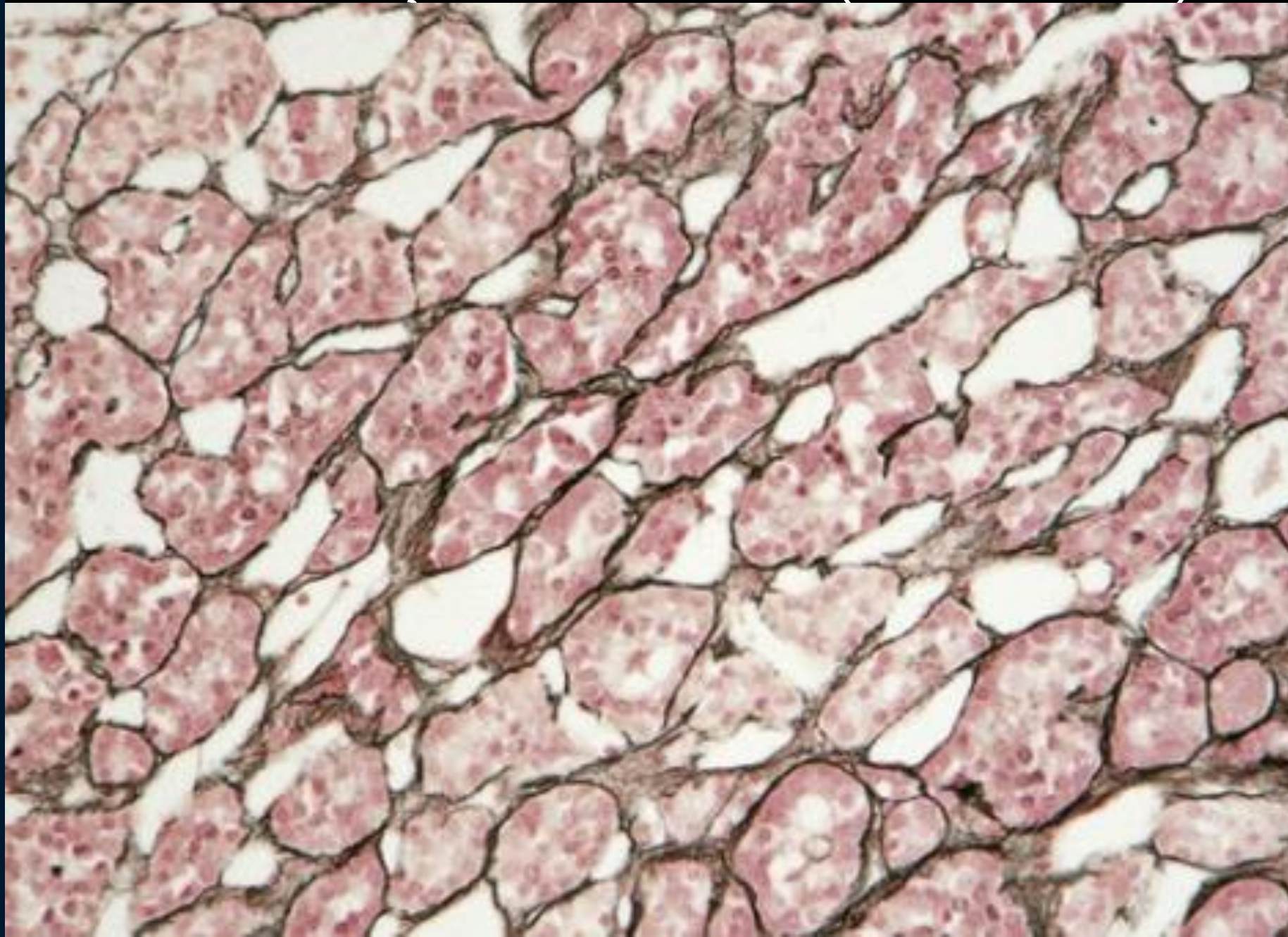
HEMATOXILINA/EOSINA (HE)

ADENOHIPOFISE NORMAL



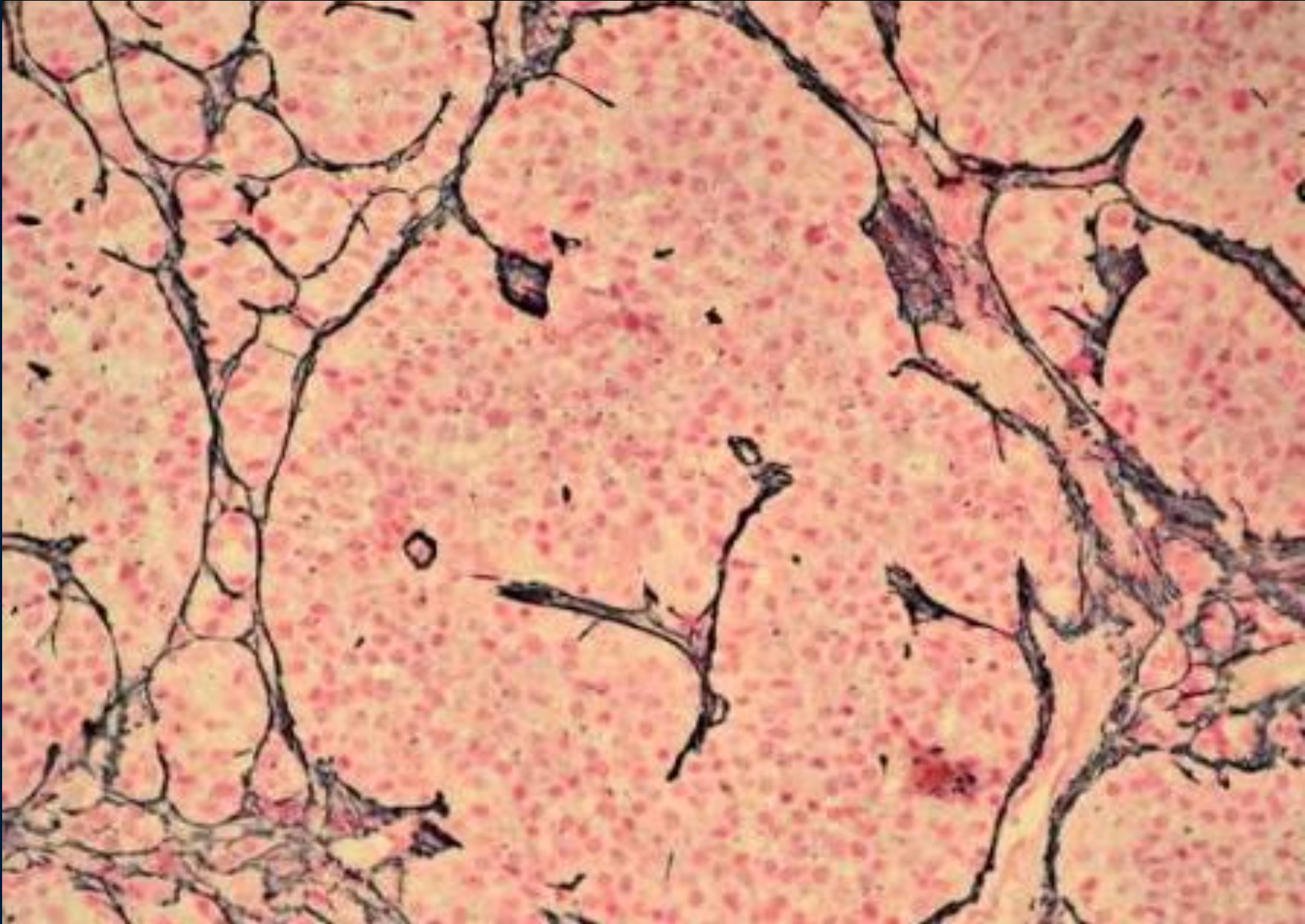
IMPREGNAÇÃO ARGÊNICA (RETICULINA)

ADENOHIPOFISE NORMAL



IMPREGNAÇÃO ARGÊNICA (RETICULINA)

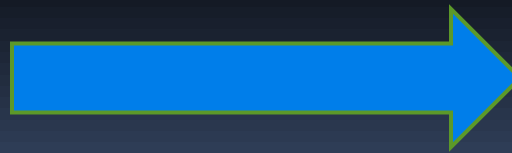
ADENOMA HIPOFISÁRIO



DIFERENCIAÇÃO



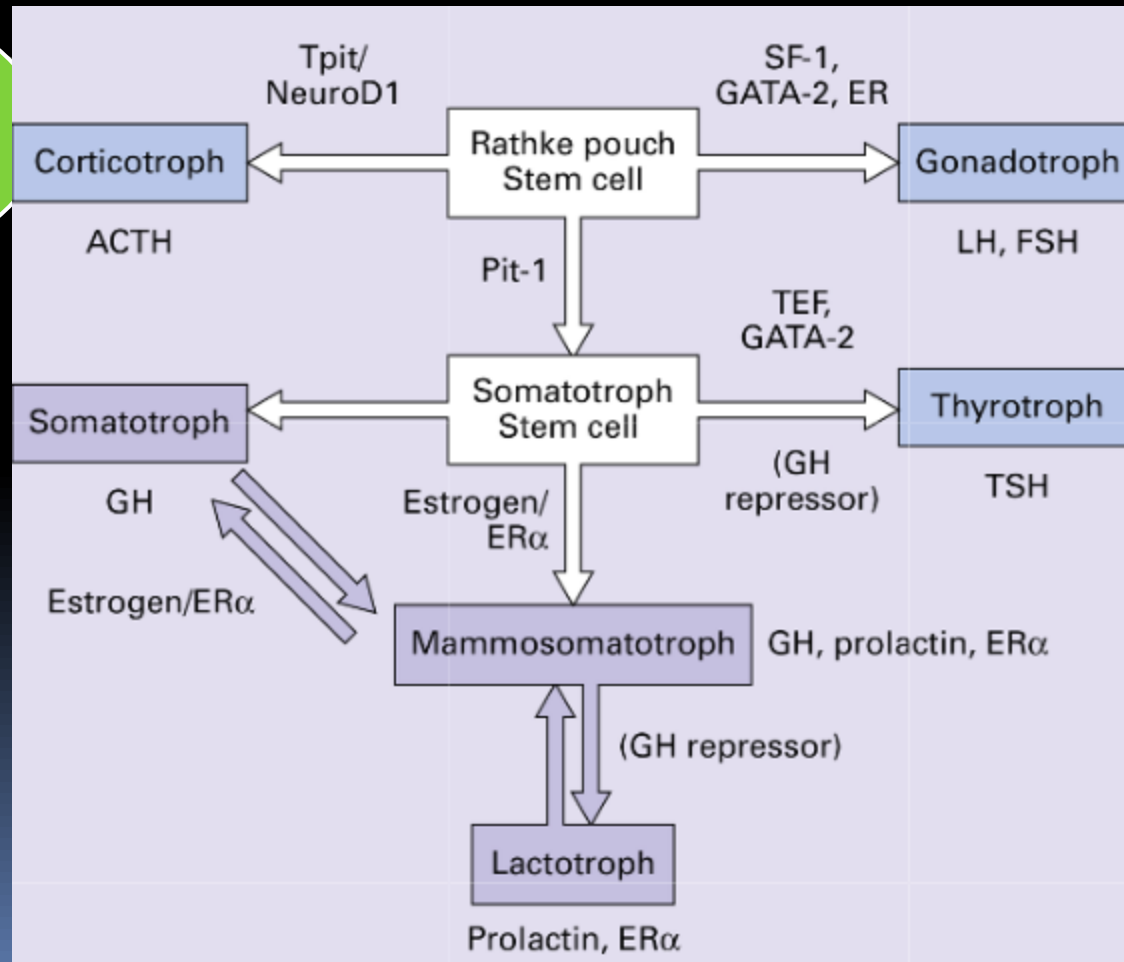
FOLHETOS
EMBRIONÁRIOS



Classificação dos Adenomas Hipofisários (WHO2017)



ADENOMAS



LINHAGENS DE CÉLULAS ADENOHIPOFISÁRIAS

LINHAGEM ACIDOFÍLICA

LINHAGEM CORTICOTRÓFICA

LINHAGEM GONADOTRÓFICA

Classificação dos Adenomas Hipofisários

Lineage	Main transcription factors and other co-factors	Adenohypophyseal cell
Acidophilic lineage	PIT-1	Somatotrophs
	PIT-1, ER α	Lactotrophs
	PIT-1, GATA-2	Thyrotrophs
Corticotroph lineage	T-PIT	Corticotrophs
Gonadotroph lineage	SF-1; GATA-2, ER α	Gonadotrophs

Classificação dos Adenomas Hipofisários

ADENOMA
LACTOTRÓFICO

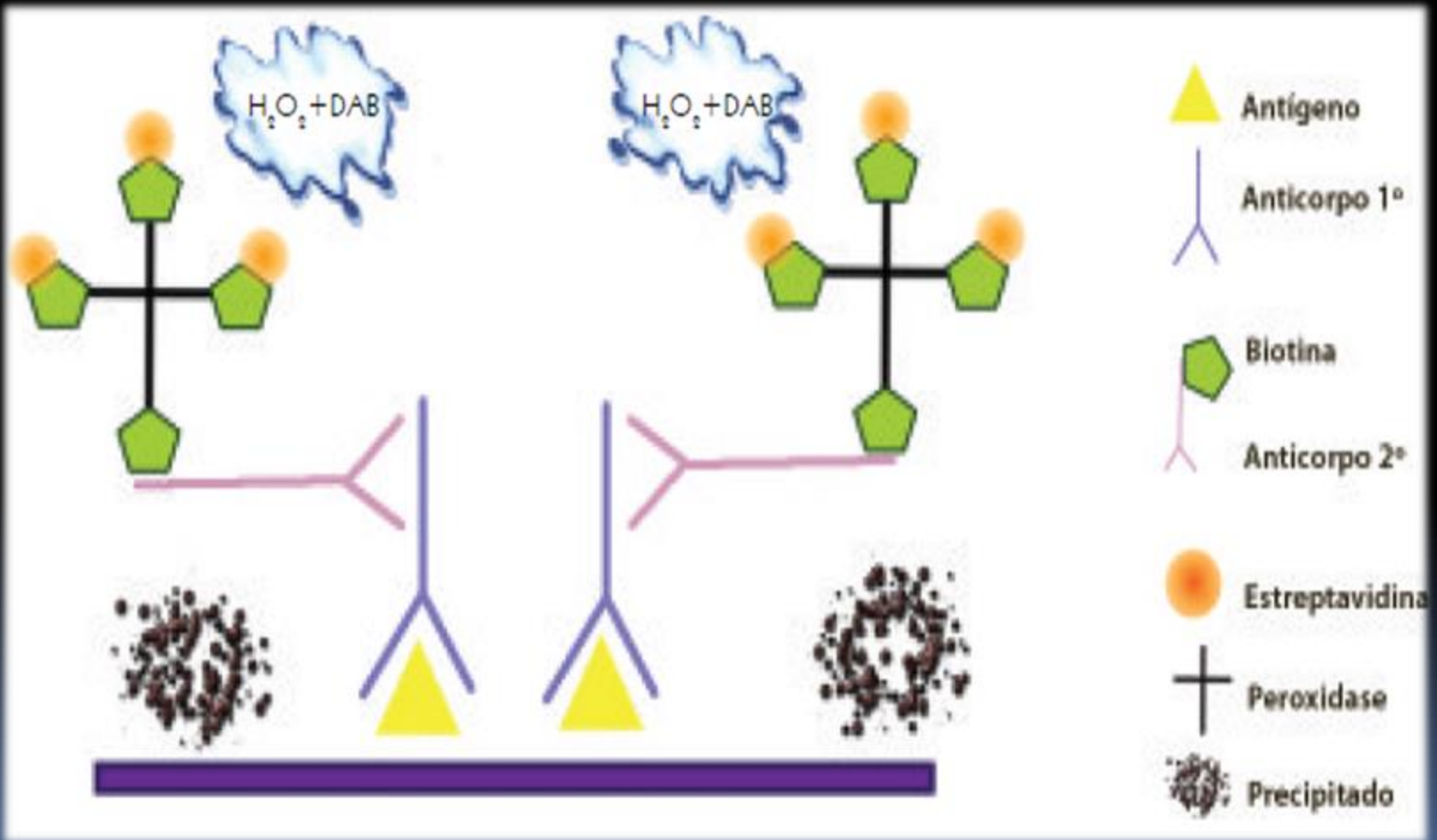
ATUAL



ADENOMA PRODUTOR DE
PROLACTINA



ESTUDO IMUNOHISTOQUÍMICO



Classificação e Nomenclatura

Adenoma type	Morphological variants	Pituitary hormones and other immunomarkers
Somatotroph adenomas	Densely granulated adenoma ^a	GH ± PRL ± α-subunit
	Sparsely granulated adenoma	GH ± PRL, [CK]
	Mammotroph adenoma	GH + PRL (in same cells) ± α-subunit
	Mixed somatotroph–lactotroph adenoma	GH + PRL (in different cells) ± α-subunit
Lactotroph adenomas	Sparsely granulated adenoma ^a	PRL
	Densely granulated adenoma	PRL
	Acidophilic stem cell adenoma	PRL, GH (focal and variable)
Thyrotroph Adenoma		β-TSH, α-subunit
Corticotroph adenomas	Densely granulated adenoma ^a	ACTH, [CK]
	Sparsely granulated adenoma	ACTH, [CK]
	Crooke's cell adenoma	ACTH, [CK]
Gonadotroph adenoma		β-FSH, β-LH, α-subunit (various combinations)
Null cell adenoma		None
Plurihormonal adenomas	Plurihormonal PIT-1 positive adenoma (previously called silent subtype 3 adenoma)	GH, PRL, β-TSH ± α-subunit
	Adenomas with unusual immunohistochemical combinations	Various combinations: ACTH/GH, ACTH/PRL

Classificação dos Adenomas Hipofisários (WHO2017)

EXEMPLO

ADENOMA
SOMATOTRÓFICO

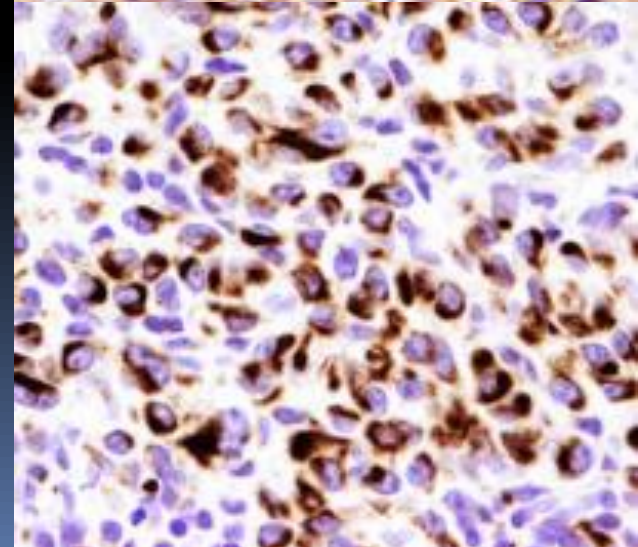
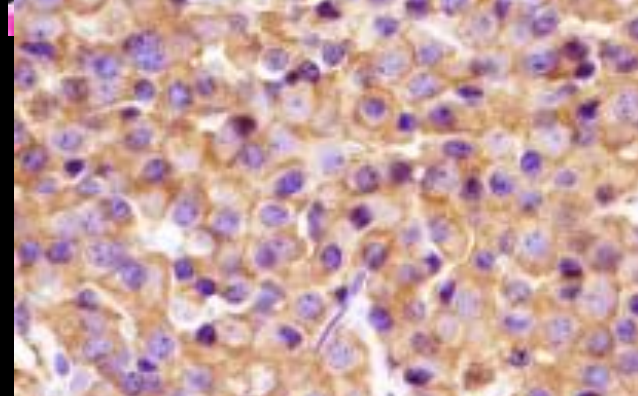
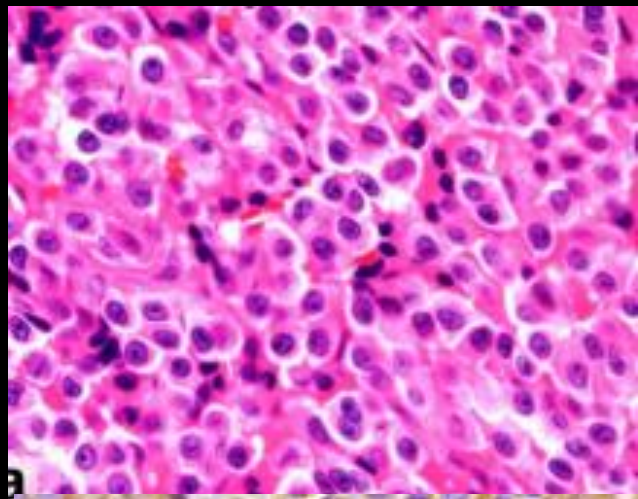
DENSAMENTE
GRANULAR

ESPARSAMENTE
GRANULAR



ADENOMA
SOMATOTRÓFICO
- Densamente Granular

- 1) HE
- 2) GH
- 3) Citoqueratinas



Classificação dos Adenomas Hipofisários (WHO2017)

TERMINOLOGIA

NULL CELL ADENOMAS

SILENT ADENOMAS

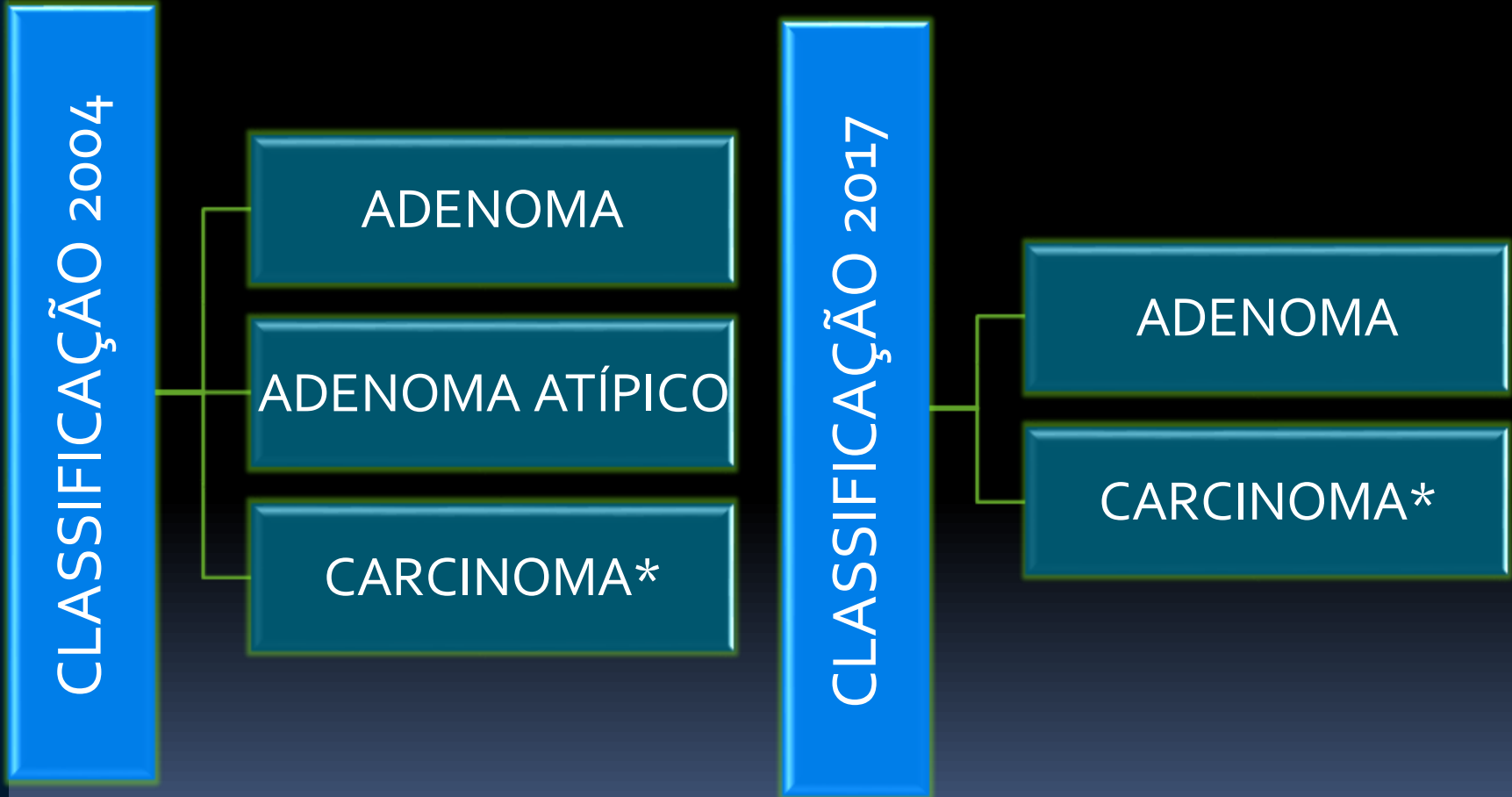
DOUBLE ADENOMAS

PLURIHORMONAL
ADENOMAS
-monomórficos
-plurimórficos

Peptide		Percentage of total ^a
PRL		25
GH	densely granulated ^b	6
	sparsely granulated ^b	3
ACTH		12
FSH/LH		8
TSH		1
PRL + GH mammosomatotroph adenoma		2
PRL + GH acidophil stem cell adenoma		2
PRL + GH mixed cell adenoma		5
GH + TSH ± α -subunit ± PRL and FSH + LH ± TSH ± α -subunit ± GH ± PRL		10
Null-cell adenoma		25
Others		1

Tumores Hipofisários

GRADUAÇÃO



*Manutenção dos Critérios Diagnósticos

Adenomas – Probabilidade de recorrência

Low probability for recurrence	High probability for recurrence	Malignant (metastatic) tumor
Pituitary adenoma	Adenomas with elevated proliferative activity Special subtypes (variants) of adenomas: Sparsely granulated somatotroph adenoma Lactotroph adenoma in men Silent corticotroph adenoma Crooke cell adenoma Plurihormonal PIT-1 positive adenoma	Pituitary carcinoma



OBRIGADO!

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