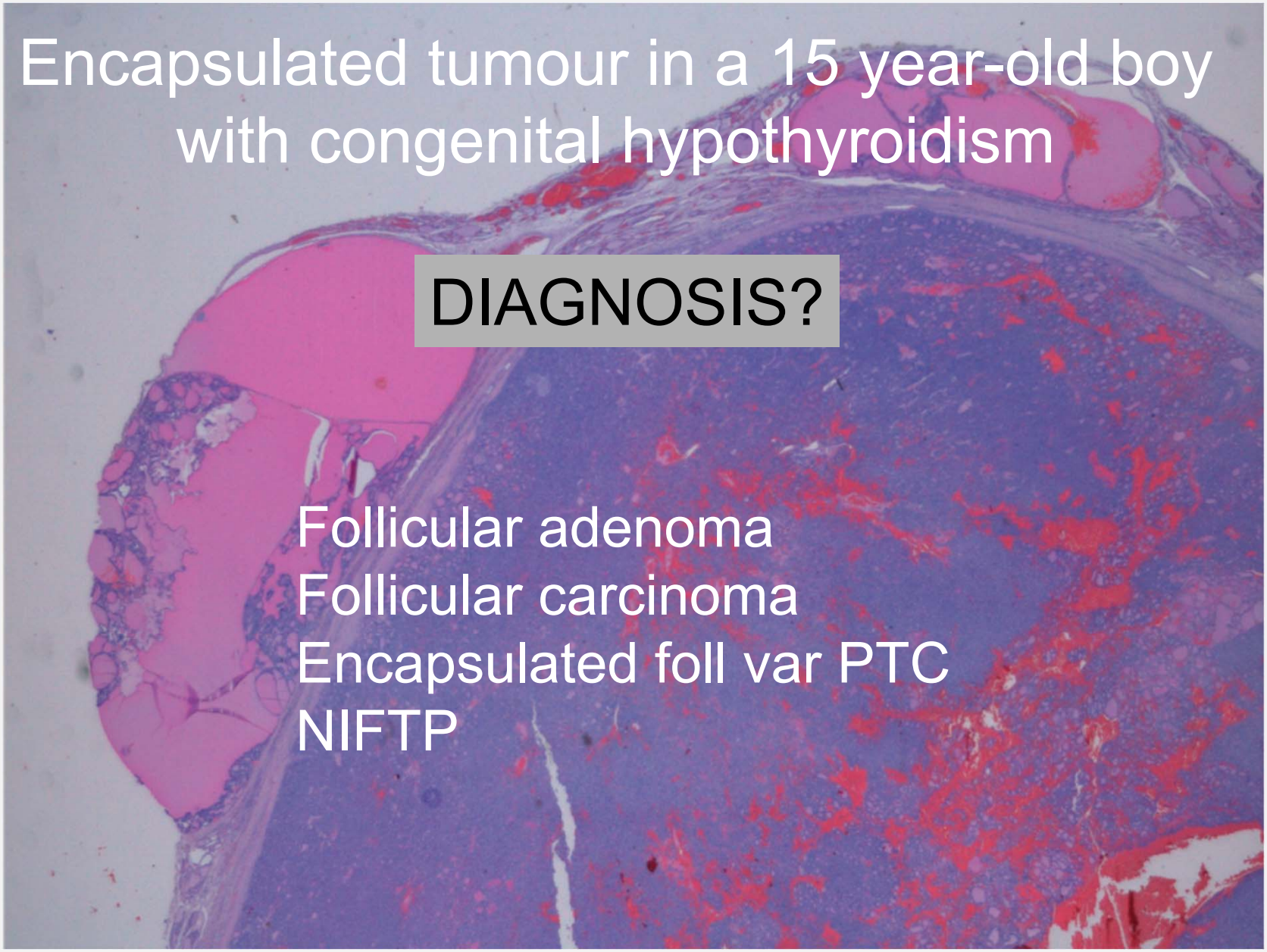
Thyroid Slide Seminar
Case 1

Isabel Amendoeira

I declare that I have no potential conflict of interest

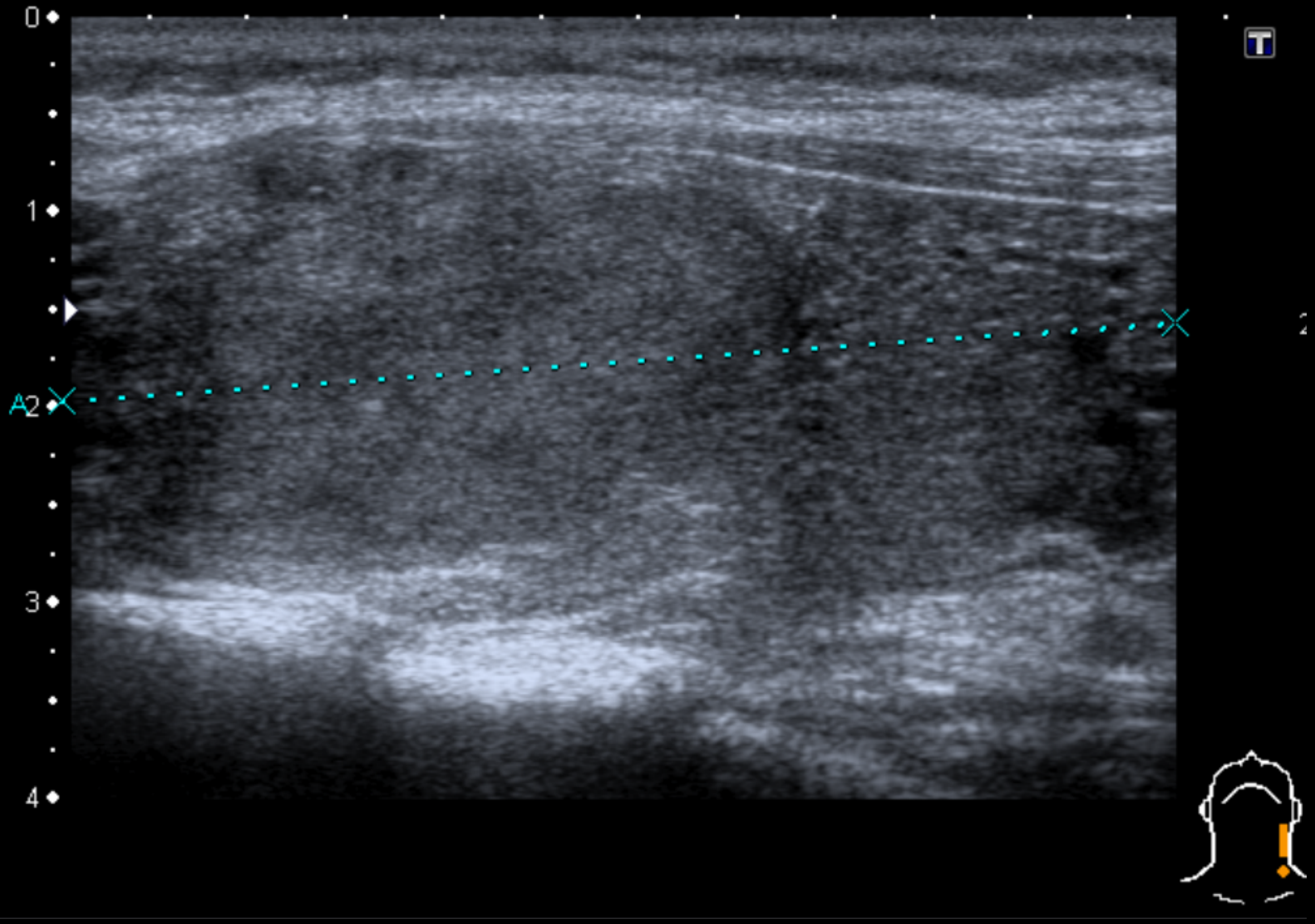

Encapsulated tumour in a 15 year-old boy with congenital hypothyroidism
DIAGNOSIS?
Follicular adenoma
Follicular carcinoma
Encapsulated foll var PTC
NIFTP

15 year-old boy

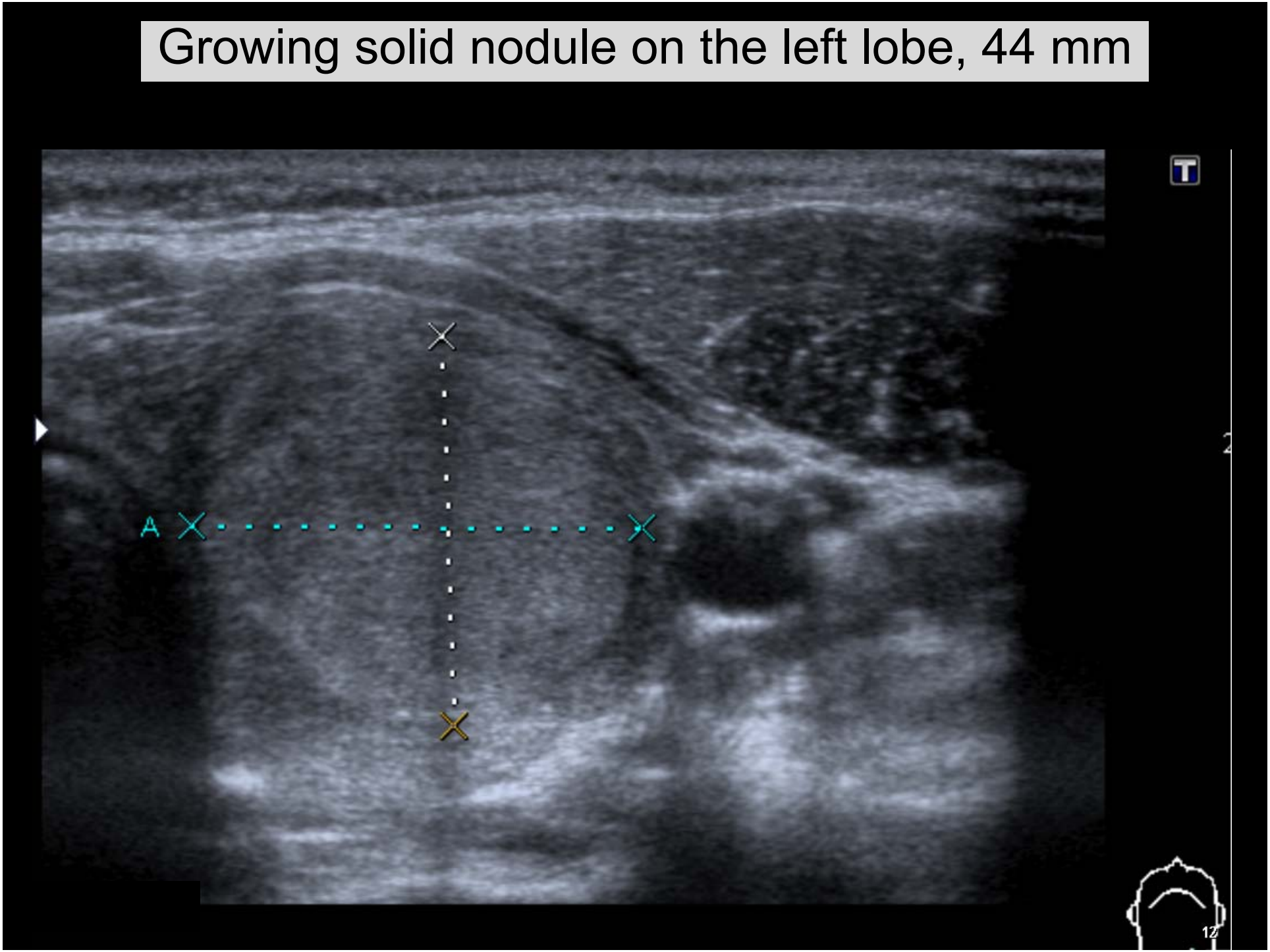
Congenital hypothyroidism under medication since neonatal period

Genetic screening for dyshormonogenesis

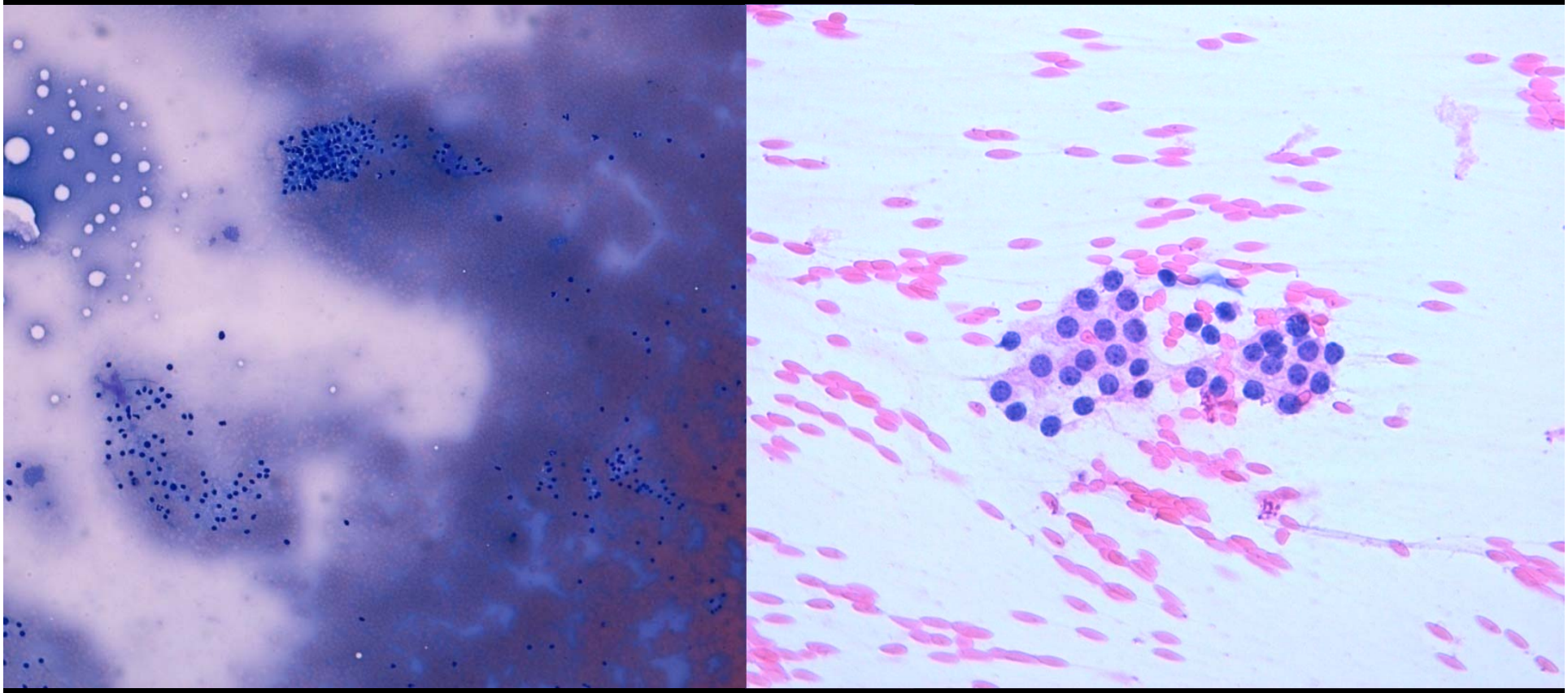
US: heterogeneous thyroid goiter



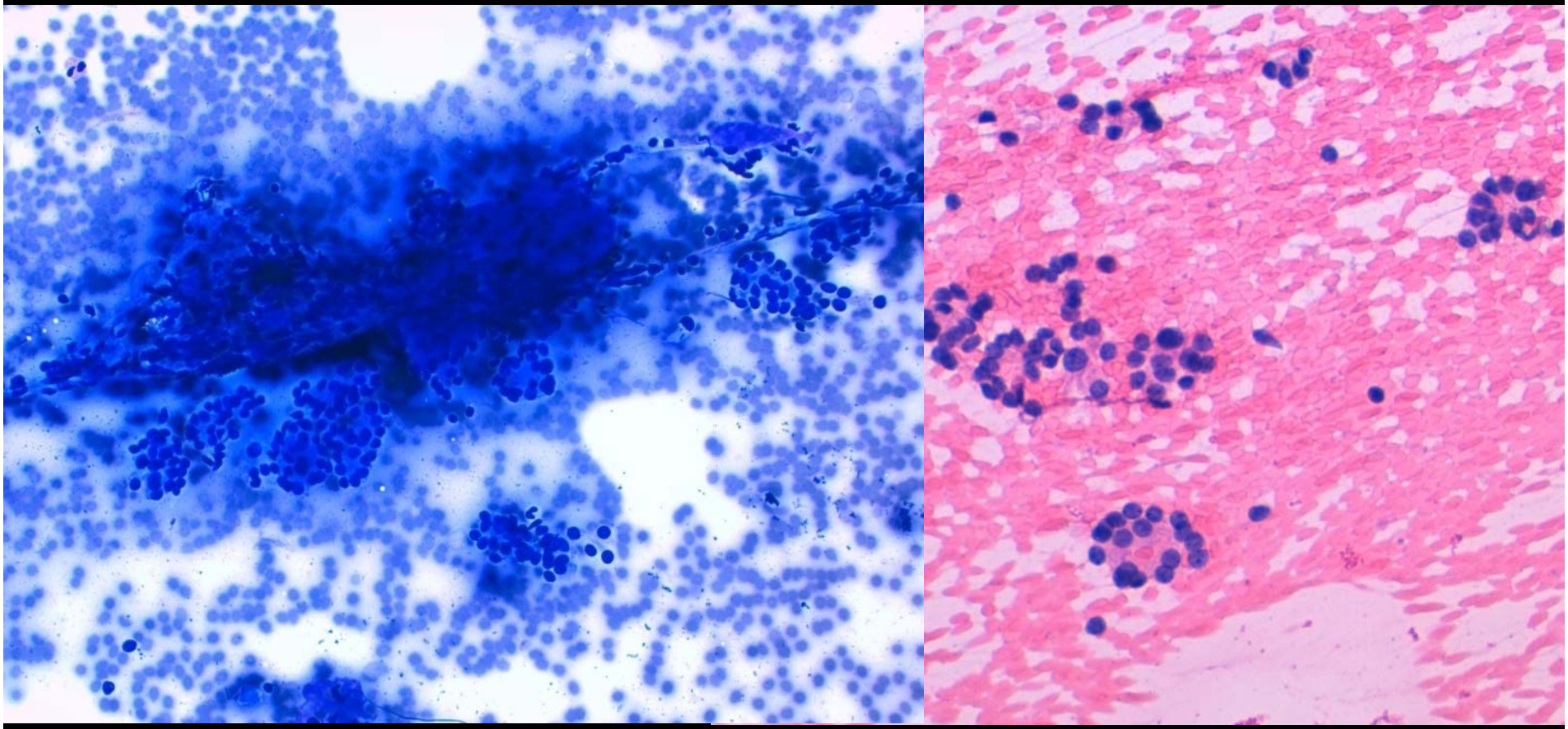
Growing solid nodule on the left lobe, 44 mm



FNA



FNA

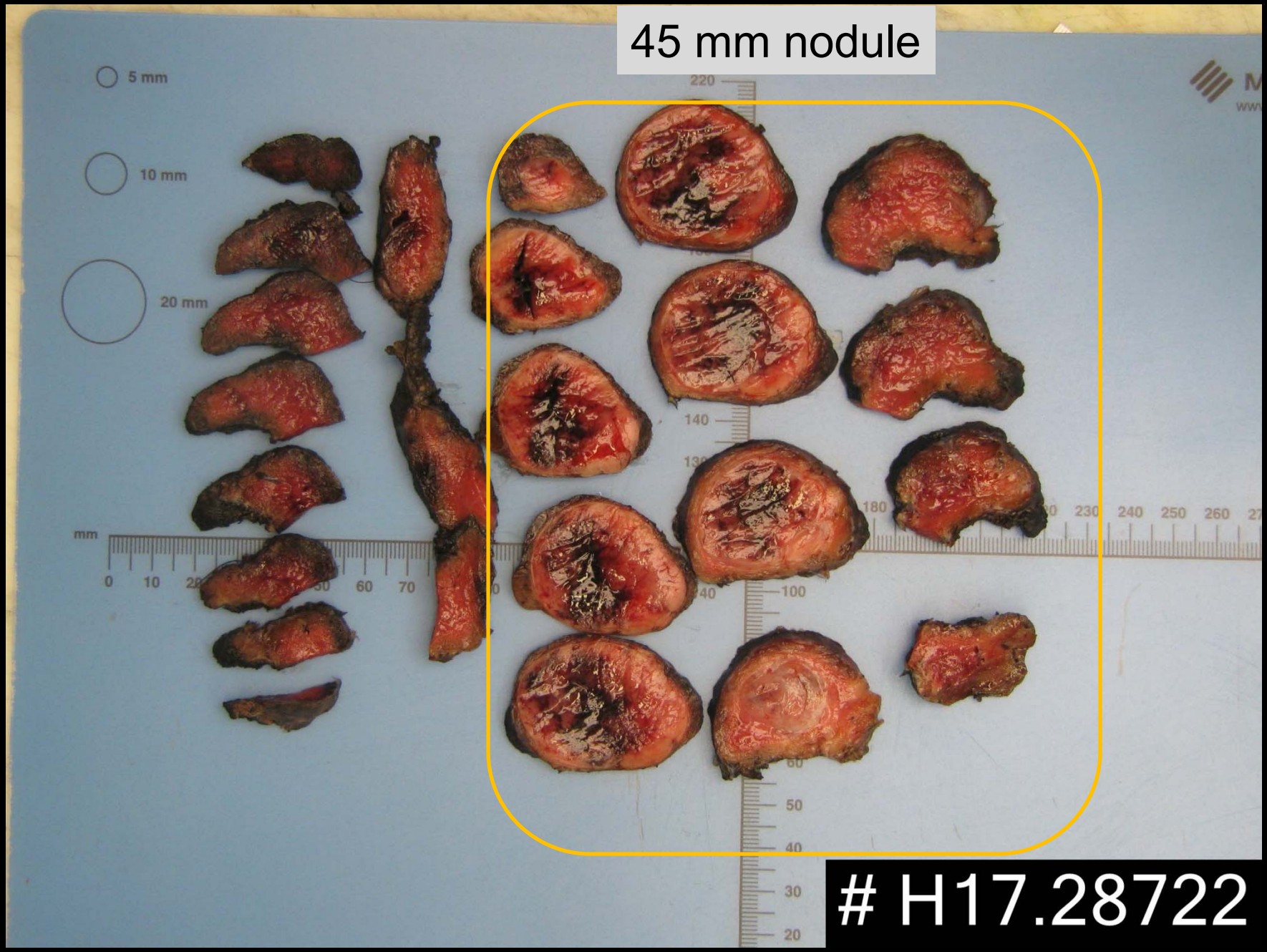


FNA diagnosis

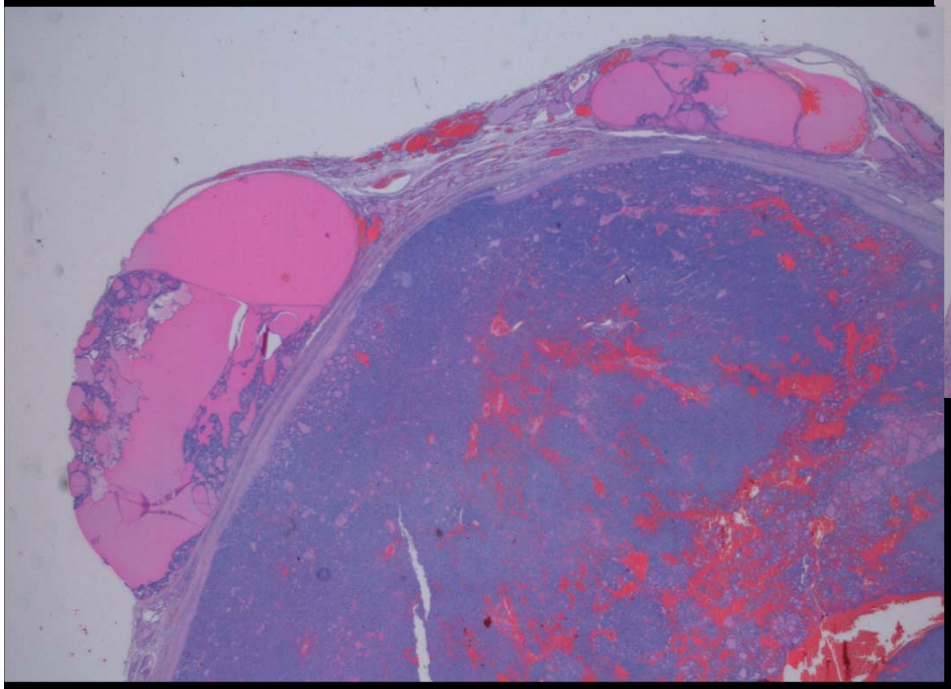
Follicular lesion
(Colloid nodule ? Follicular neoplasia?)

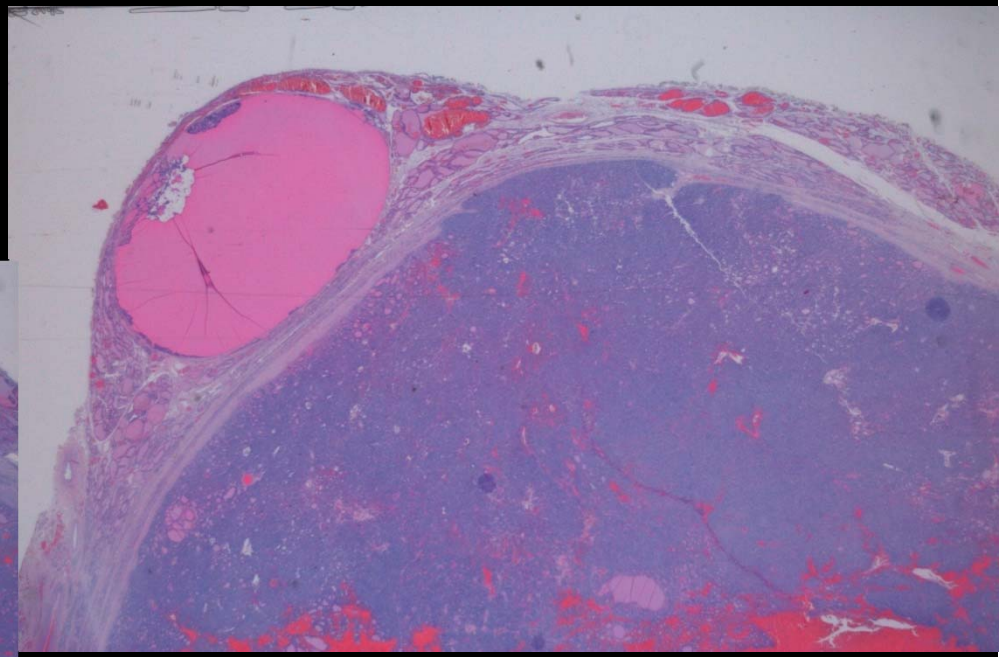
Follicular lesion of undetermined significance
(Bethesda III)


TT
77g
H17.28722

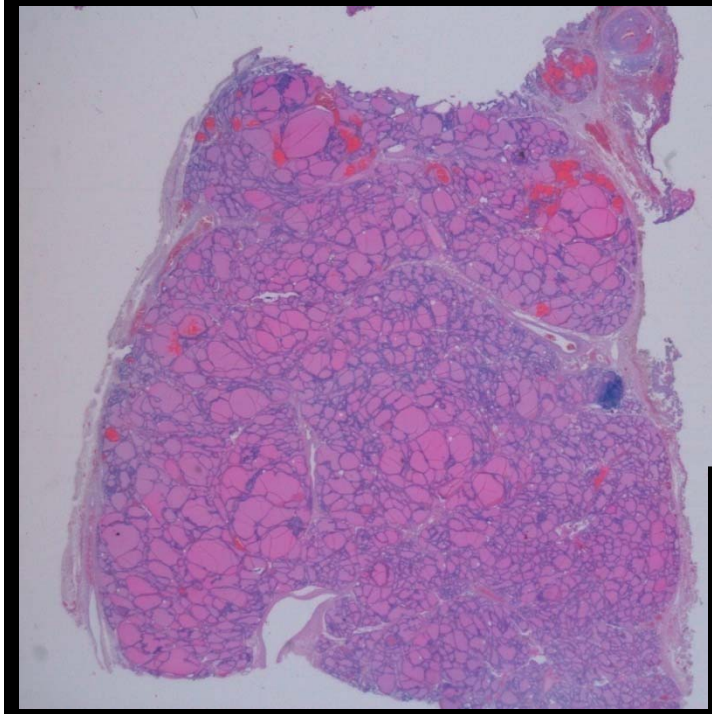

45 mm nodule
5 mm
10 mm
20 mm
mm
H17.28722

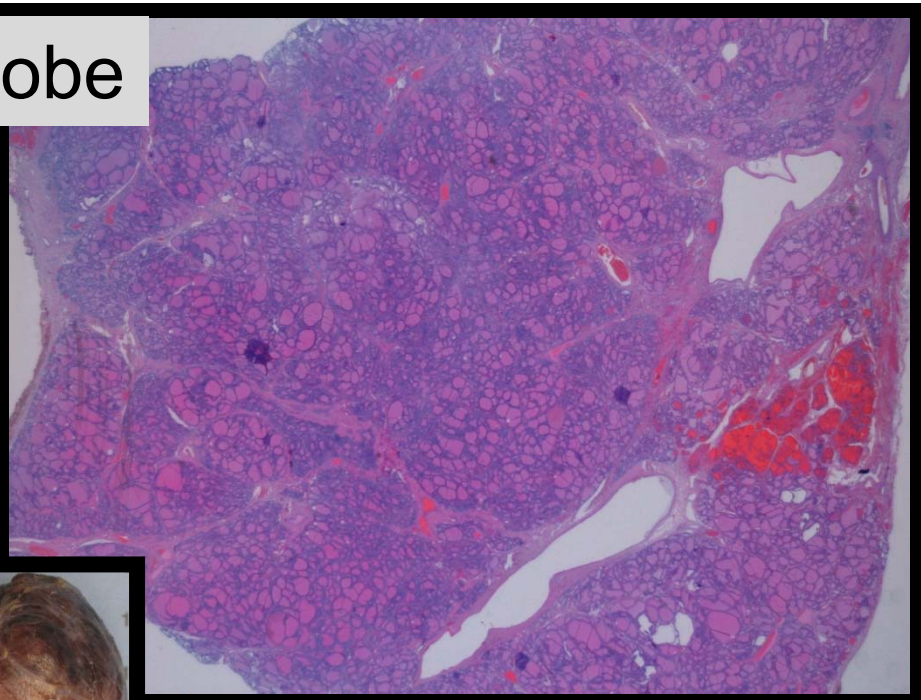
Left lobe

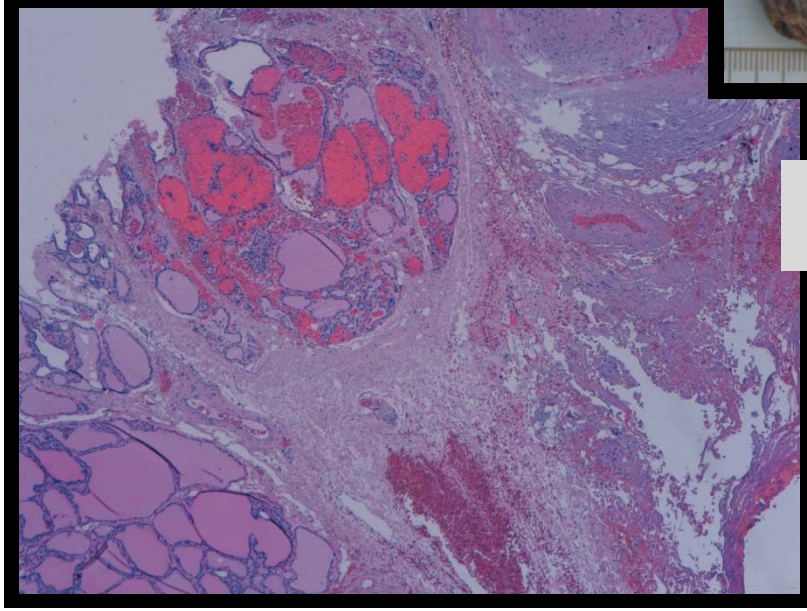




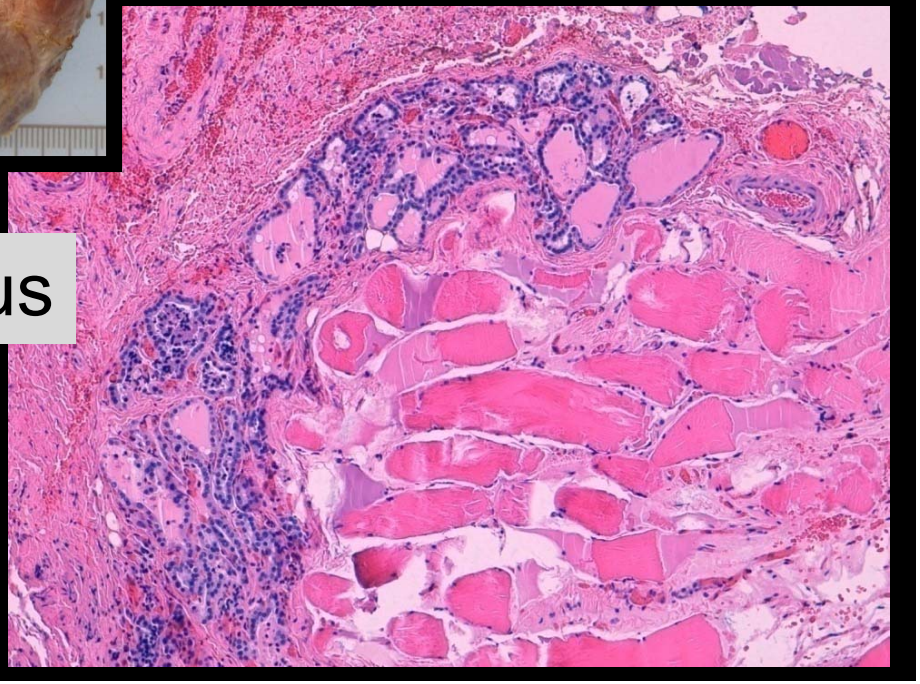
Right lobe





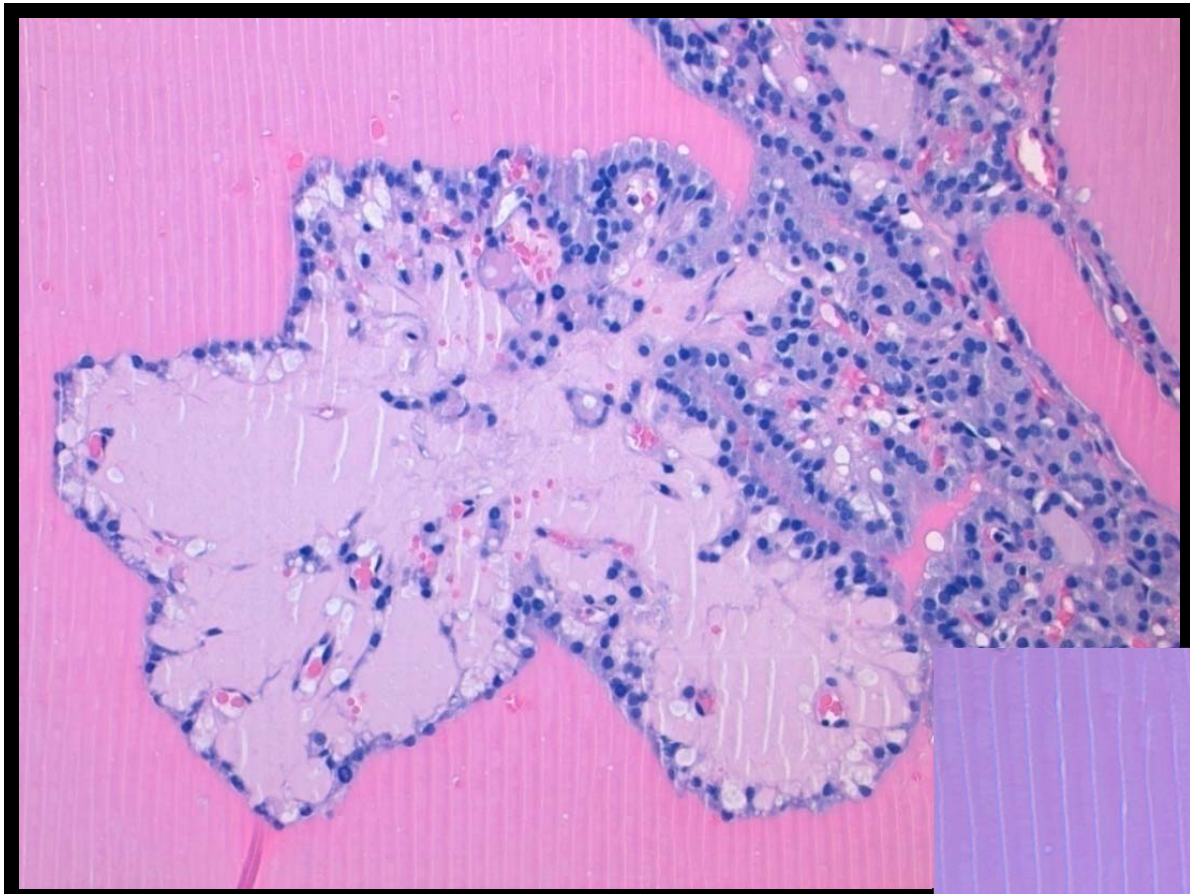


Isthmus



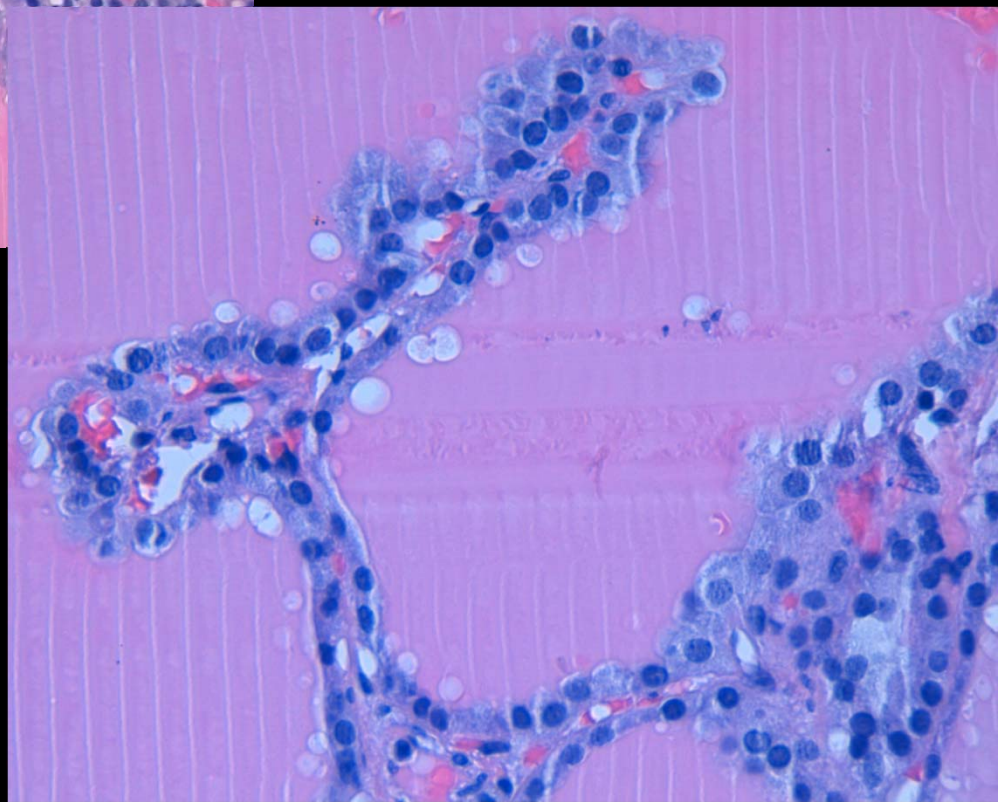
Right lobe

Hyperplastic lesions

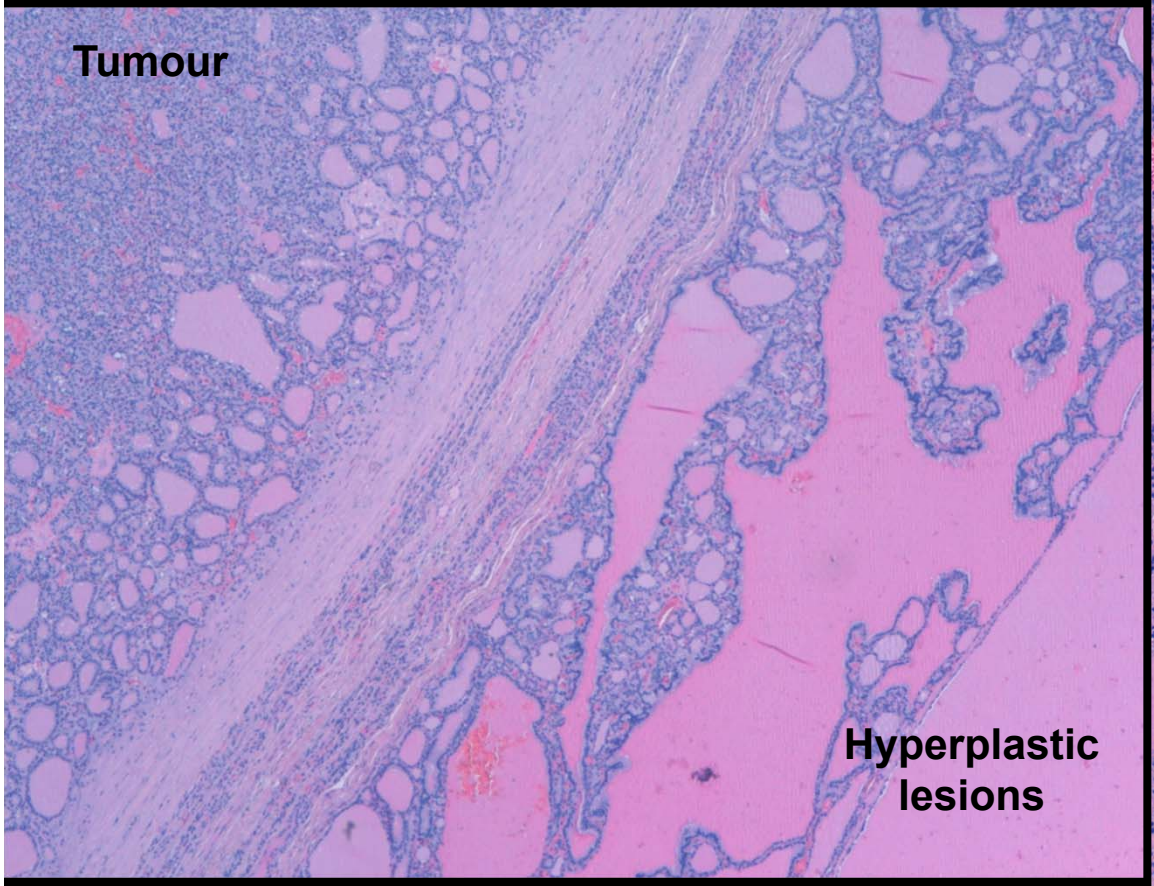


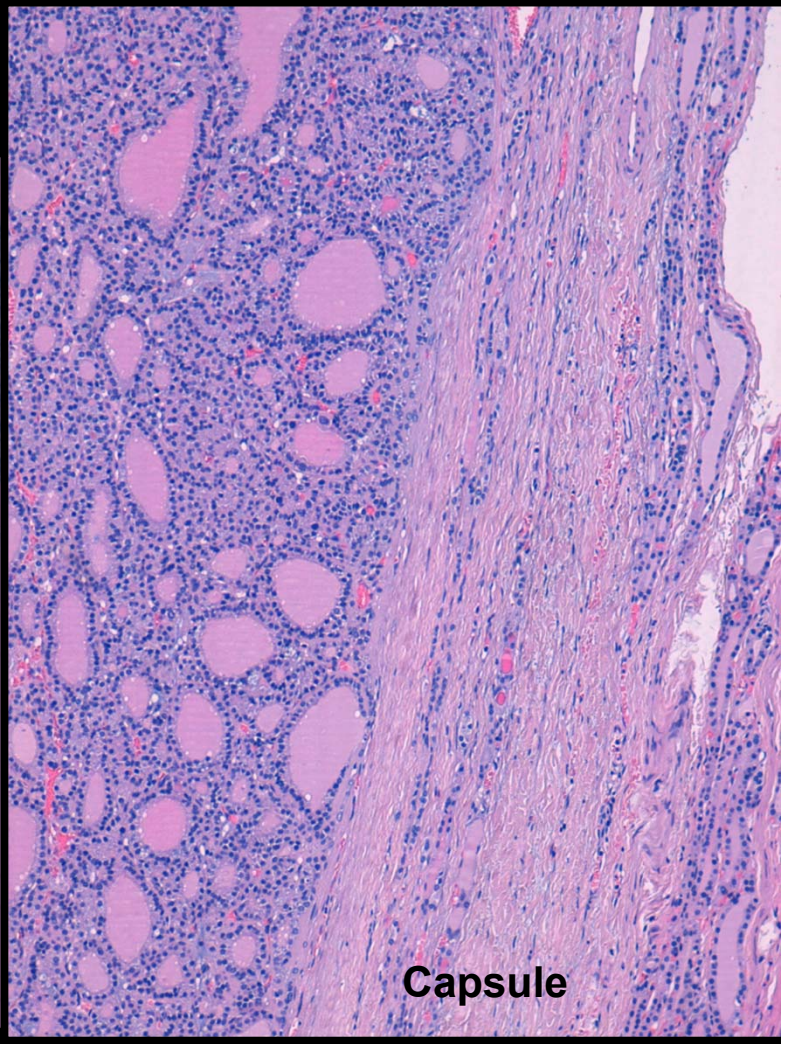
Right lobe

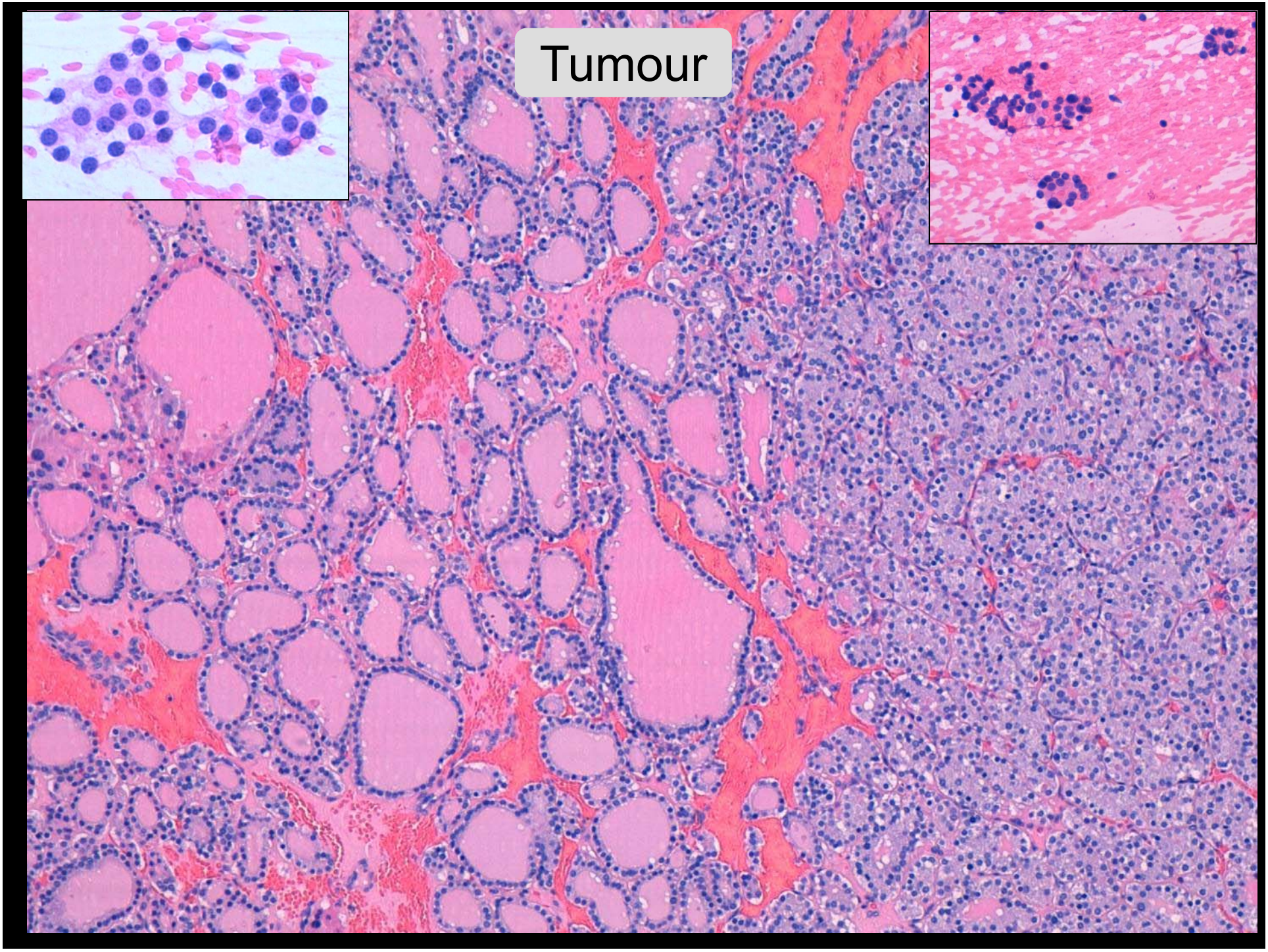
Hyperplastic lesions

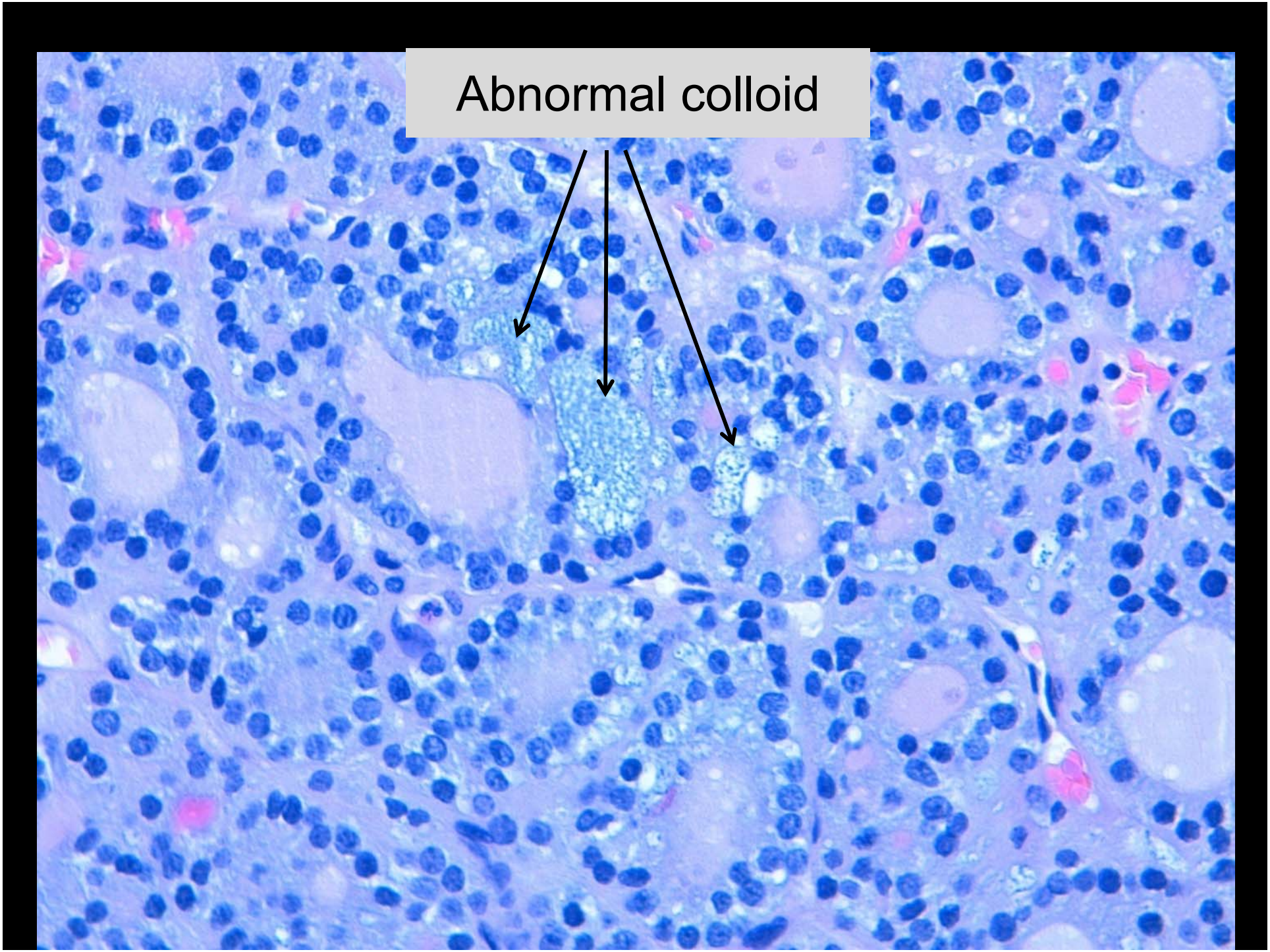


Left lobe

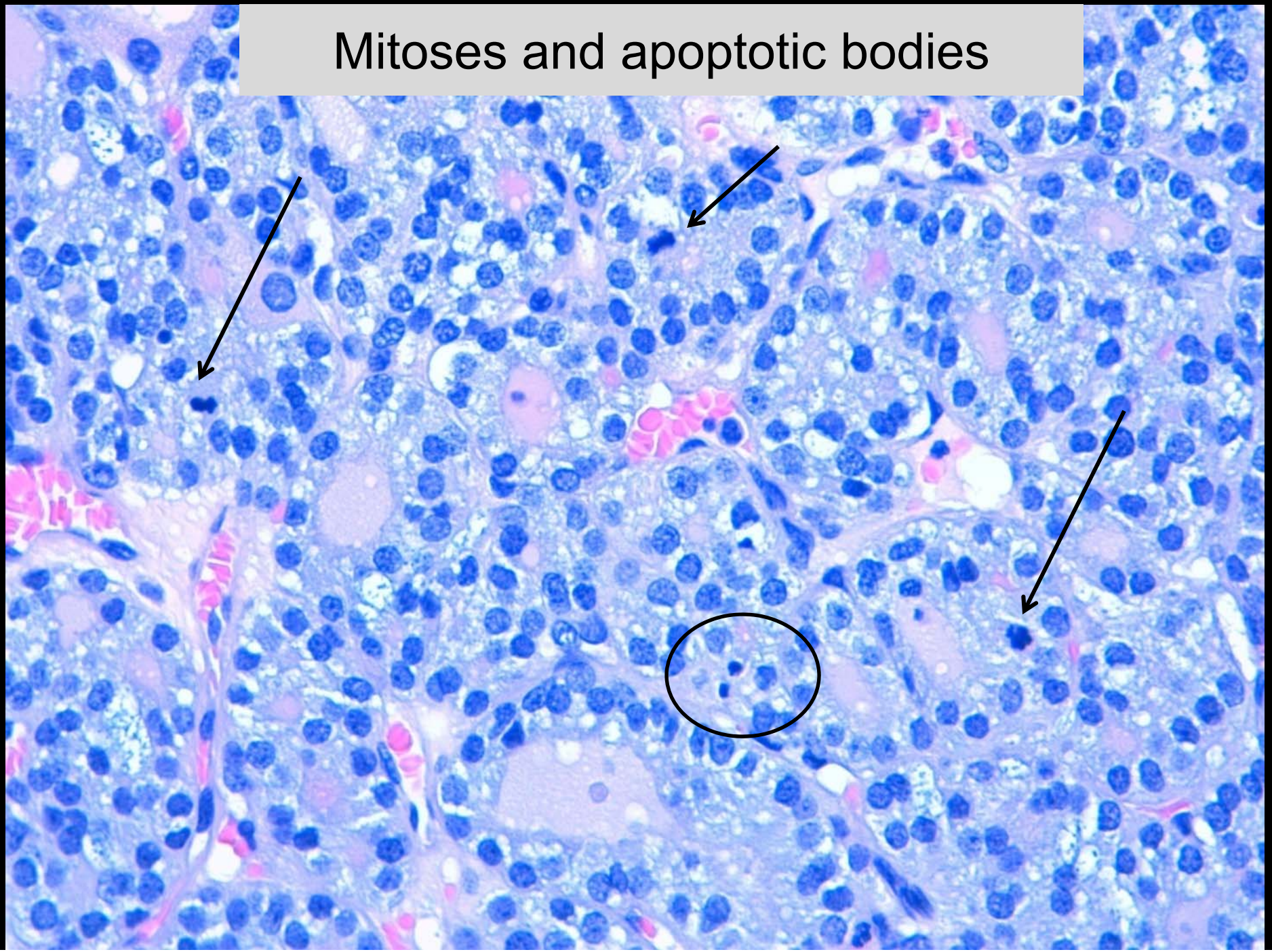


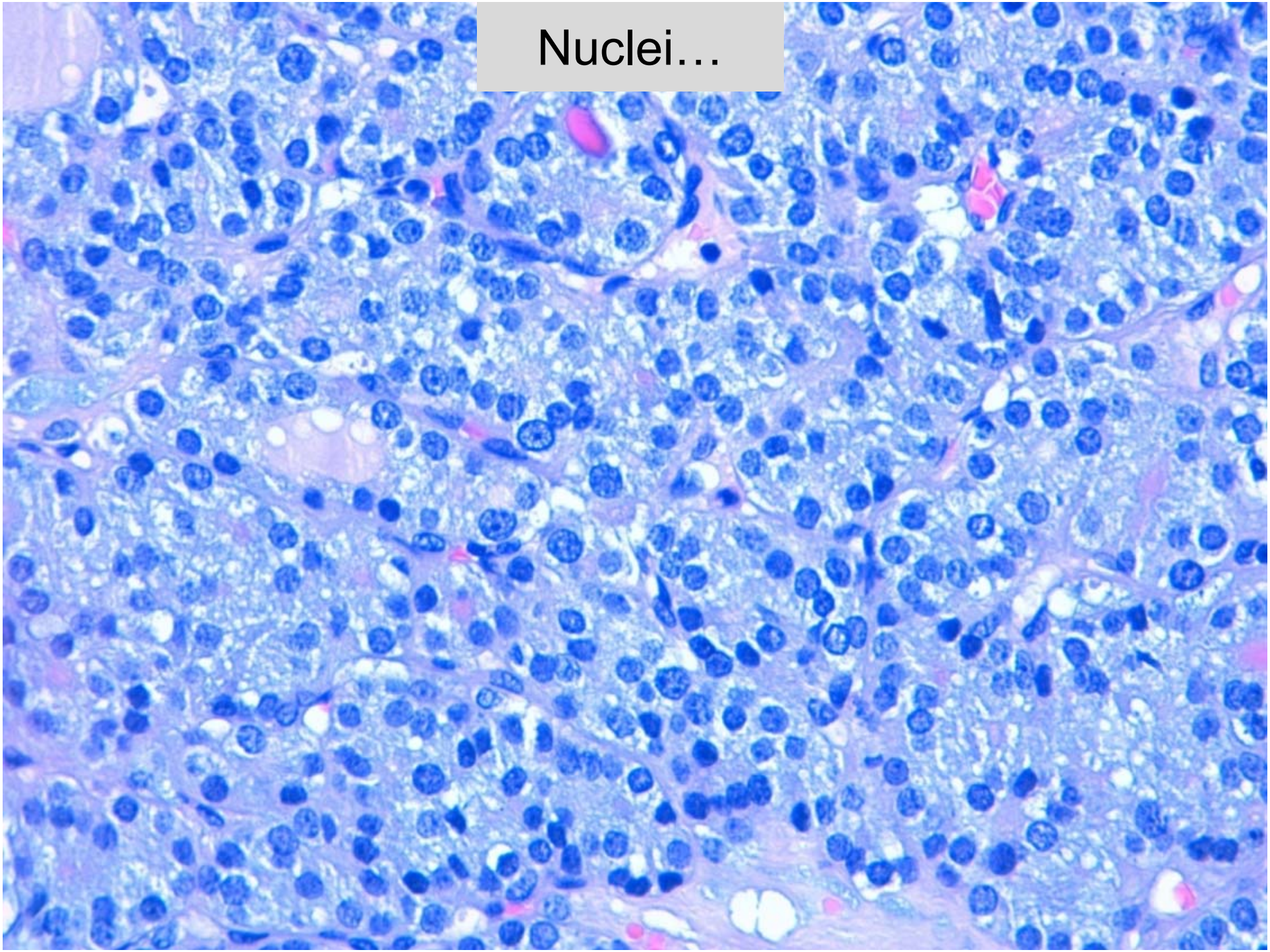


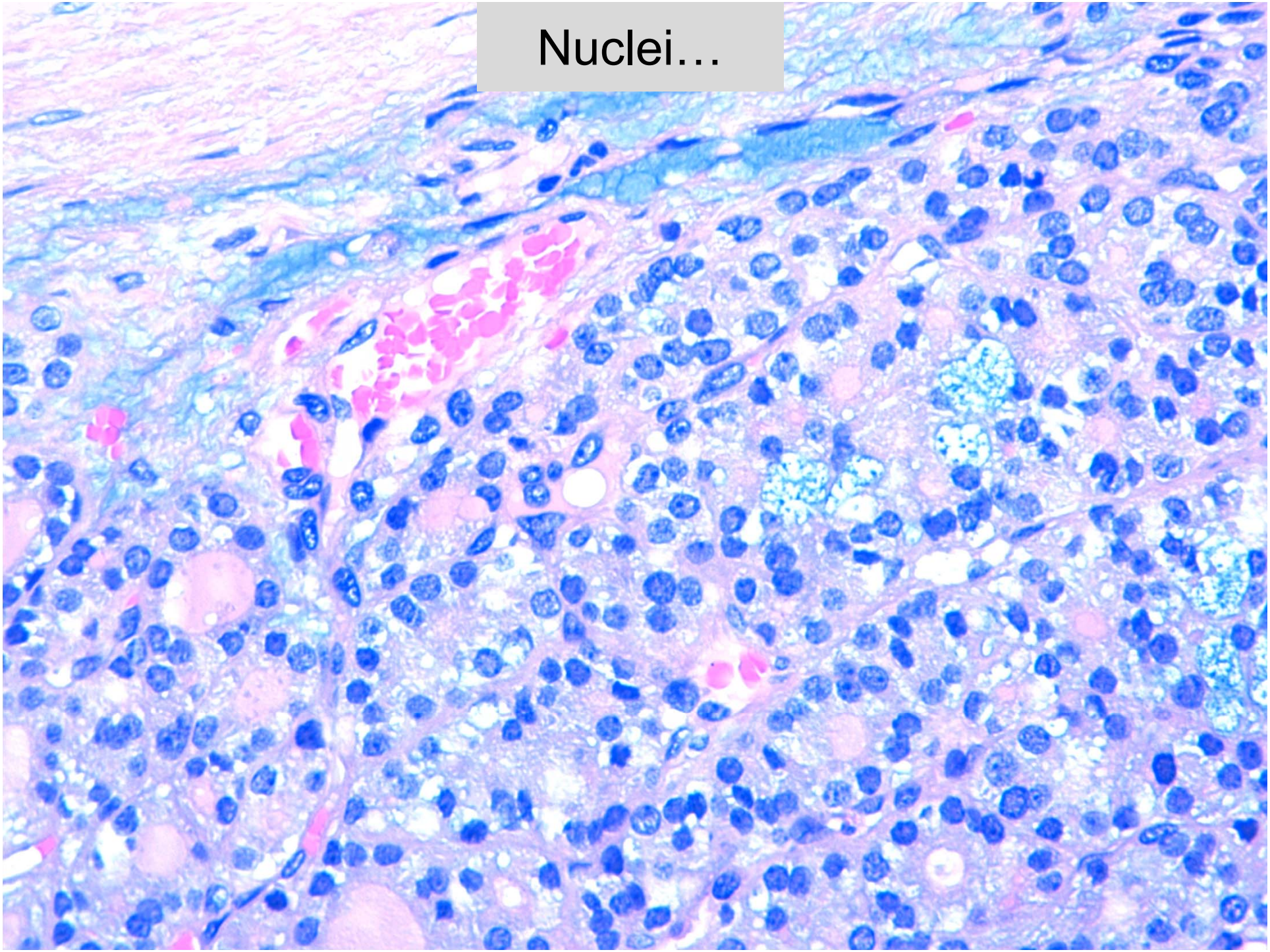

Tumour

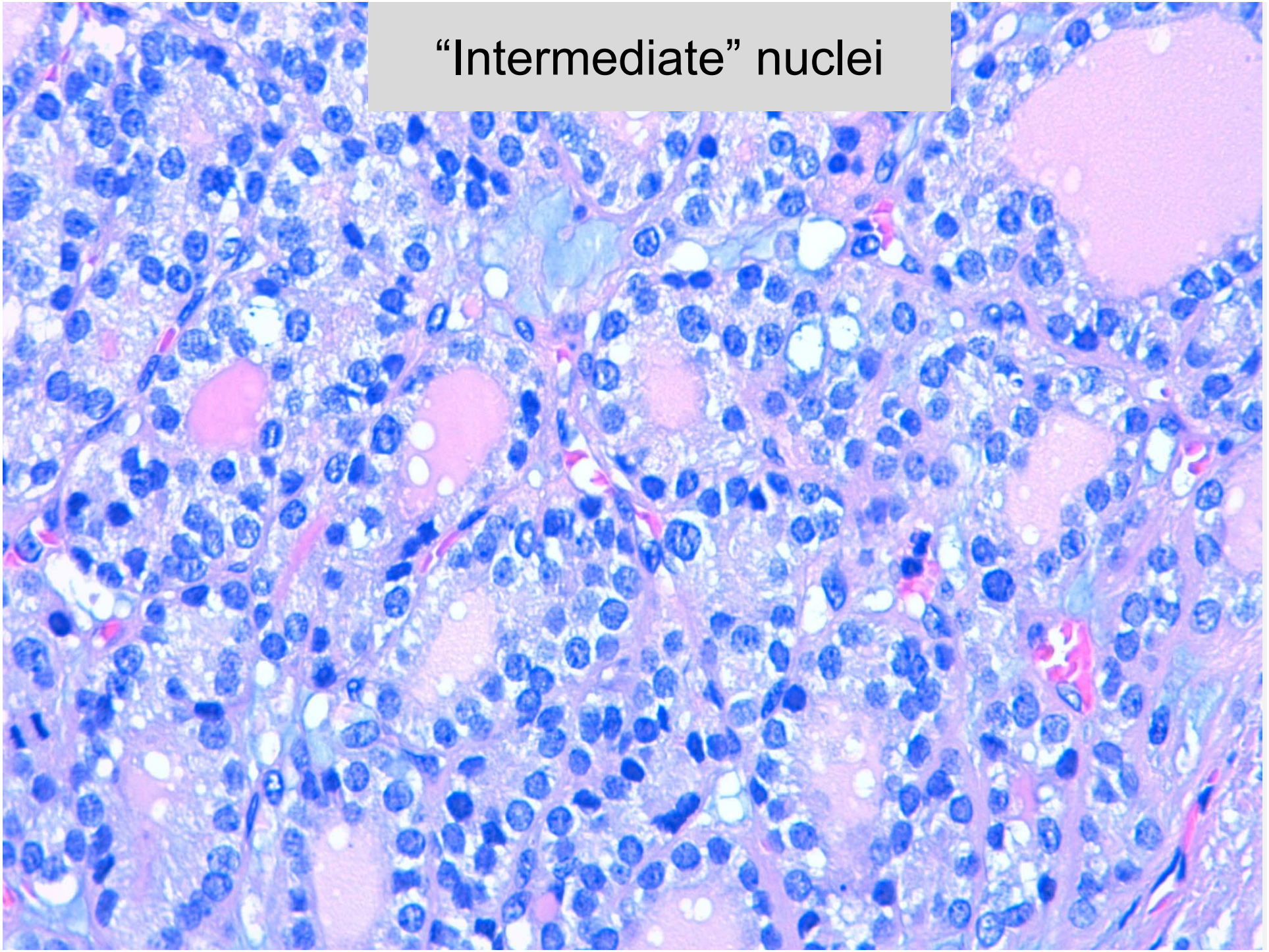

Abnormal colloid

Mitoses and apoptotic bodies



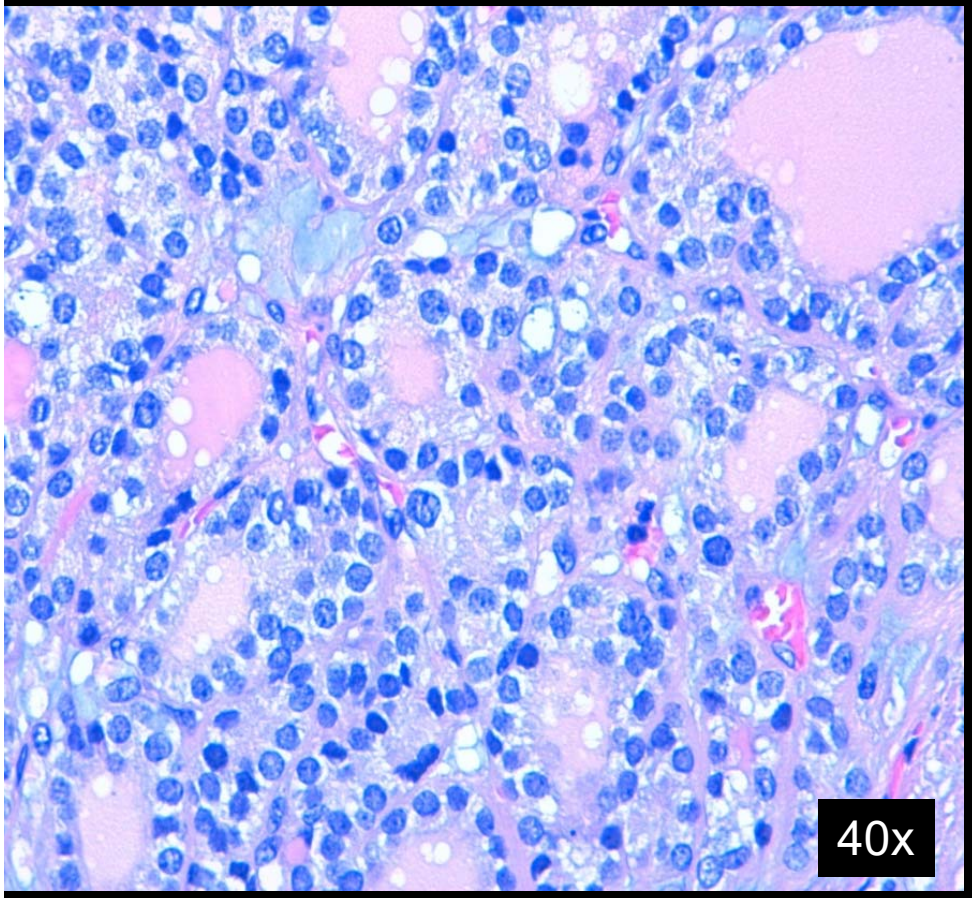

Nuclei…

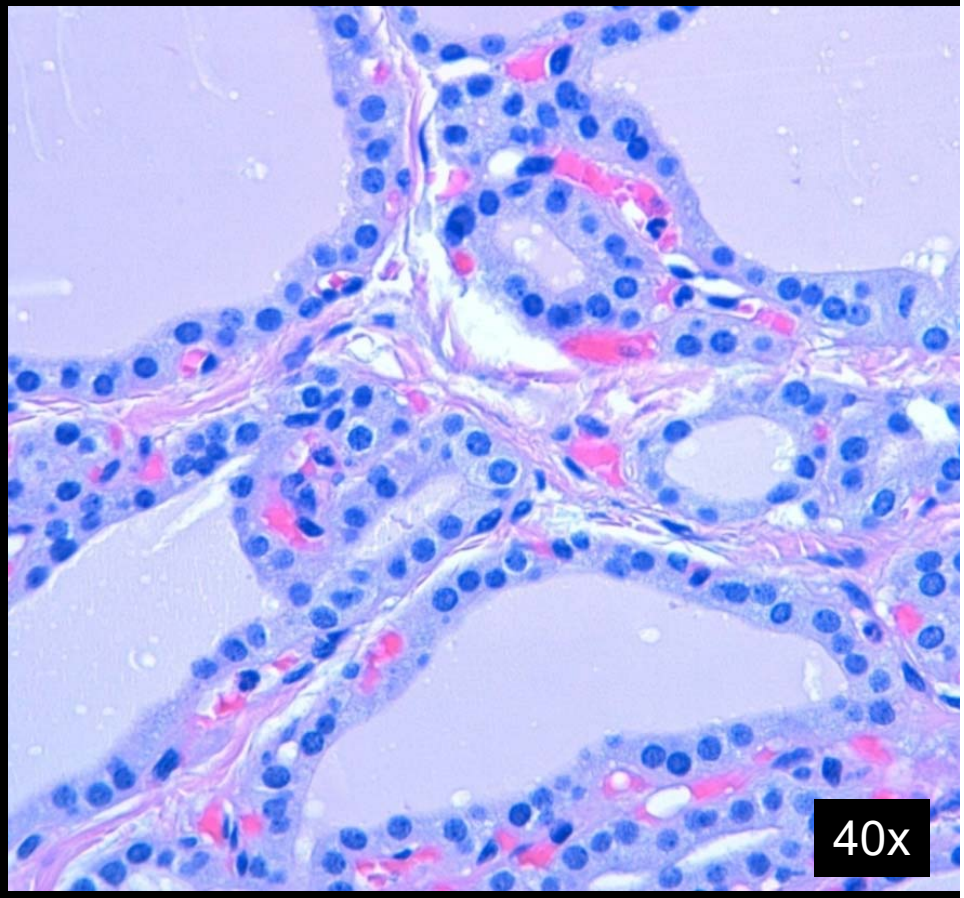

Nuclei…


“Intermediate” nuclei

Tumour

Non-tumour





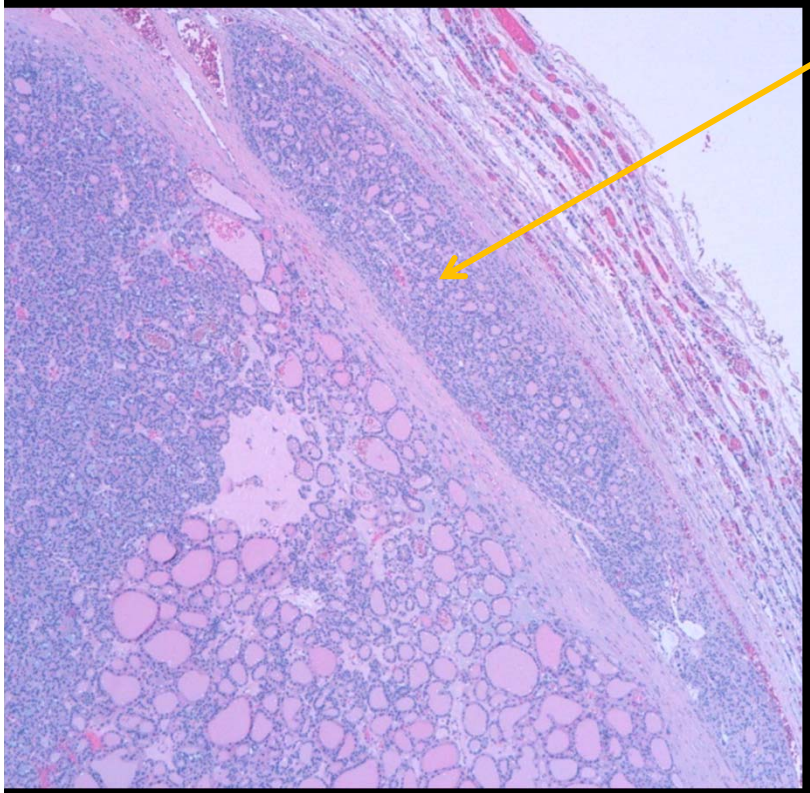
Score 1/ Score 2 /Score 3

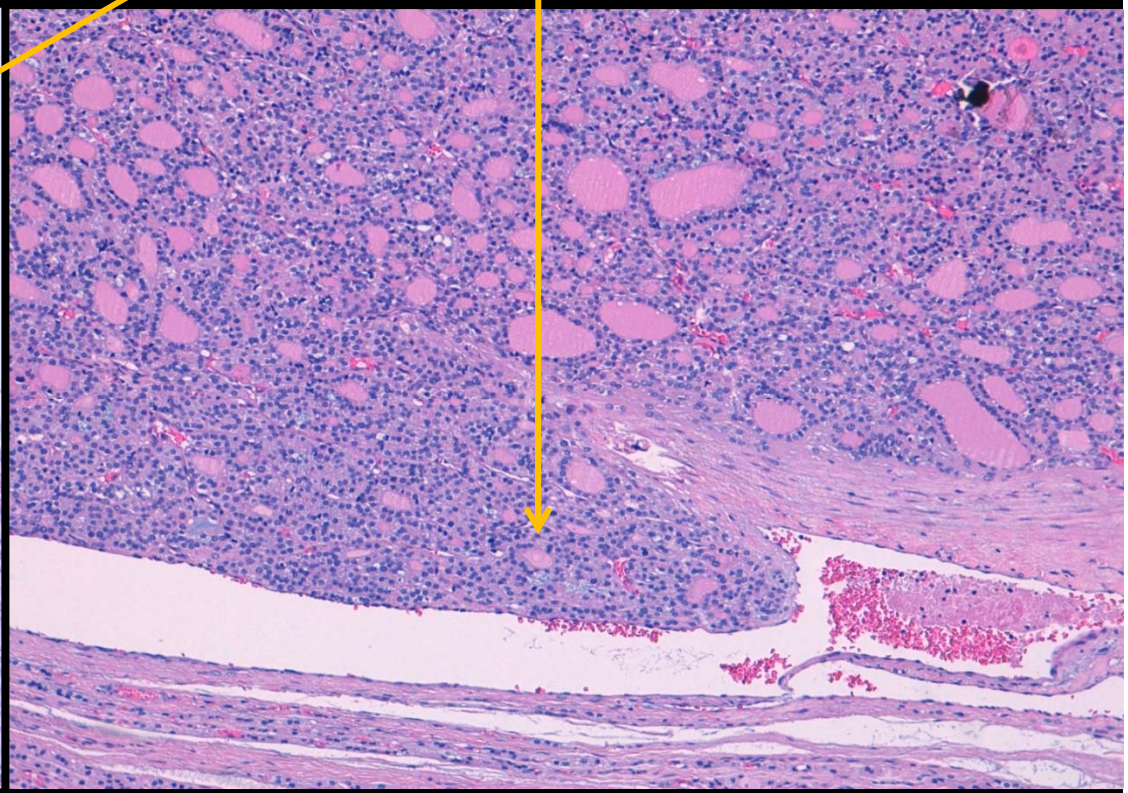
Table 2: Encapsulated follicular patterned tumors (WHO, 2017)

		Capsular or vascular invasion		
		Present	**Questionable**	**Absent**
Nuclear features of papillary thyroid carcinoma	**Present**	Invasive encapsulated FV-PTC	WDT-UMP	NIFTP
	Questionable	WDC-NOS	WDT-UMP	NIFTP
	Absent	FC	FT-UMP	FA

FA=Follicular adenoma; FC=Follicular carcinoma; FV-PTC=Papillary thyroid carcinoma, follicular variant; NIFTP=Non-invasive follicular thyroid neoplasm with papillary-like nuclear features; WDC-NOS=Well differentiated carcinoma, not otherwise specified; WDT-UMP=Well differentiated tumor of uncertain malignant potential; FT-UMP=Follicular tumor of uncertain malignant potential.

Vascular invasion





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Nuclear features of papillary thyroid carcinoma	**Present**	Invasive encapsulated FV-PTC	WDT-UMP	NIFTP
	Questionable	WDC-NOS	WDT-UMP	NIFTP
	Absent	FC	FT-UMP	FA

Final diagnosis

Well differentiated carcinoma, encapsulated with angioinvasion

pT3a R0 (AJCC, 8th ed)

Genetic study

28 genes panel
associated to congenital hypothyroidism

c.118 patogenic variants 4_1187dup - exon 8
c.1978C>G - exon 11 of *TPO* gene

Adjuvant treatment and follow-up

Radioactive iodine

Eutirox

10 months of FU - no evidence of metastases

0021-972X/98/$03.00/0
Journal of Clinical Endocrinology and Metabolism

Vol. 83, No. 11
Printed in U.S.A.

Metastatic Thyroid Carcinoma Arising from Congenital Goiter due to Mutation in the Thyroperoxidase Gene*

GERALDO MEDEIROS-NETO, MARIA JOÃO GIL-DA-COSTA, CECÍLIA L. S. SANTOS, ANA MARIA MEDINA, J. COSTA E SILVA, R. M. TSOU, AND MANUEL SOBRINHO-SIMÕES

Thyroid. 2012 May;22(5):542-6. doi: 10.1089/thy.2011.0478. Epub 2012 Mar 21.

Minimally invasive follicular thyroid carcinoma developed in dyshormonogenetic multinodular goiter due to thyroid peroxidase gene mutation.

Chertok Shacham E[1], Ishay A, Irit E, Pohlenz J, Tenenbaum-Rakover Y.

Cancer Biomarkers 15 (2015) 909–913
DOI 10.3233/CBM-150522
IOS Press

Case report

TPO gene mutations associated with thyroid carcinoma: Case report and literature review

Dyshormonogenic goiter and Thyroid carcinoma

	n	Histology	mutation
McGirr EM et al,1959 Crooks J et al, 1963 Medeiros-Neto et al,1970 Cooper et al, 1981 Yashiro T el al,1987	8 confirmed malignant cases, 5 with lung and bone mets		*TPO*
Medeiros –Neto et al, 1998	1 (newborn)	DTC with vasc inv, lung and bone mets	*TPO*
Chertok S et al, 2012	1	FTC	*TPO*
Zhu H et al, 2015	1	Multifocal papillary ca	*TPO*

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journal homepage: http://www.ijporlonline.com/

Pediatric thyroid cancer: An update from the SEER database 2007–2012☆

Sarah Dermody [a, *], Andrew Walls [c], Earl H. Harley Jr. [a, b]

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[b] Department of Otolaryngology – Head & Neck Surgery, Georgetown University Hospital, Washington, DC, 20007, USA
[c] Department of Surgery Division of Otolaryngology, Yale New Haven Hospital, New Haven, CT, 06510, USA

Table 2
Demographics of pediatric patients diagnosed with thyroid cancer.

Carcinoma subtype	Diagnosis count	Frequency of total
Papillary	1014	58.8
Papillary follicular variant	397	23.0
Follicular	173	10.1
Medullary	139	8.1

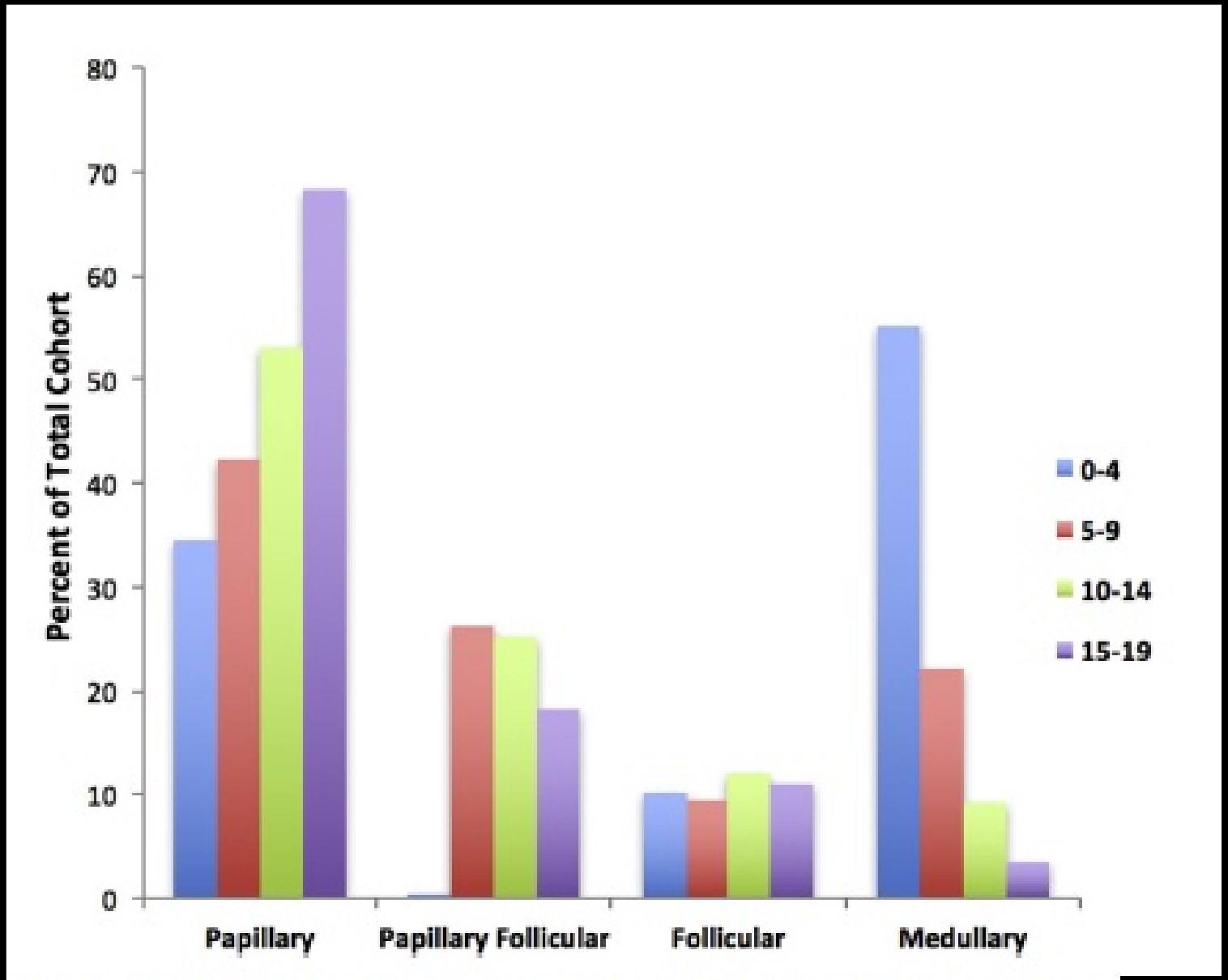

Fig. 1. Incidence of pediatric thyroid carcinoma based on most frequent subtype

Sarah Dermody et al, **2016**

What about now?
WHO, 4th ed , 2017

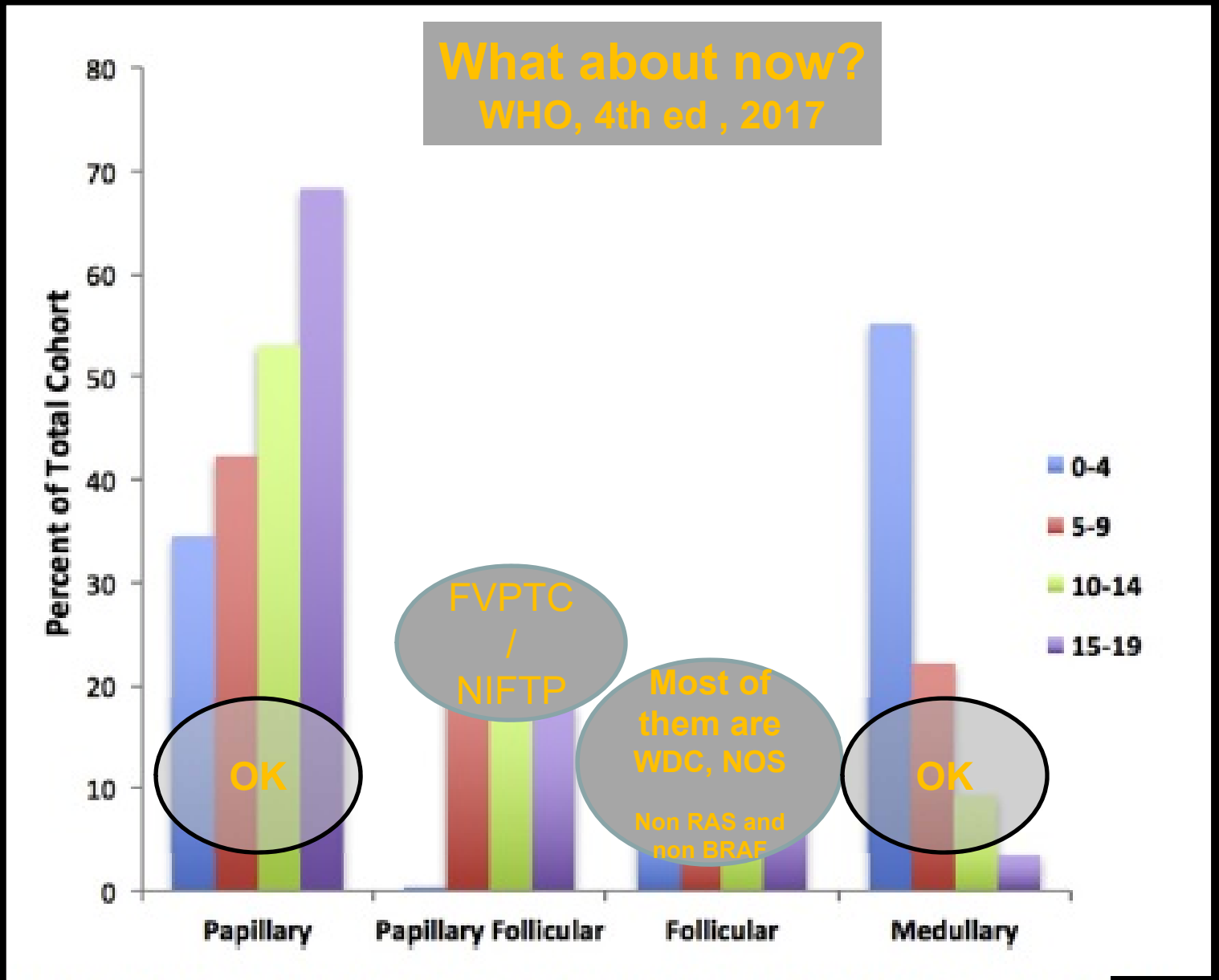

Fig. 1. Incidence of pediatric thyroid carcinoma based on most frequent subtype

Sarah Dermody et al, 2016

THANK YOU