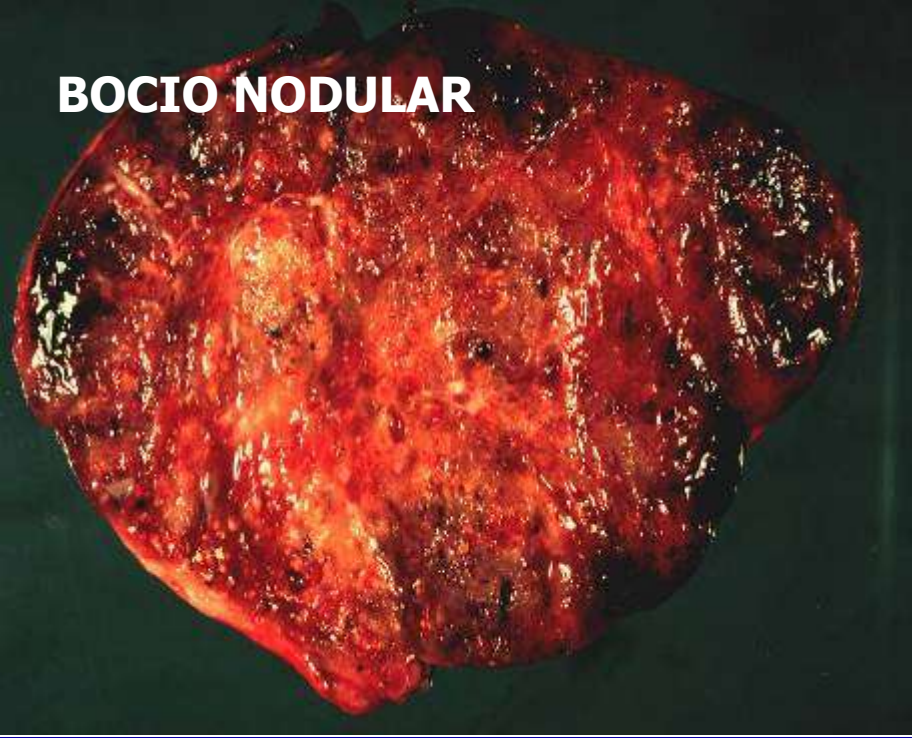


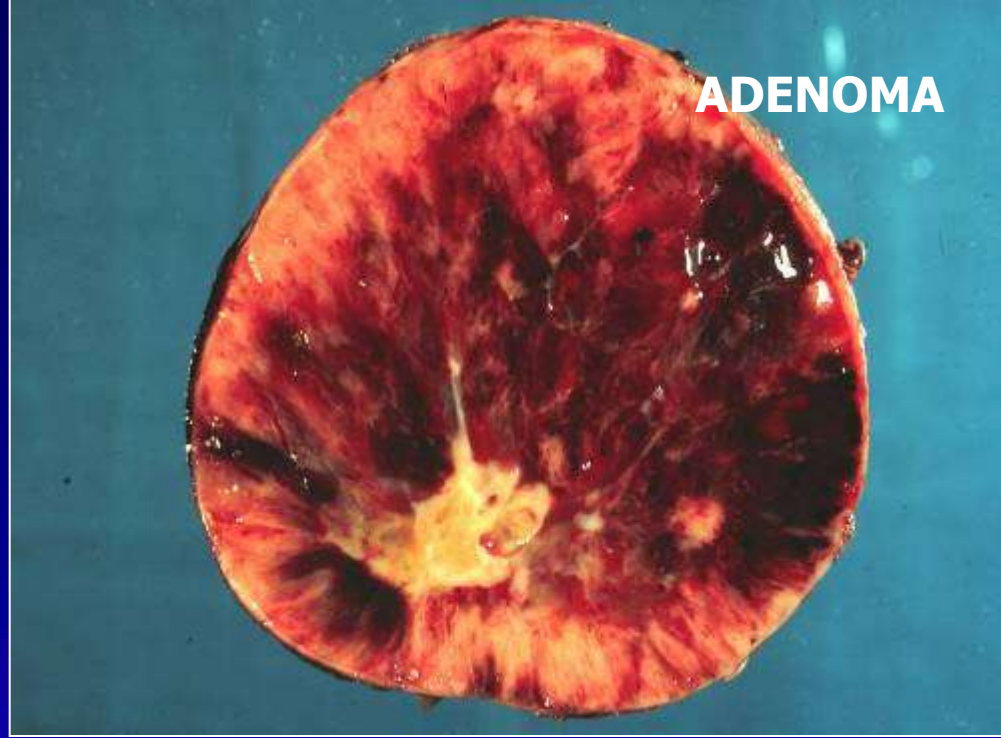
CITOLOGÍA POR PUNCIÓN TIROIDEA

CÉSAR LACRUZ PELEA

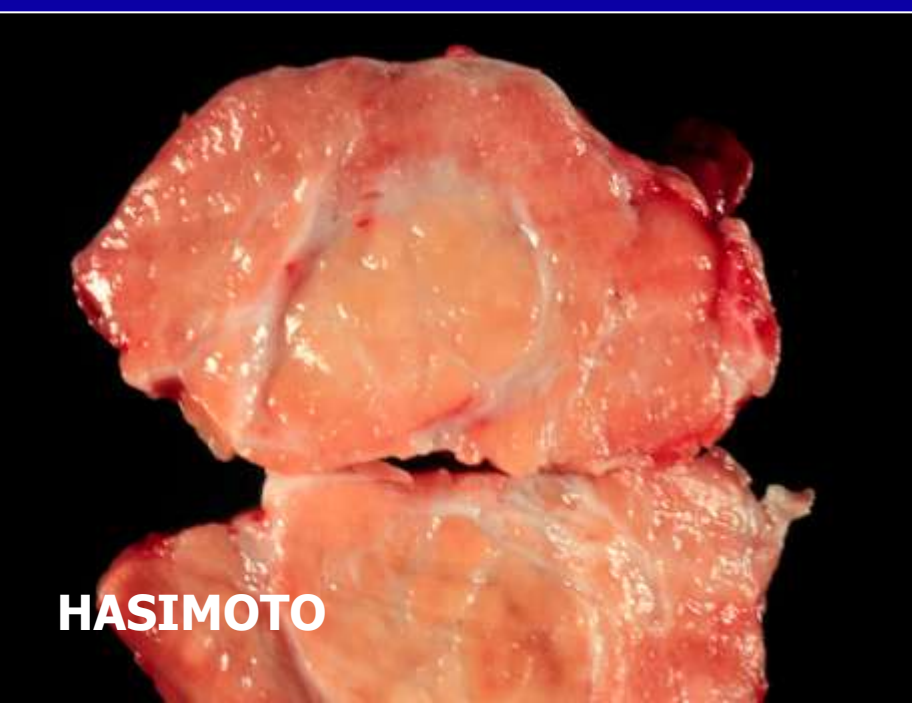
BOCIO NODULAR



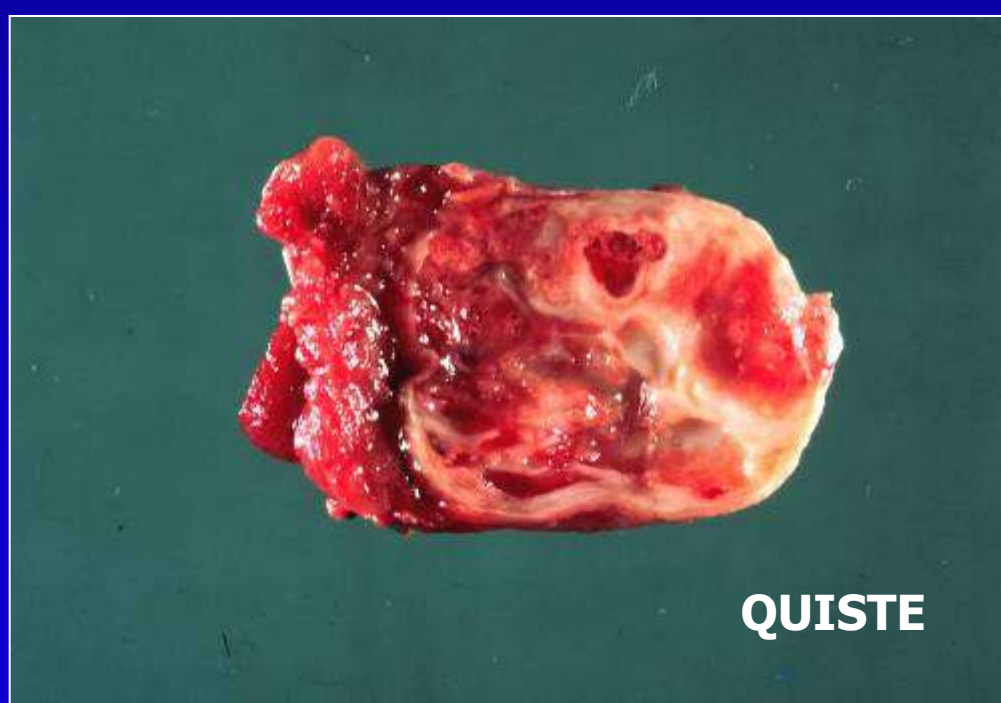
ADENOMA

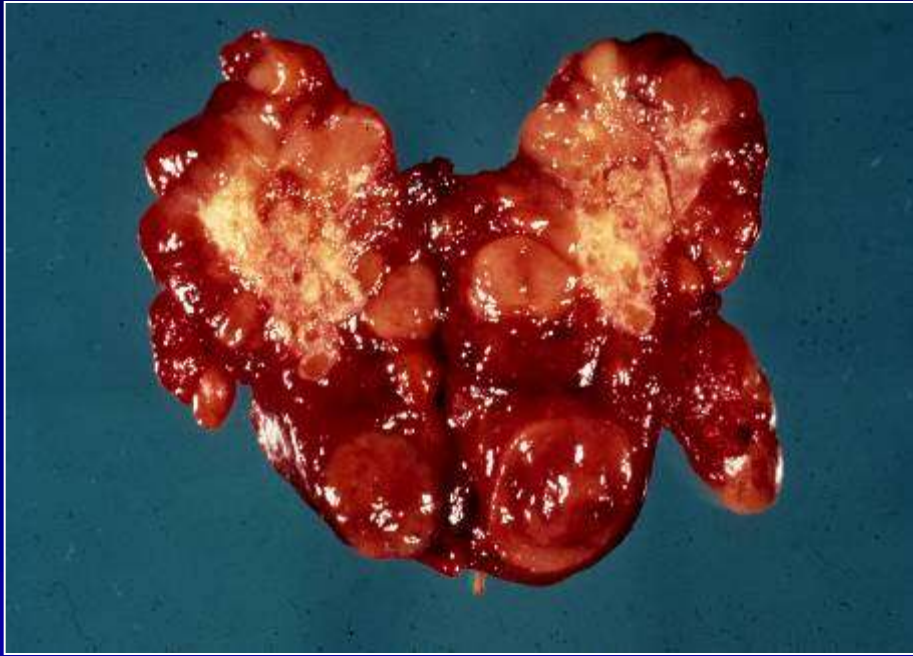


HASIMOTO

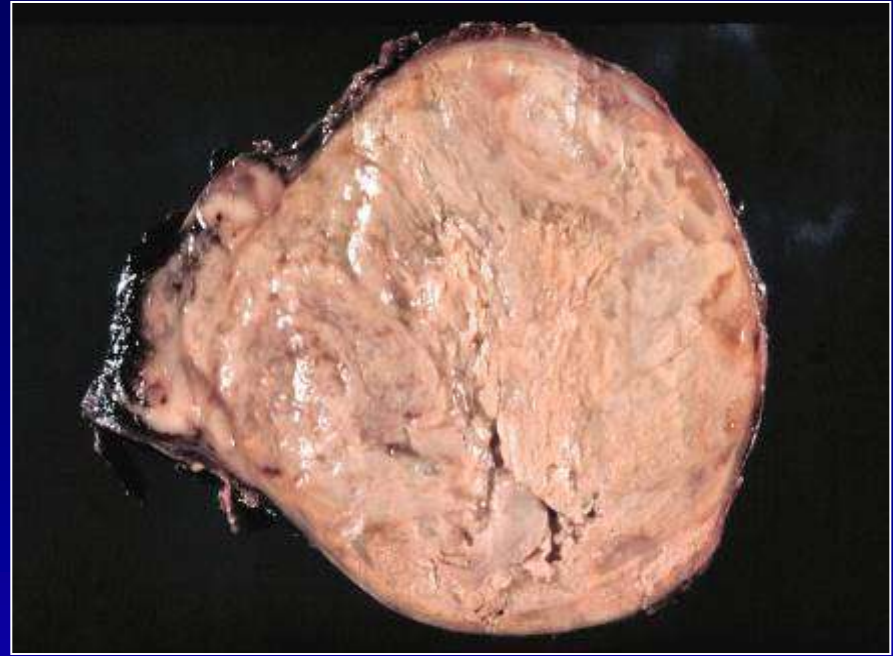


QUISTE





CA. PAPILAR



CA. ANAPLASICO

Nódulo tiroideo

- 5-10% de la población
- Ecografía: 50% de la población
- Sólo el 5% carcinomas



PAAF

Test de screening
para selección de
nódulos que requieren
cirugía

PRINCIPALES APLICACIONES

- Distinguir lesiones tumorales no neoplásicas de auténticas neoplasias
- Confirmar una tiroiditis sospechada
- Evacuar quistes

ESQUEMA DE RESPUESTA

- **No satisfactoria (1-4%)**
 - Celularidad escasa
 - Conservación deficiente
 - Solo fluido quístico
- **Lesión benigna (0-3%)**
 - Bocio
 - Tiroiditis
- **Lesión indeterminada (20-25%)**
 - Atípiá indeterminada (AUS)
 - Les. folic. Indet (FLUS)

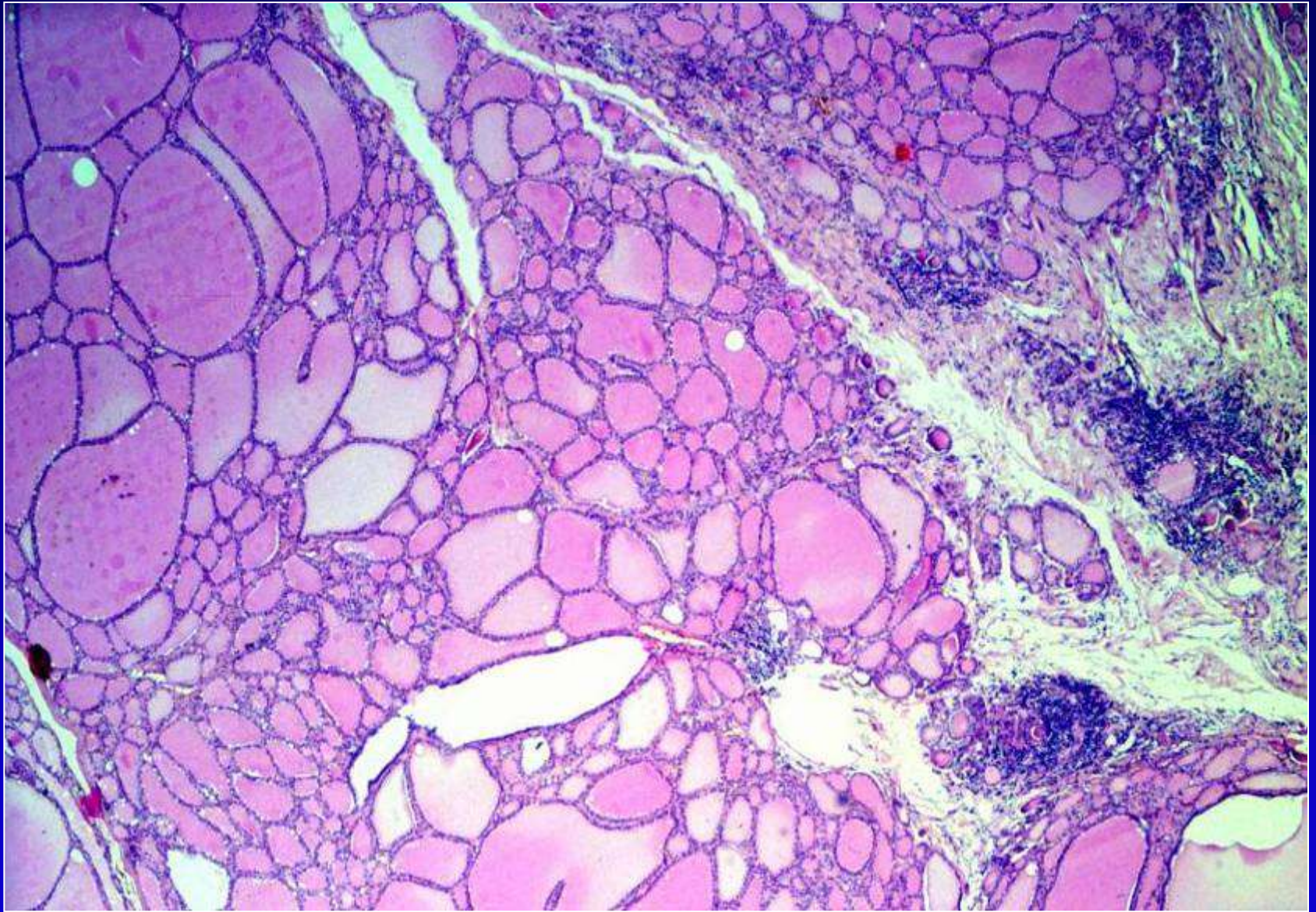
Repetir PAAF/ Seguimiento

- **Neoplasia folicular (15-30%)**
 - Lesión folicular
 - Lesión cel. oxifílicas
- **Lesión sospechosa (60-77%)**
 - Neoplasia primaria
 - Neoplasia secundaria
- **Lesión maligna (97-99%)**
 - Neoplasia primaria - Tipo
 - Neoplasia secundaria

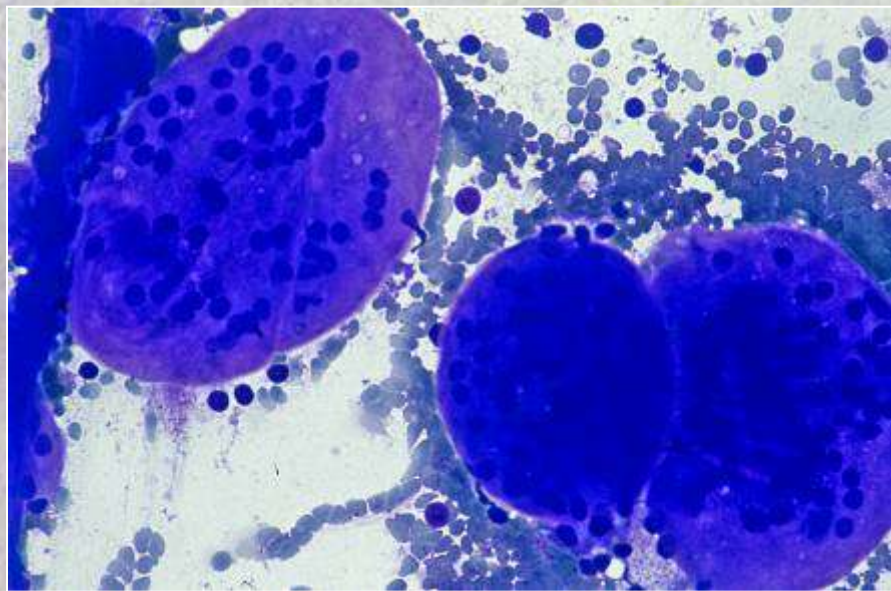
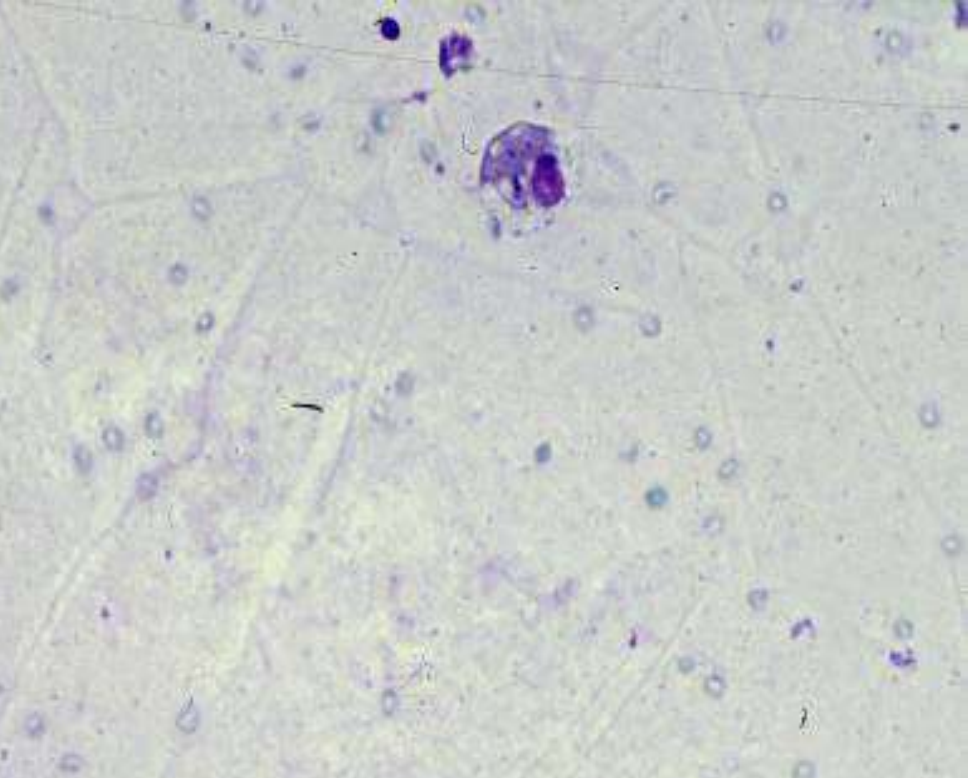
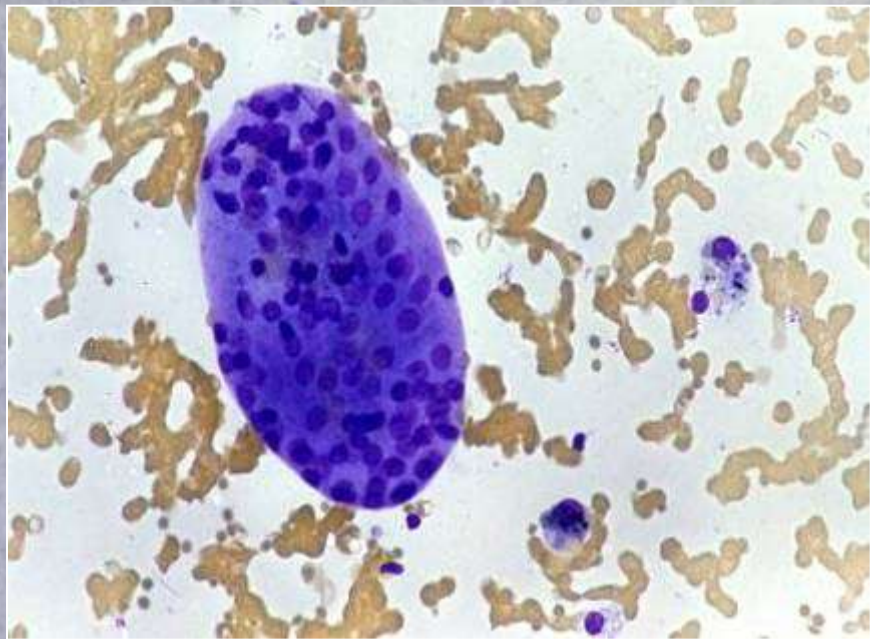
Cirugía

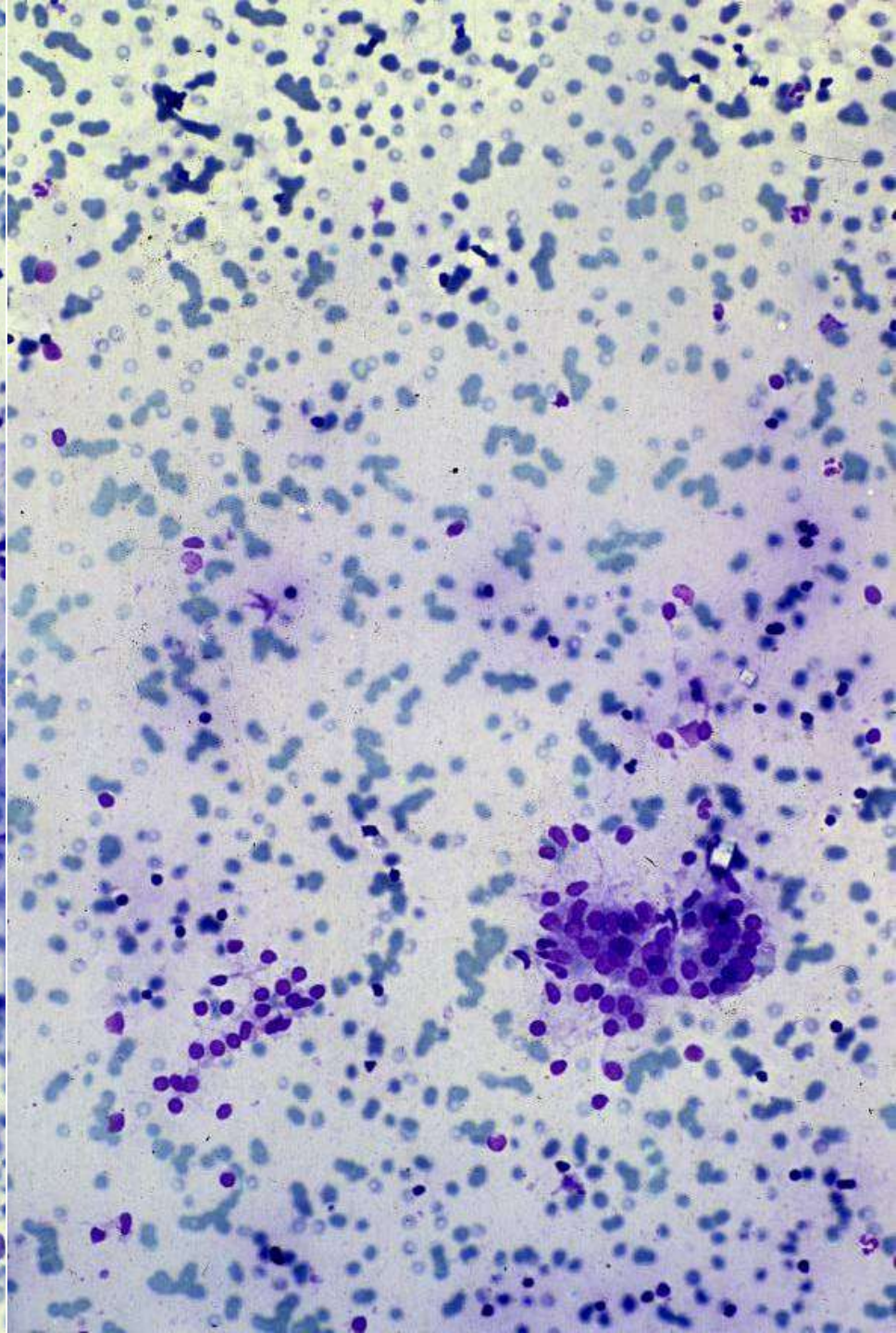
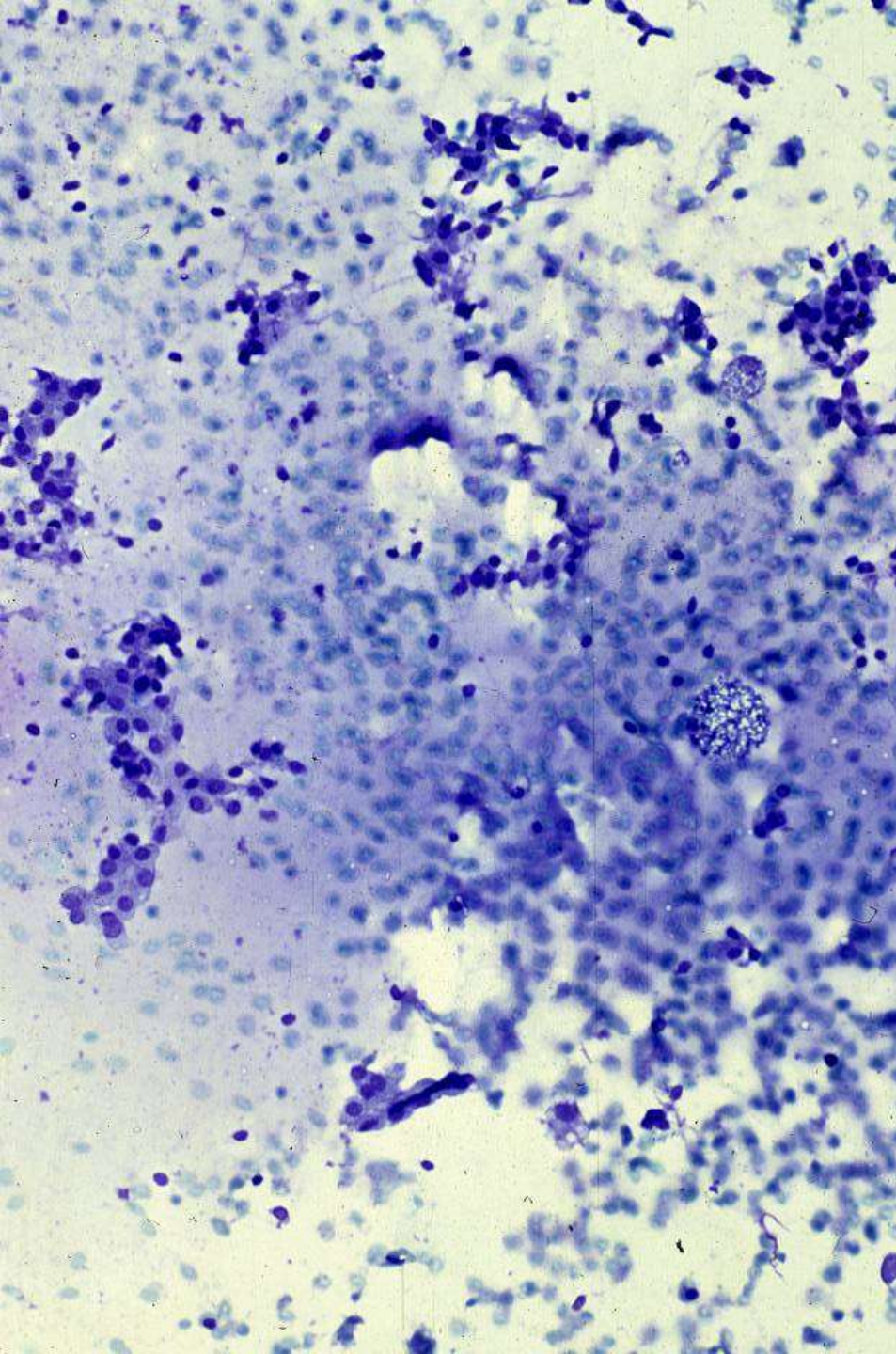
LESIONES BENIGNAS

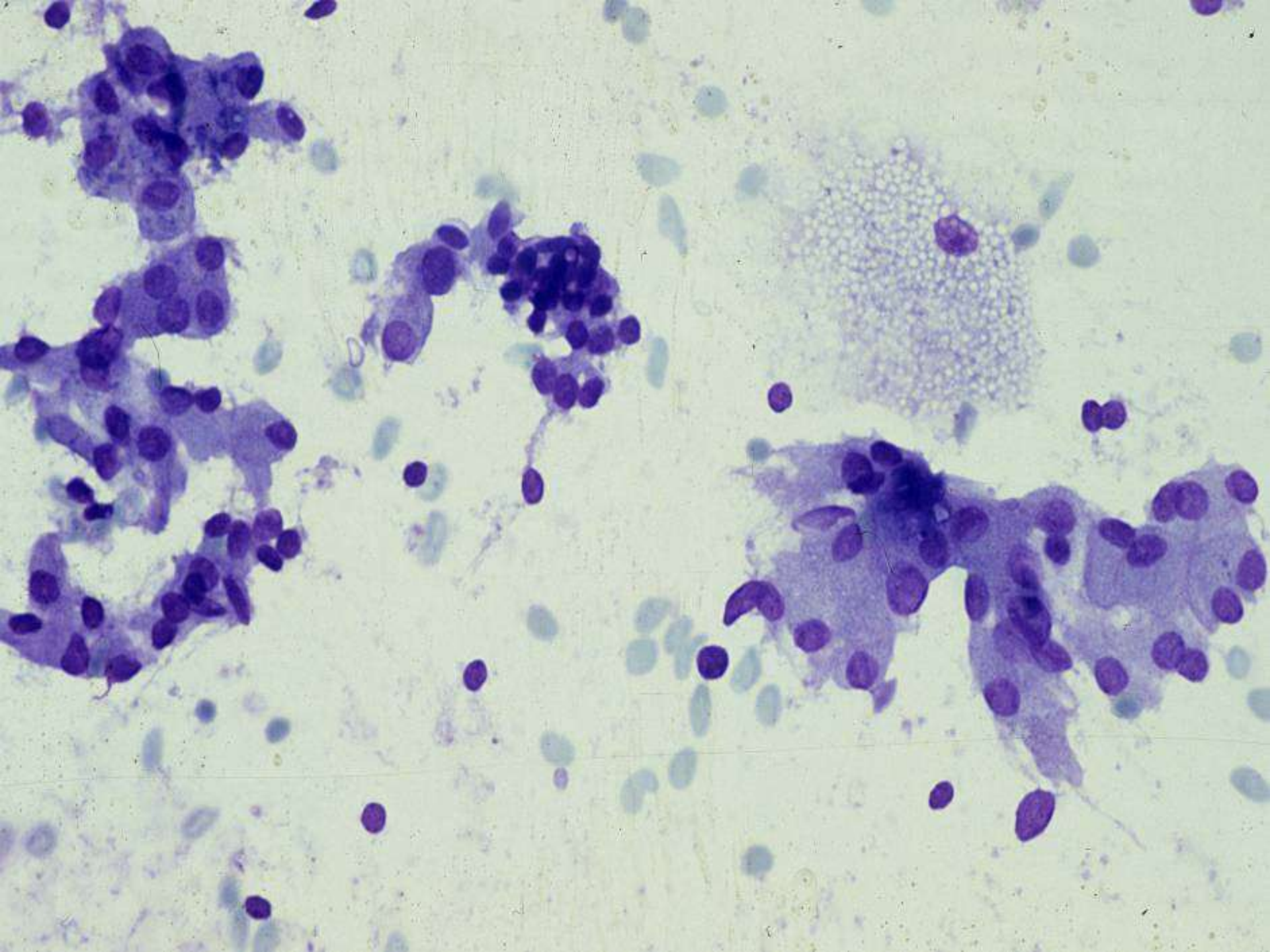
- Bocio coloide / nodular
- Bocio tireotóxico
- Tiroiditis subaguda de cel. Gigantes
- Tiroiditis linfocítica crónica (Hasimoto)

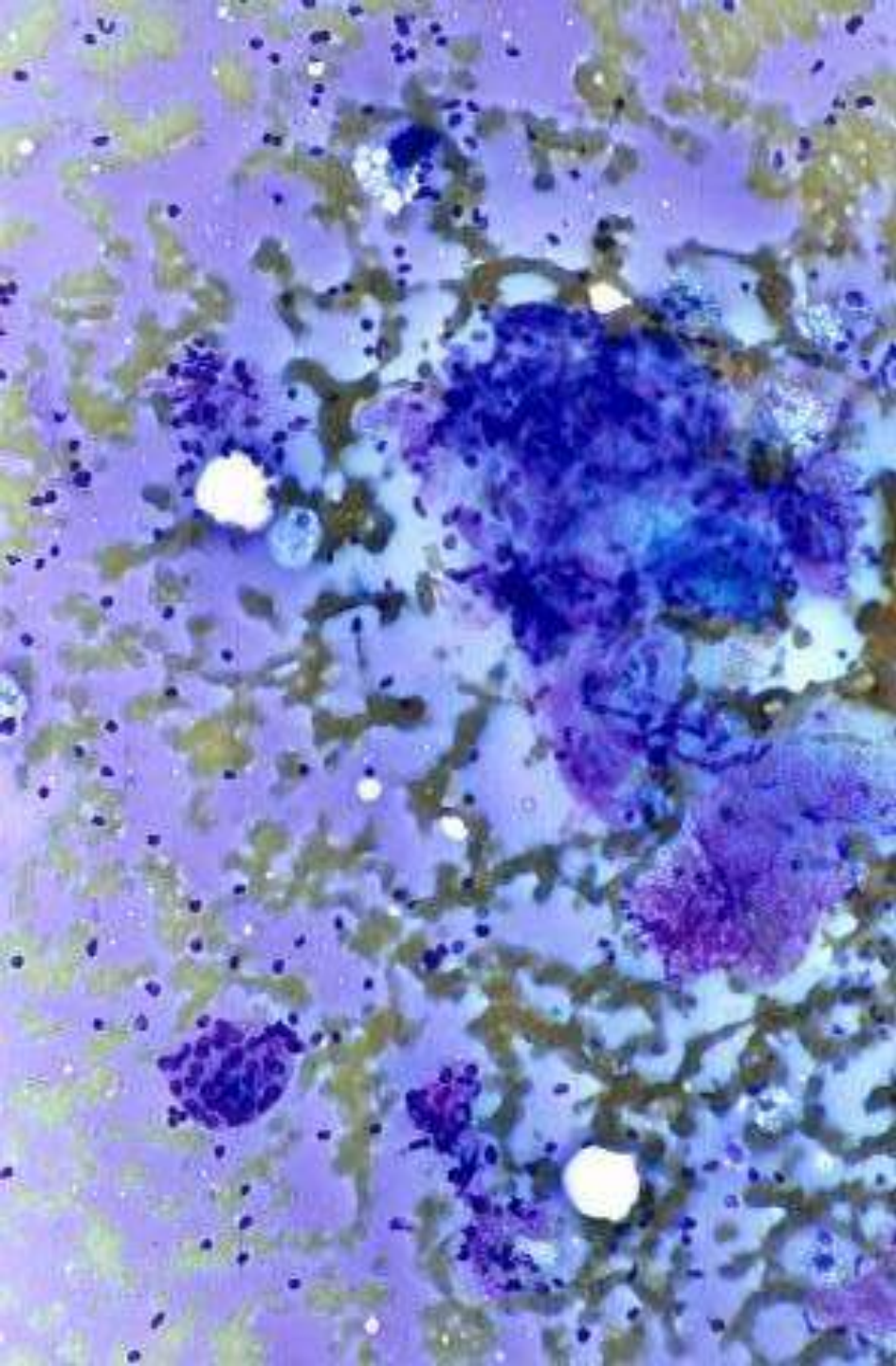


BOCIO COLOIDE

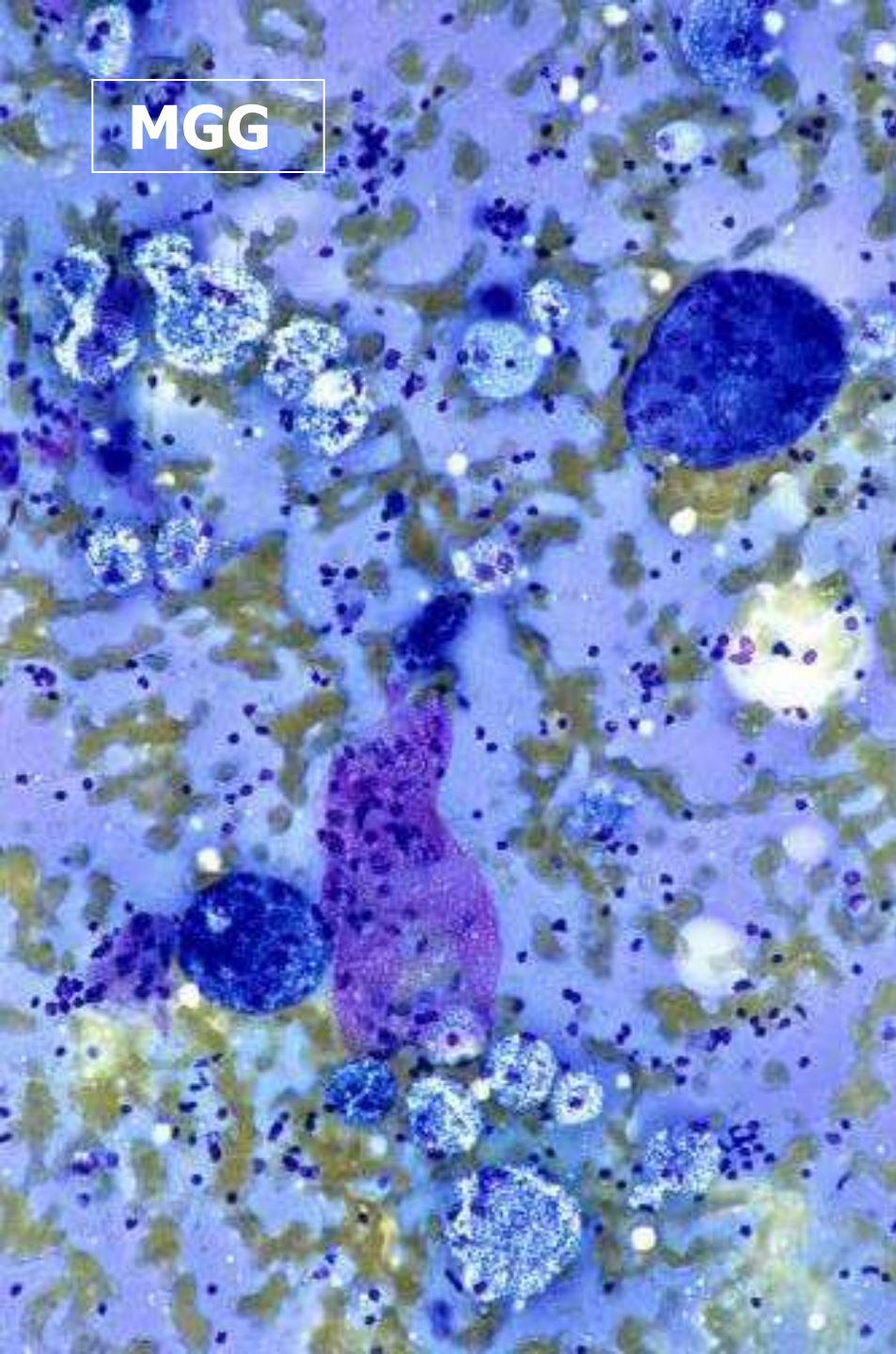




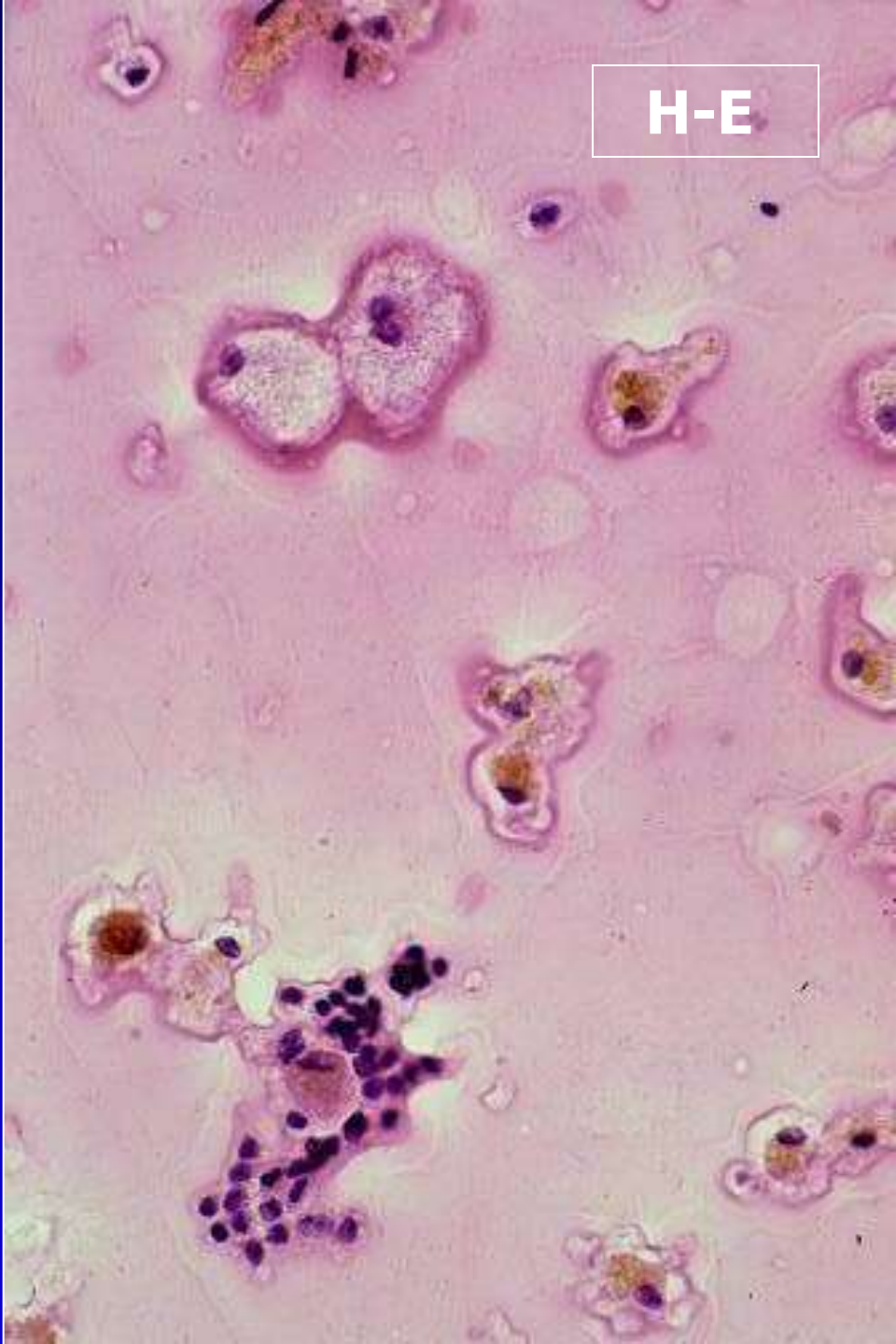




MGG

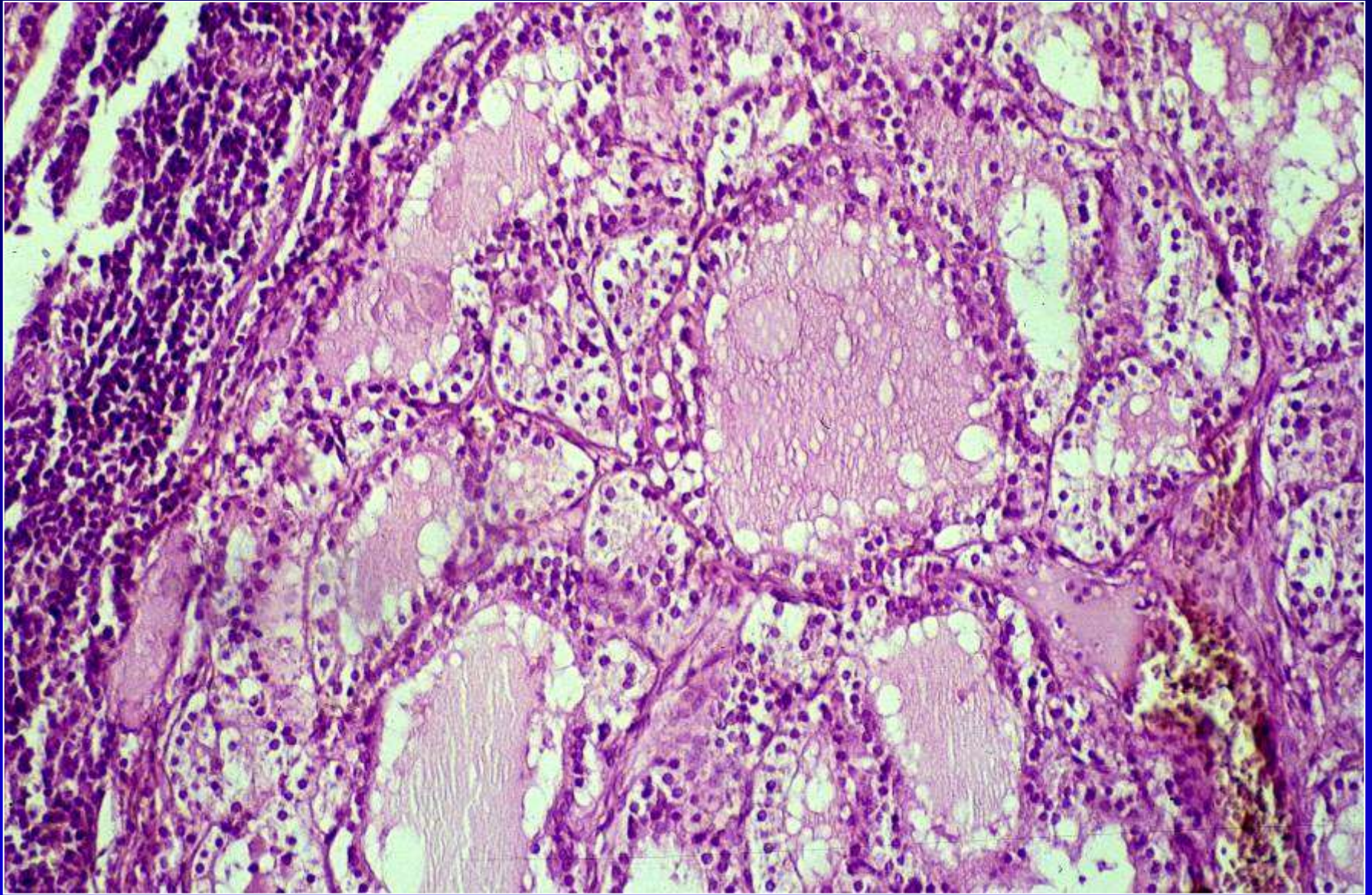


H-E

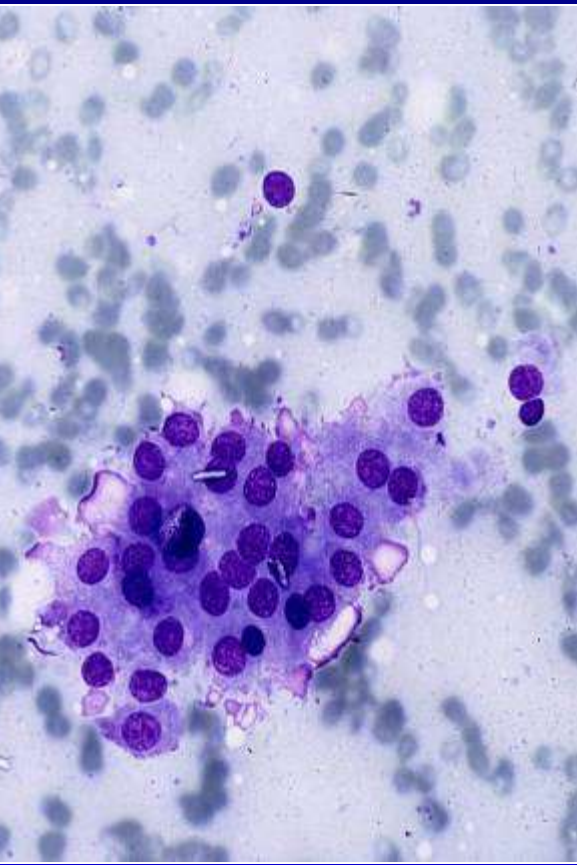
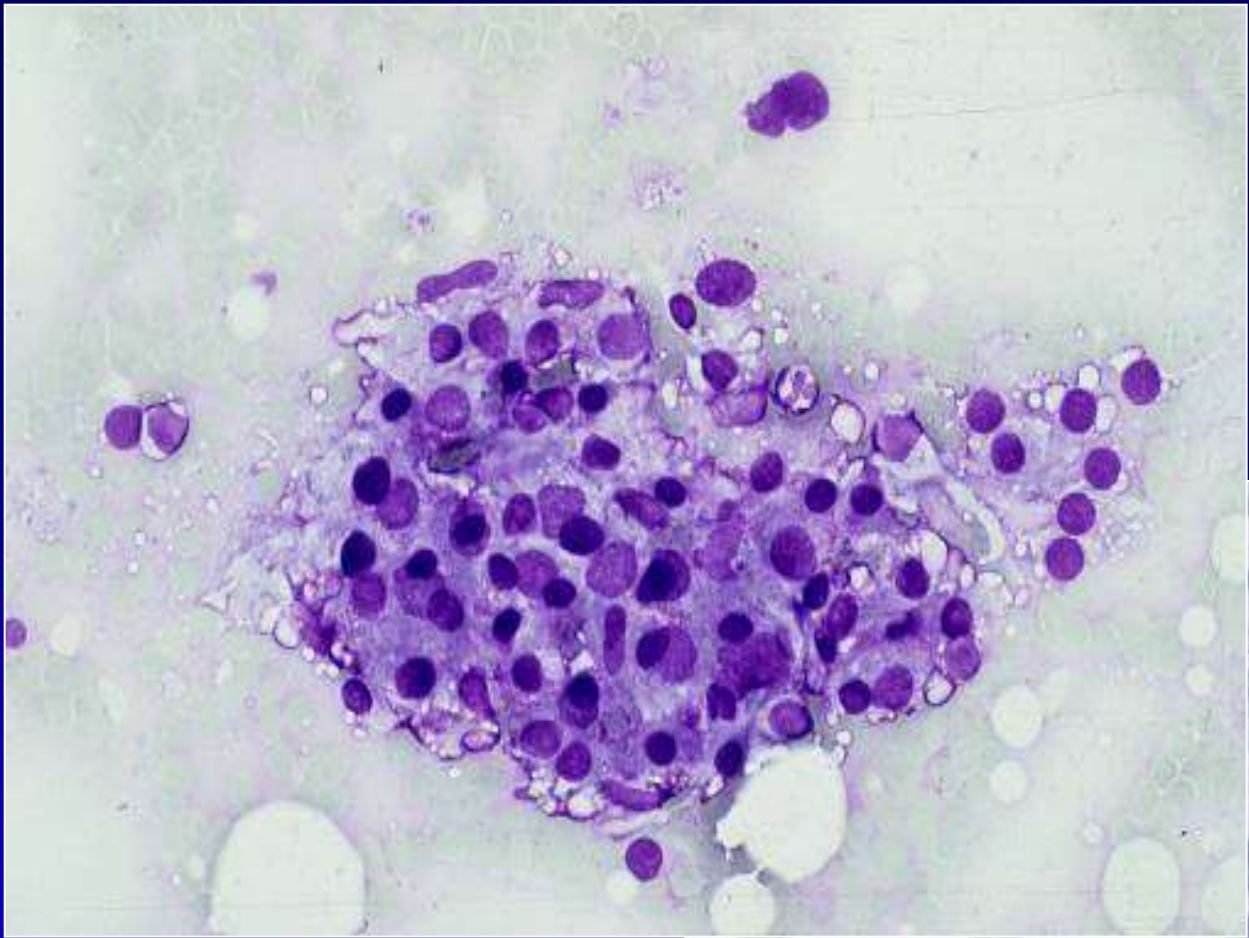


BOCIO COLOIDE

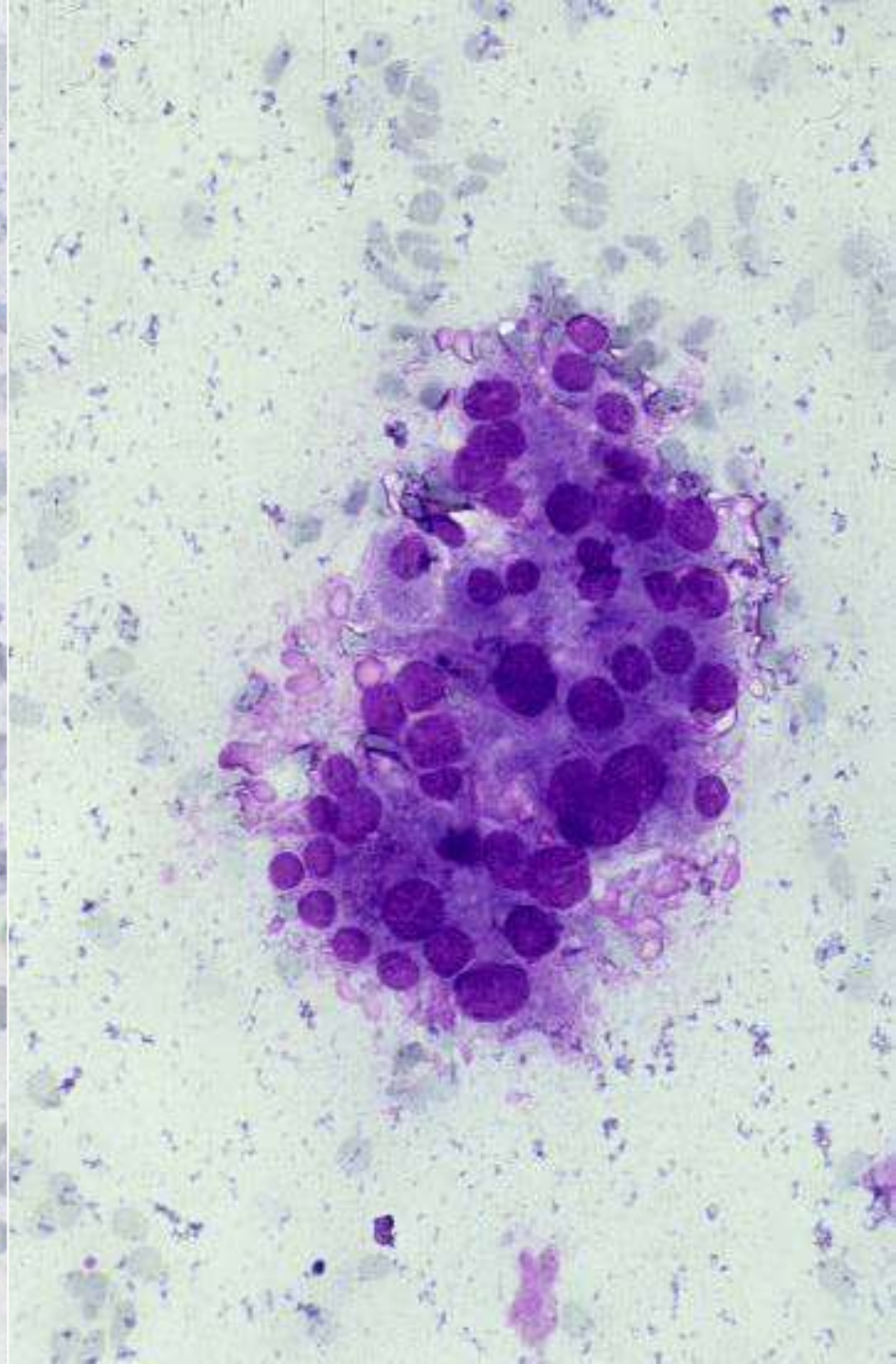
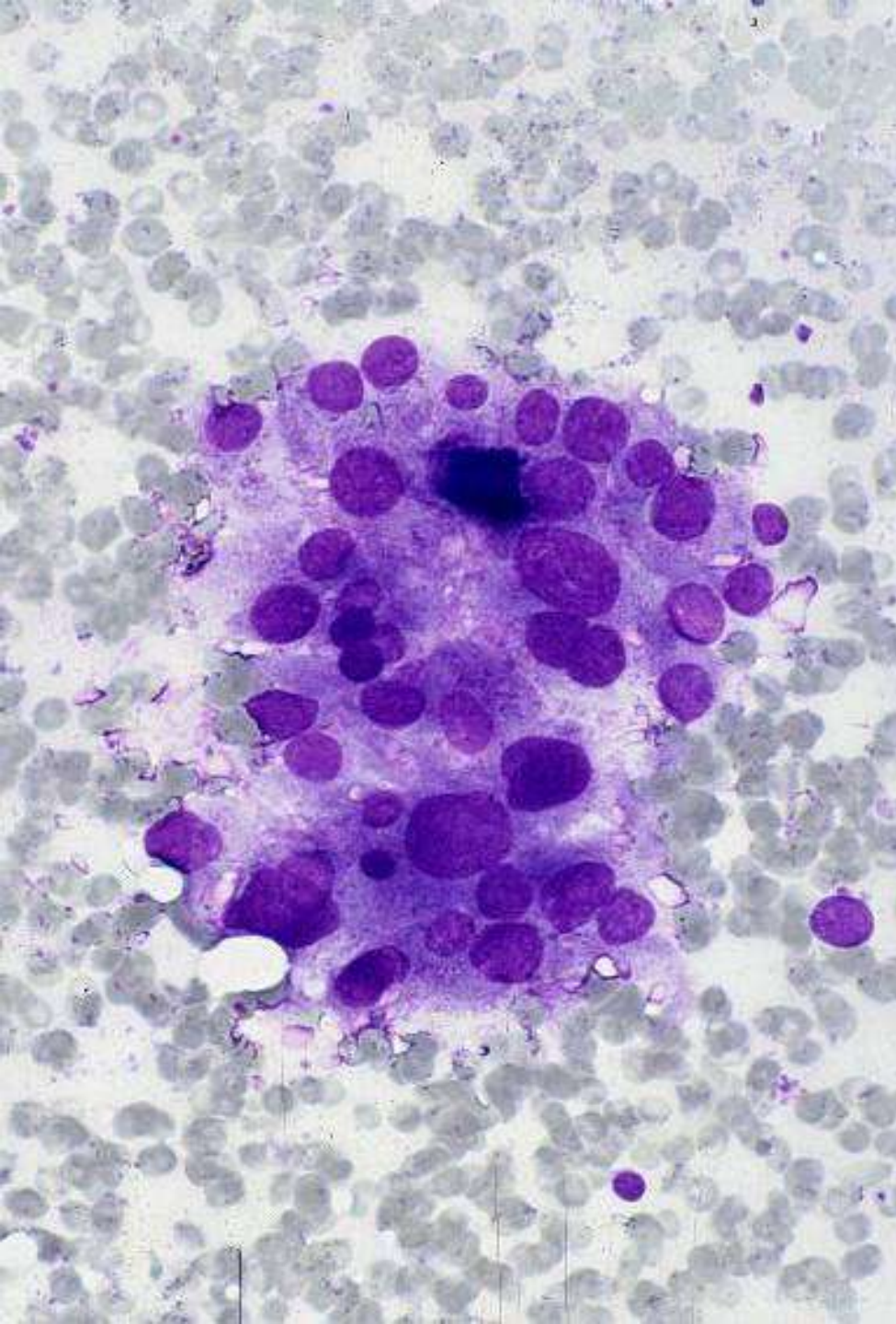
- Mezcla de epitelio folicular benigno y coloide
- Frecuente metaplasia oncocítica
- Cambios regresivos
 - Histiocitos
 - Células gigantes multinucleadas
 - Fragmentos de estroma



BOCIO TIREOTOXICO

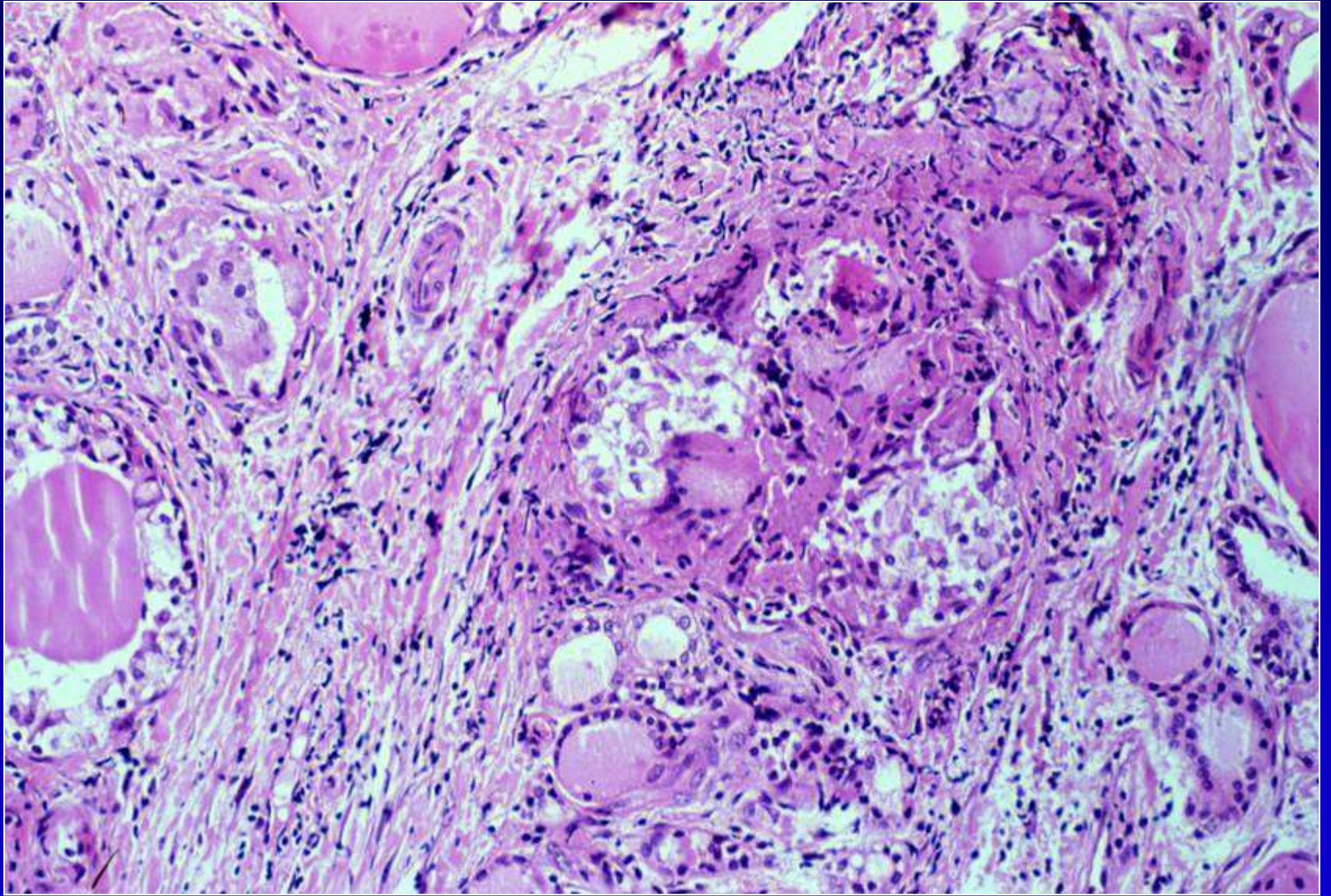


BOCIO TIREOTOXICO

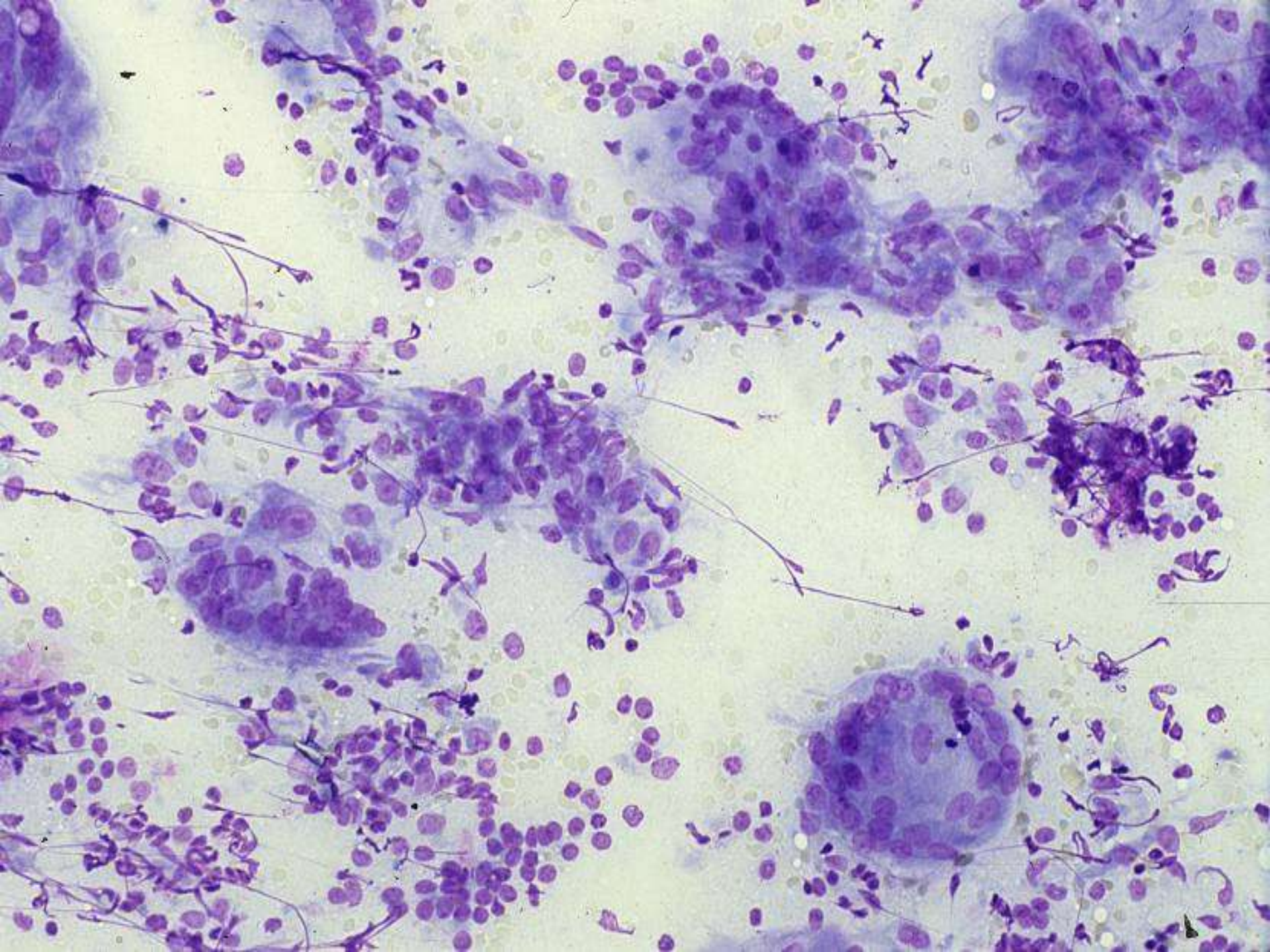


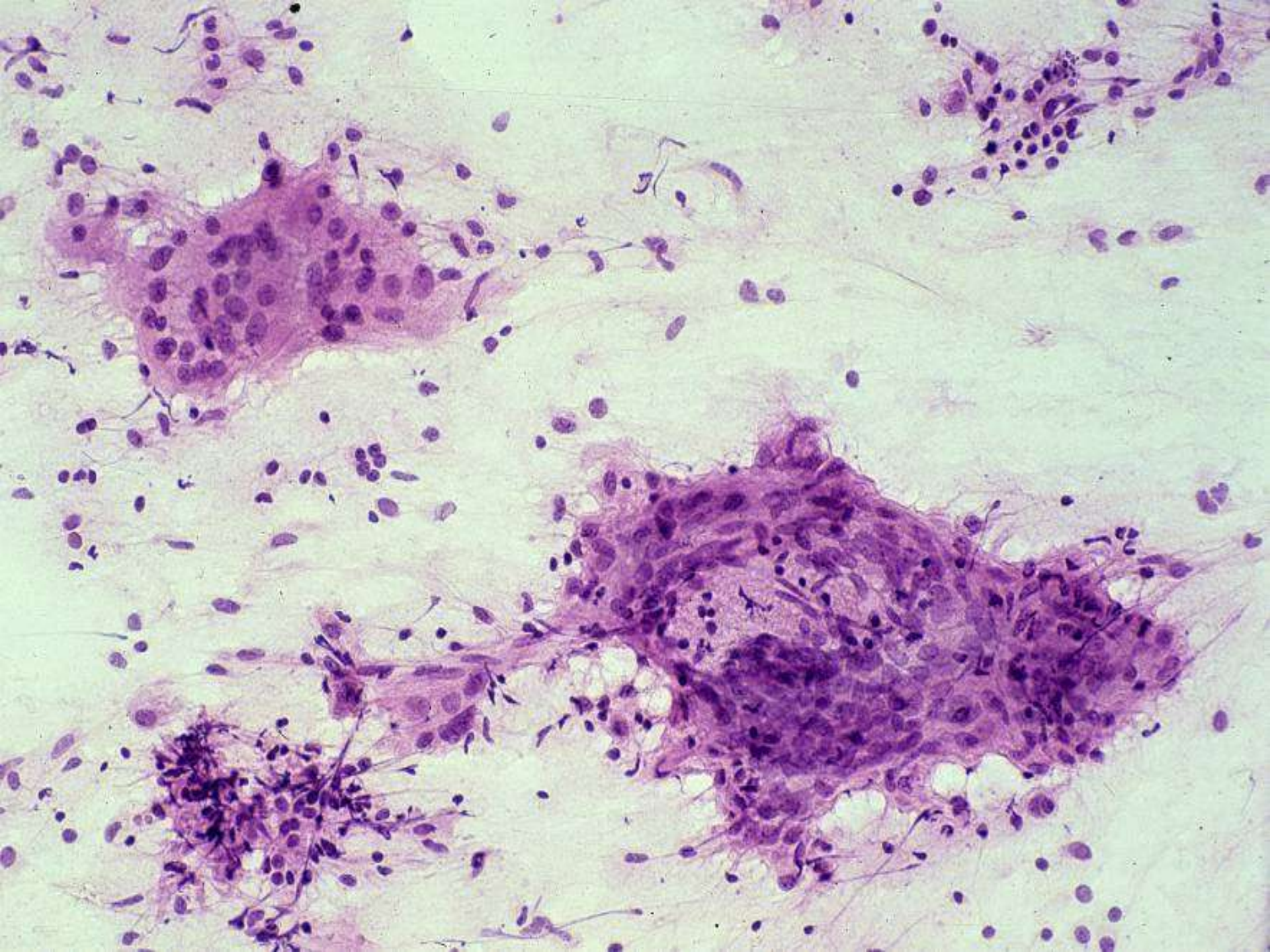
BOCIO TIREOTOXICO

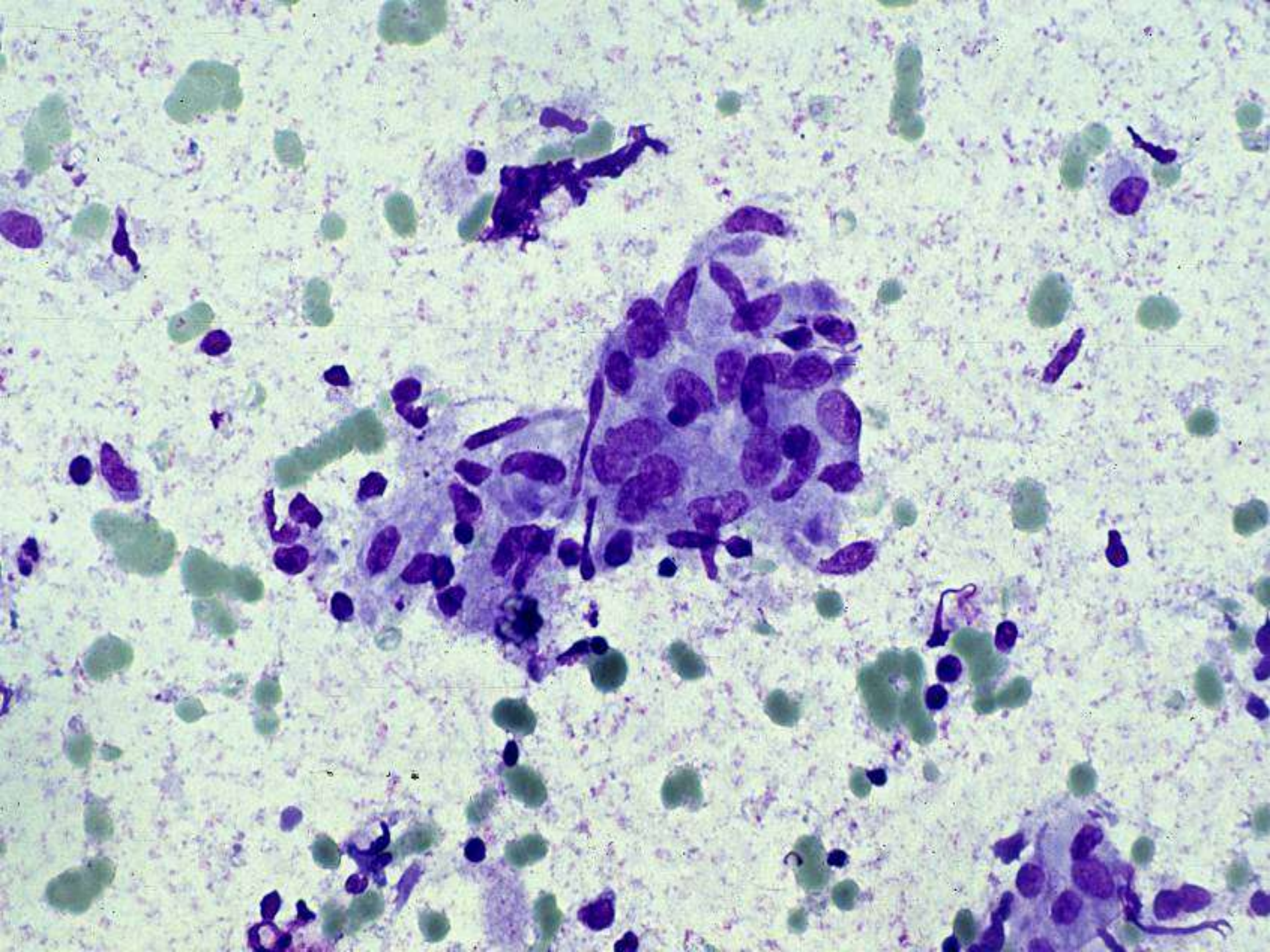
- Fondo hemático sin coloide
- Celularidad moderada
- Grupos dispersos de pequeño tamaño
- Núcleos redondos y agrandados
- Vacuolización marginal “en llamarada”

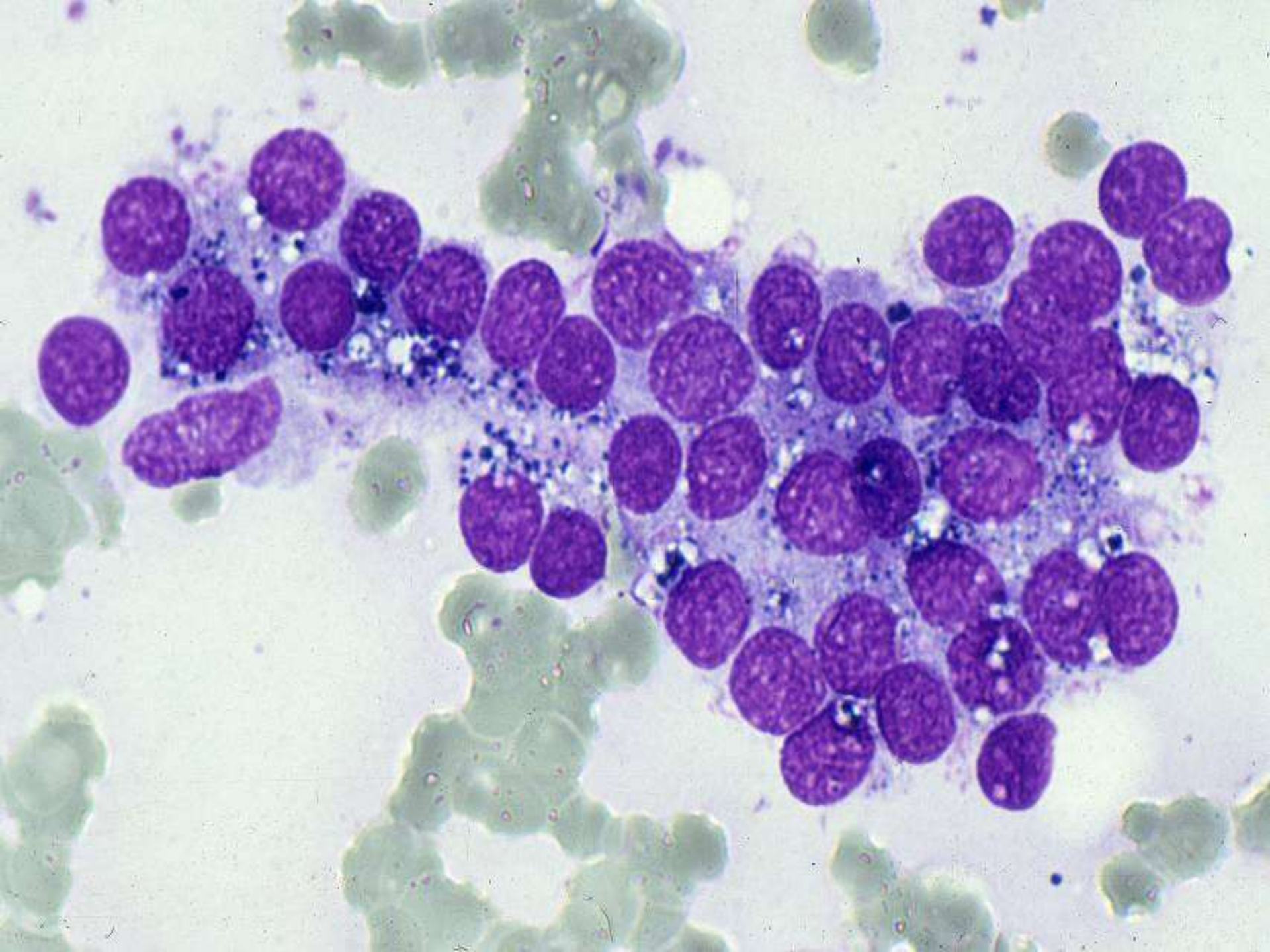


TIROIDITIS SUBAGUDA



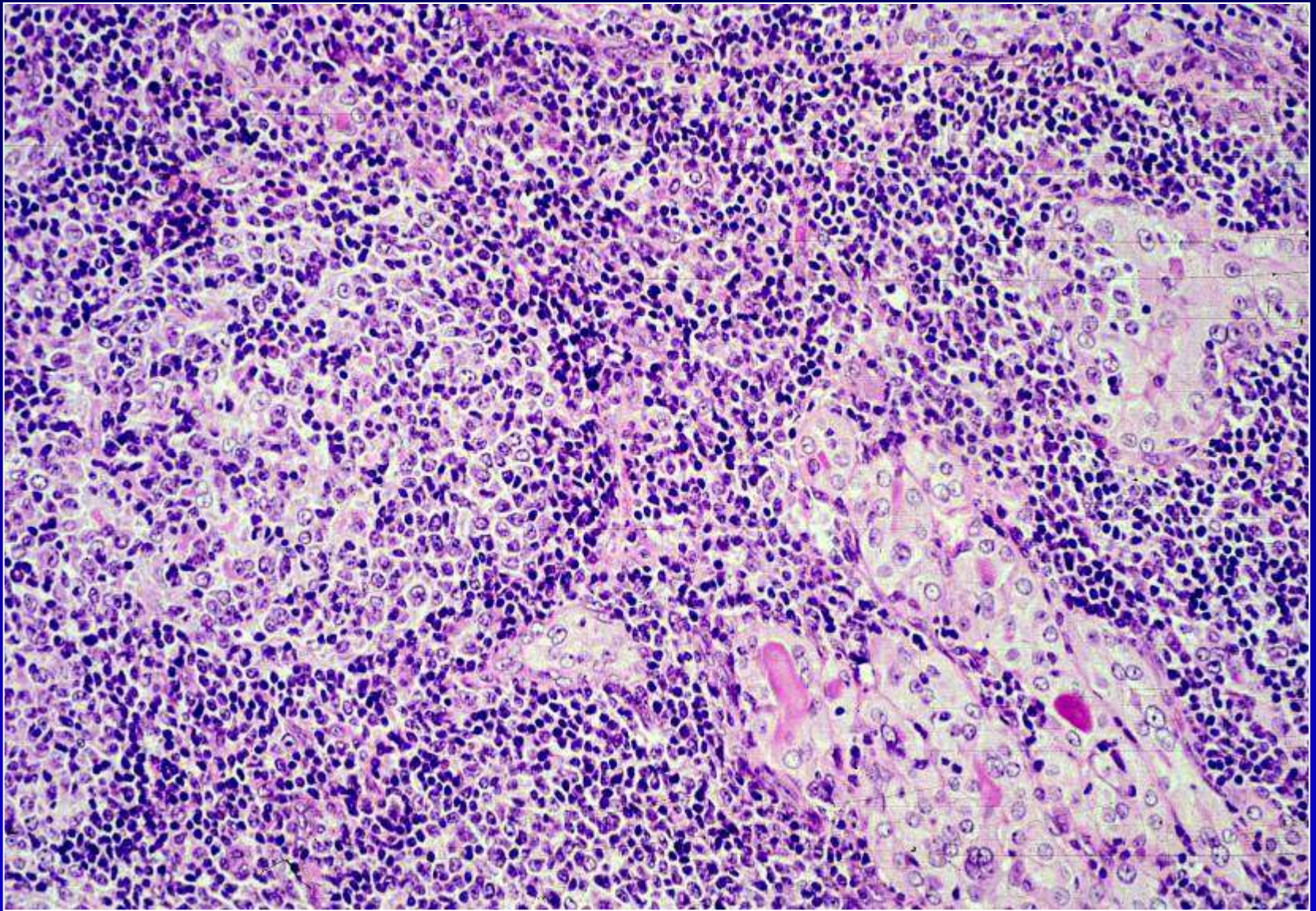




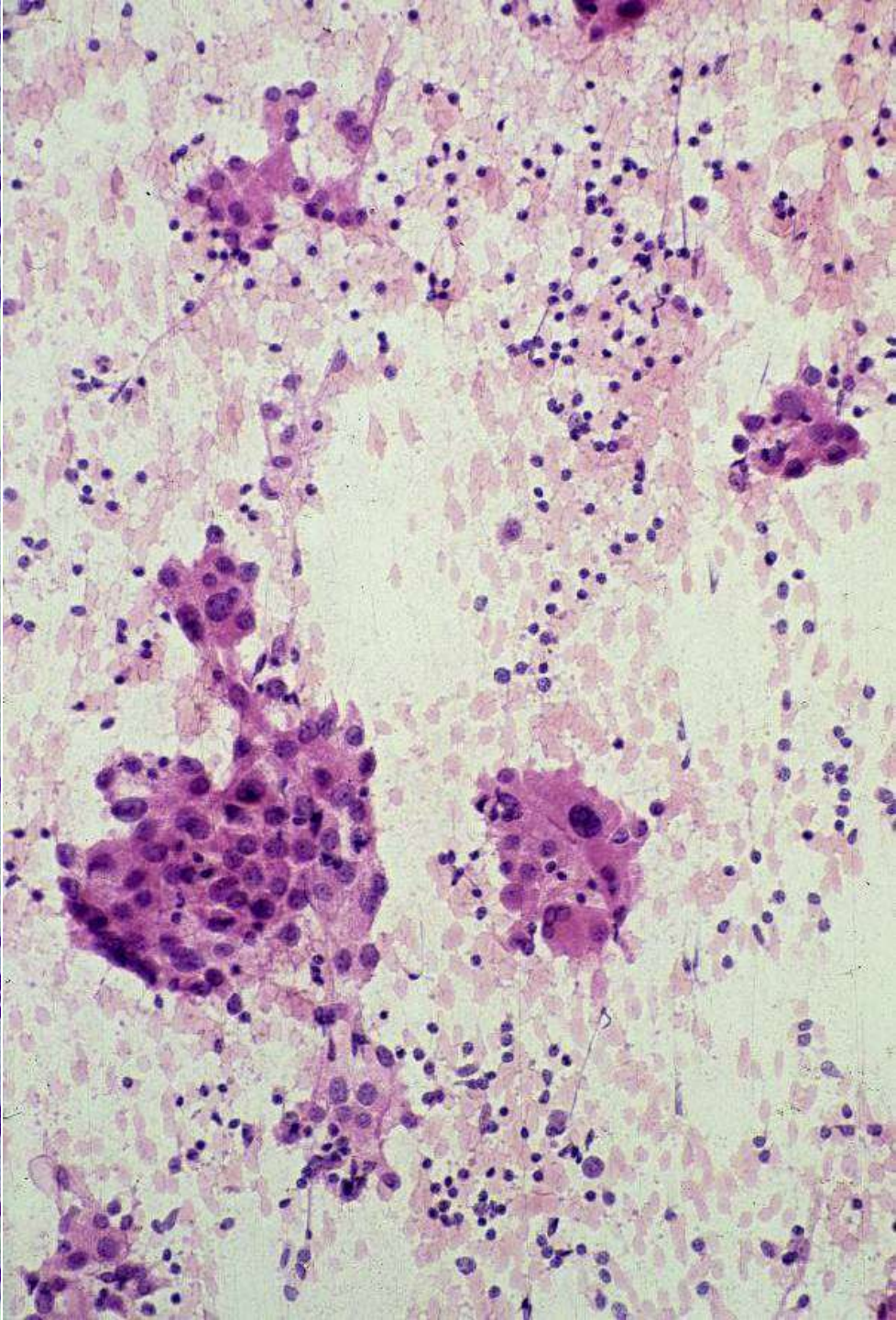
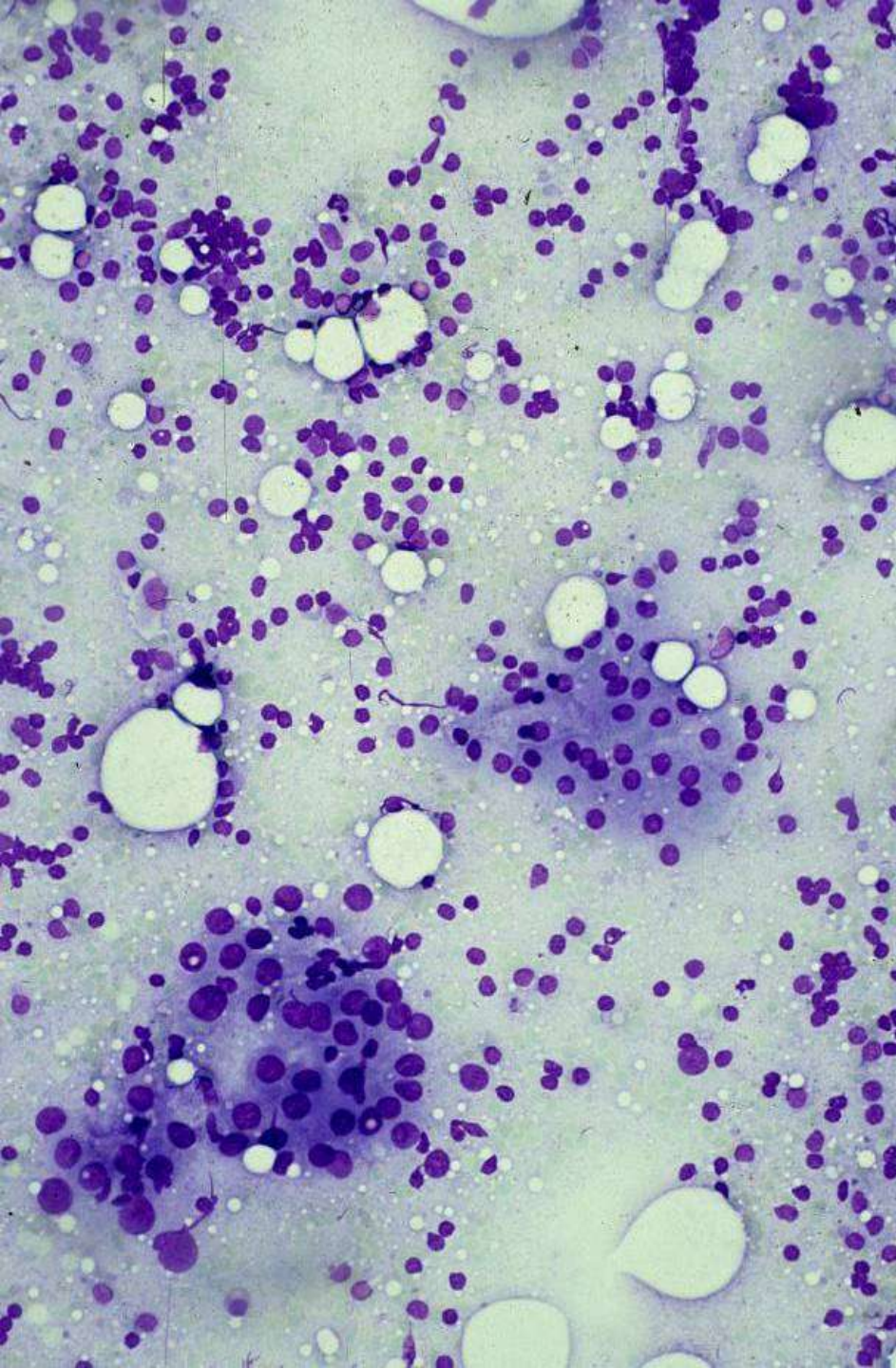


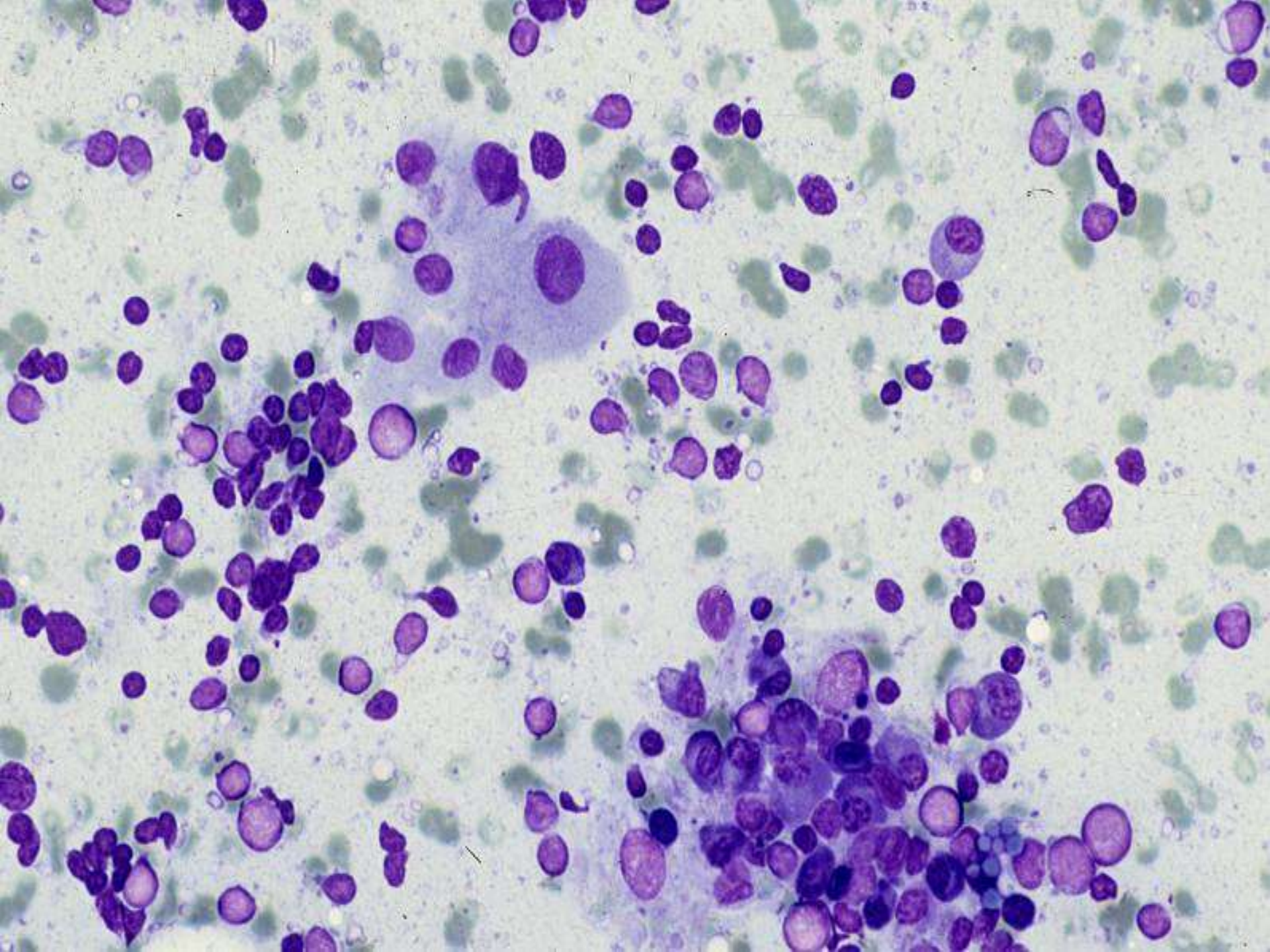
TIROIDITIS GRANULOMATOSA

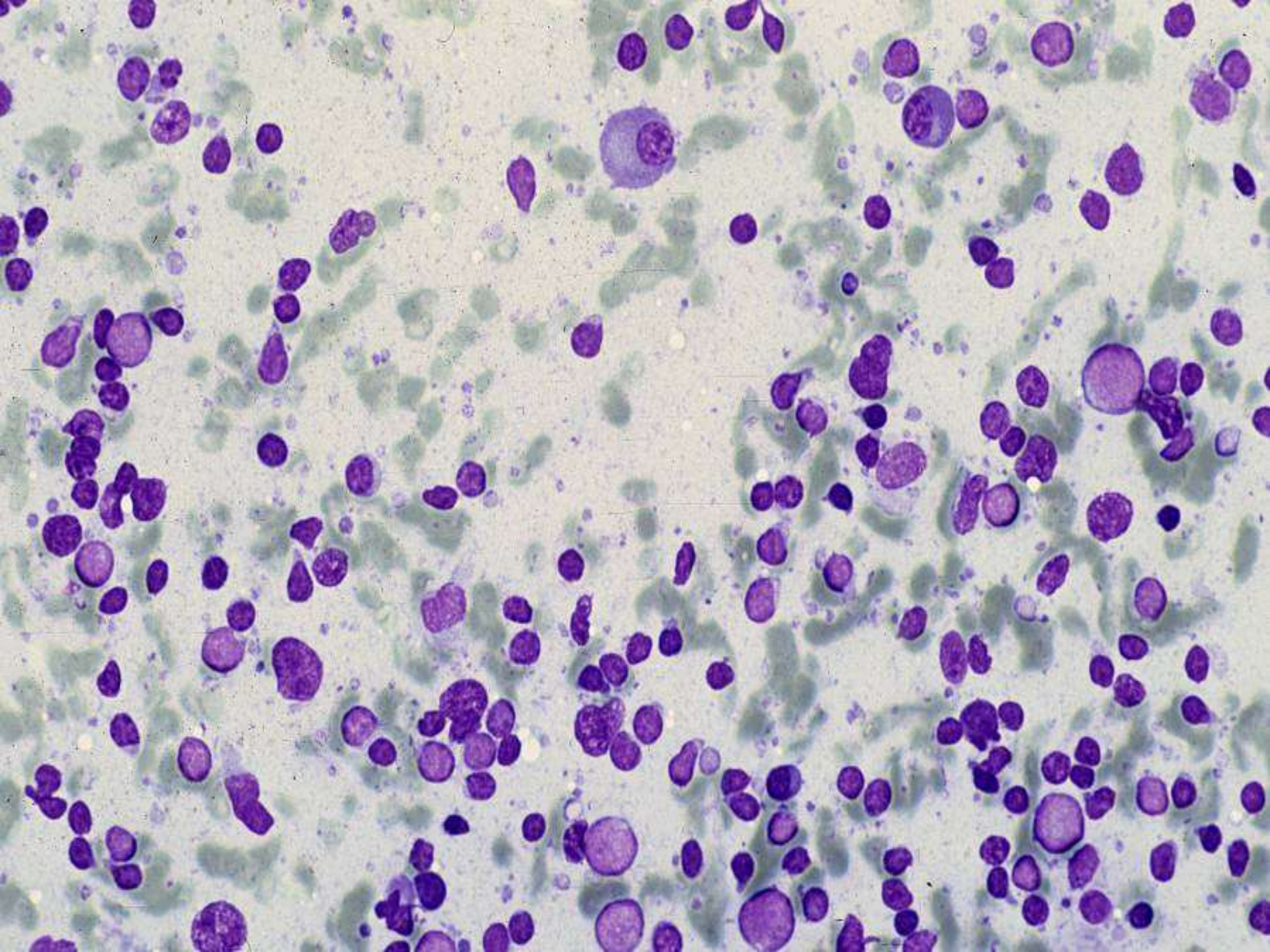
- Células gigantes multinucleadas
- Células epitelioides / granulomas
- Componente inflamatorio mixto
- Células foliculares con o sin metaplasia oncocítica y con o sin atíпия
- Degeneración gránulo-vacuolar



TIROIDITIS DE HASIMOTO





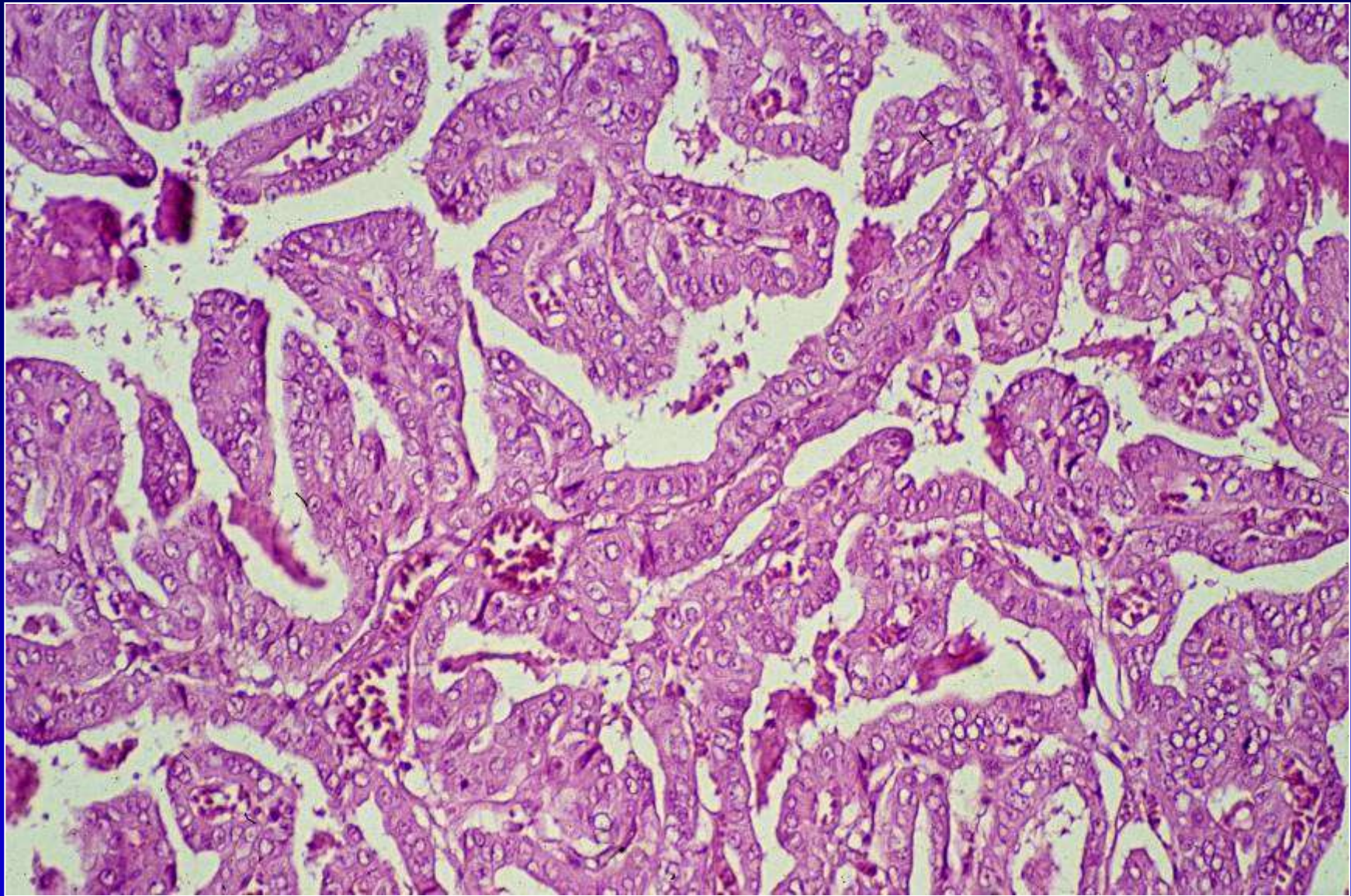


TIROIDITIS DE HASHIMOTO

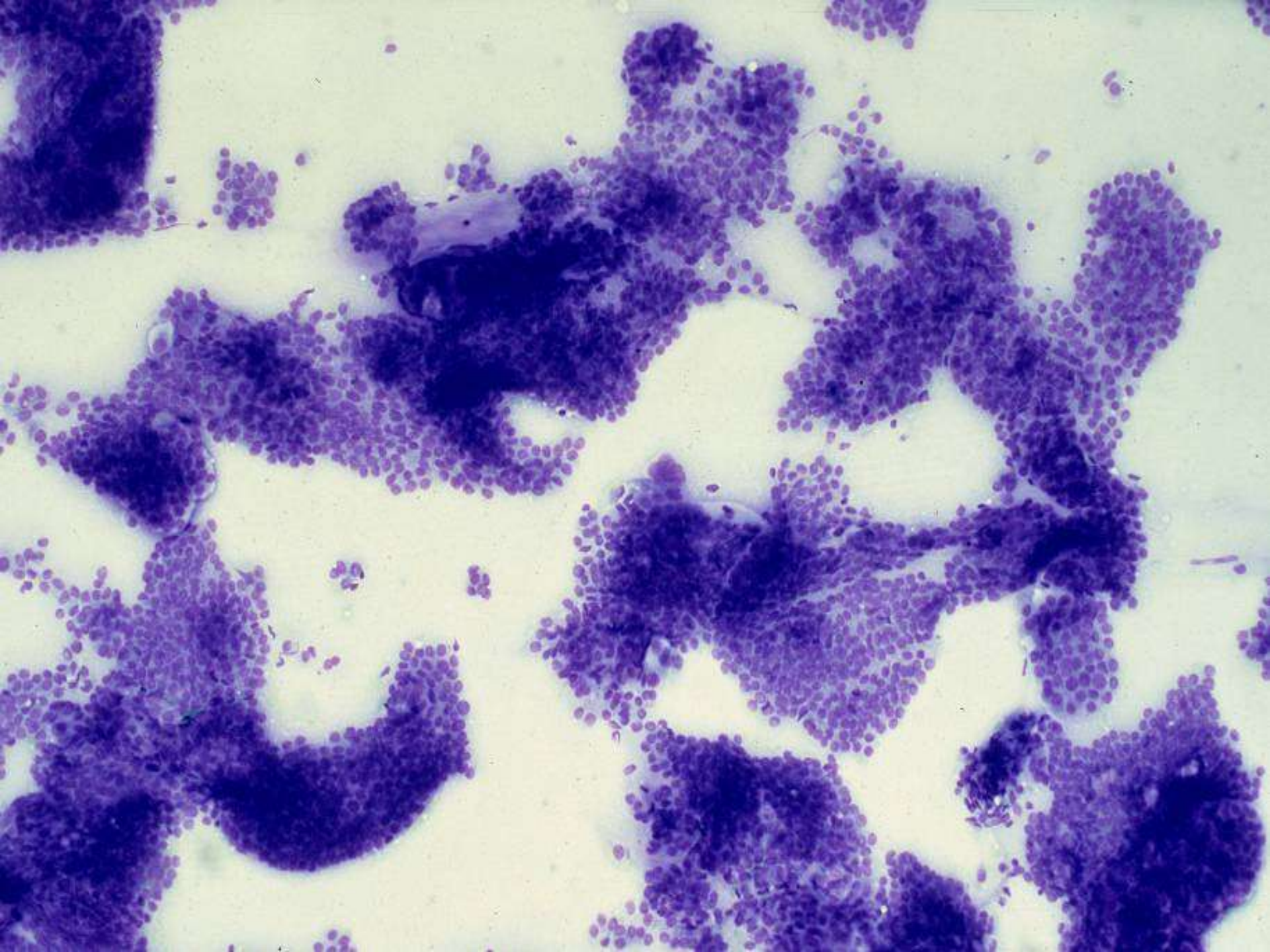
- Mezcla diagnóstica de células linfoides y epiteliales
- Células linfoides: linfocitos, plasmáticas y células de centro germinal
- Células epiteliales: células de Hürthle
- Escaso coloide

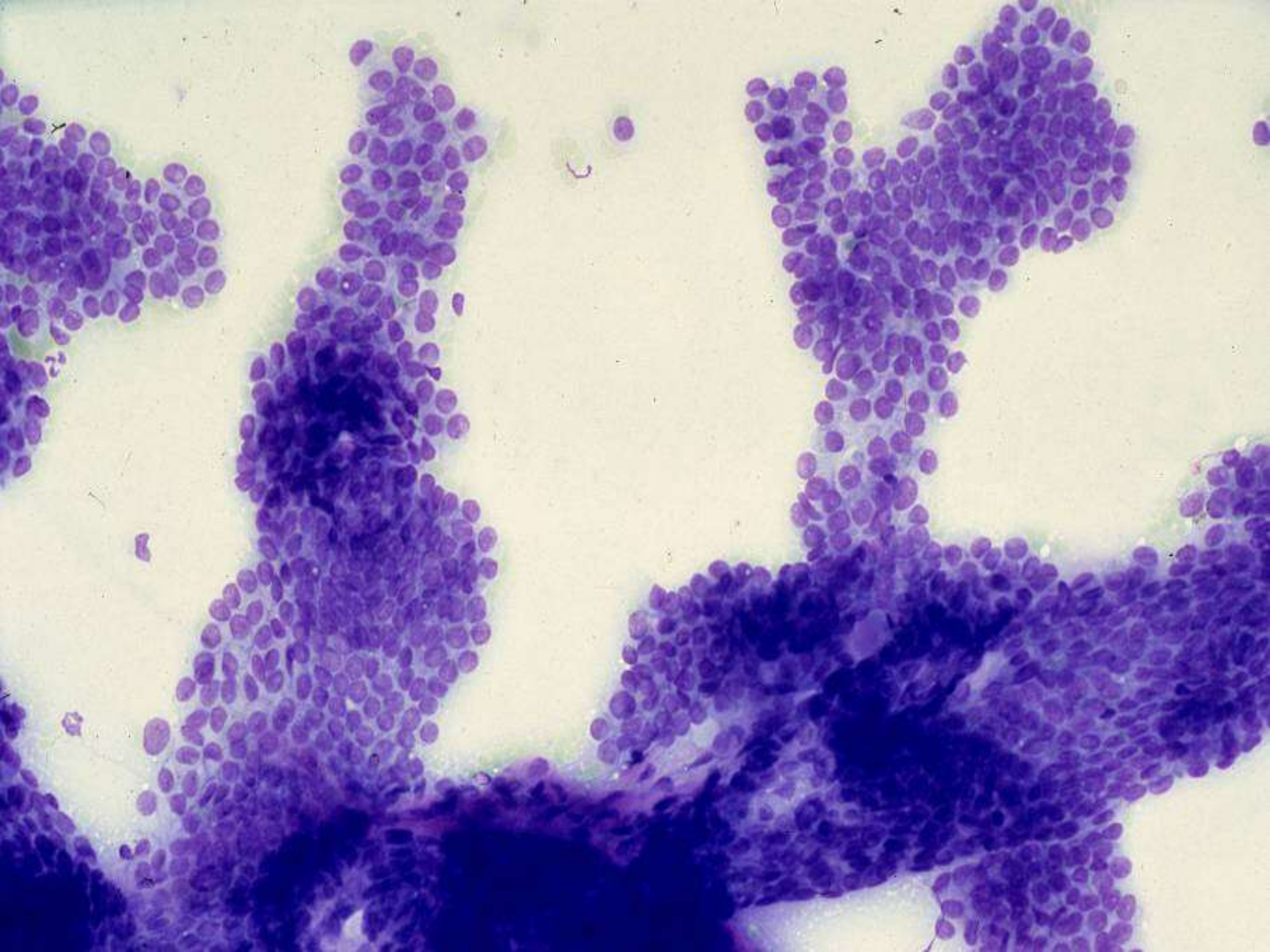
LESIONES MALIGNAS

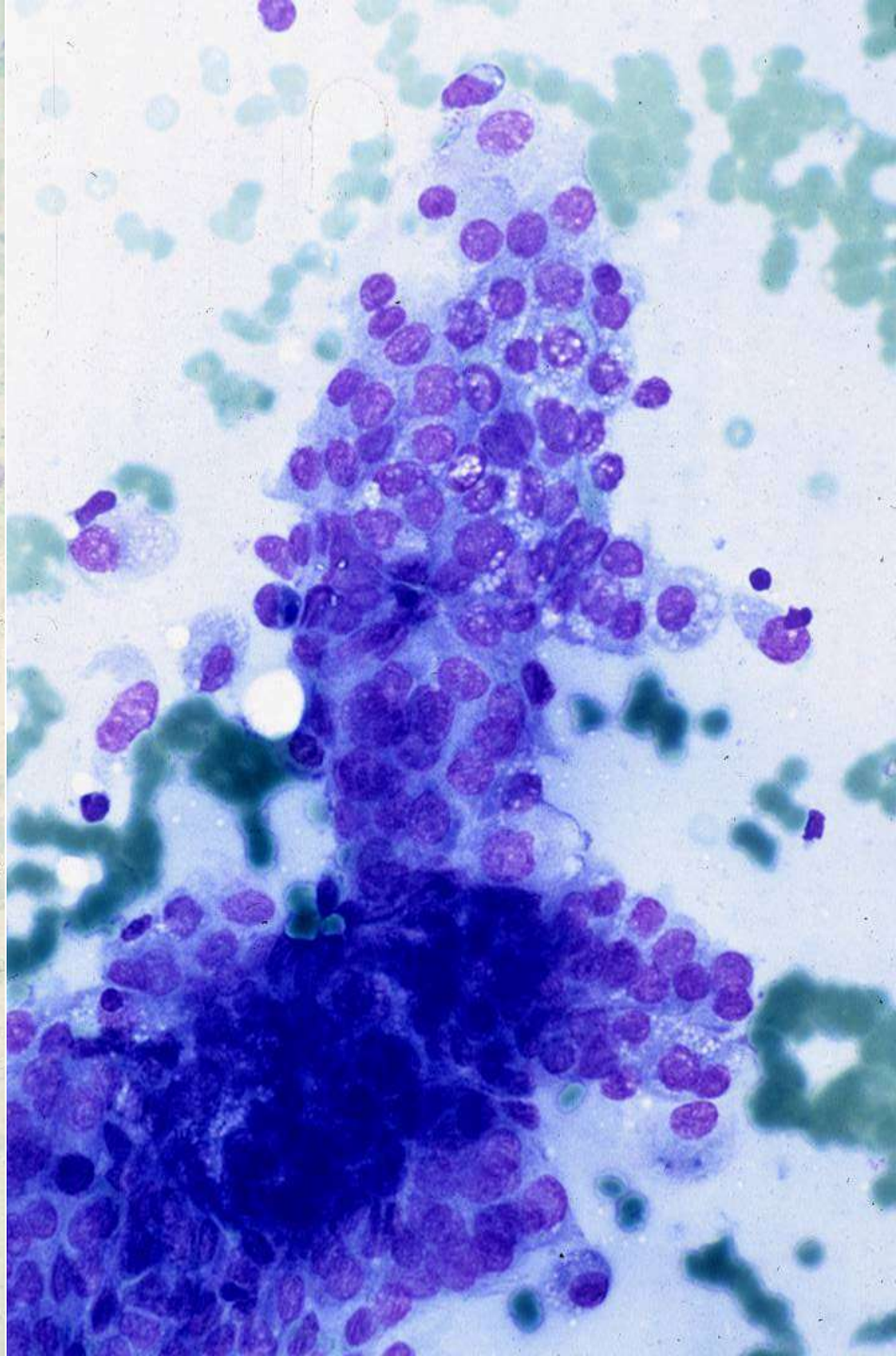
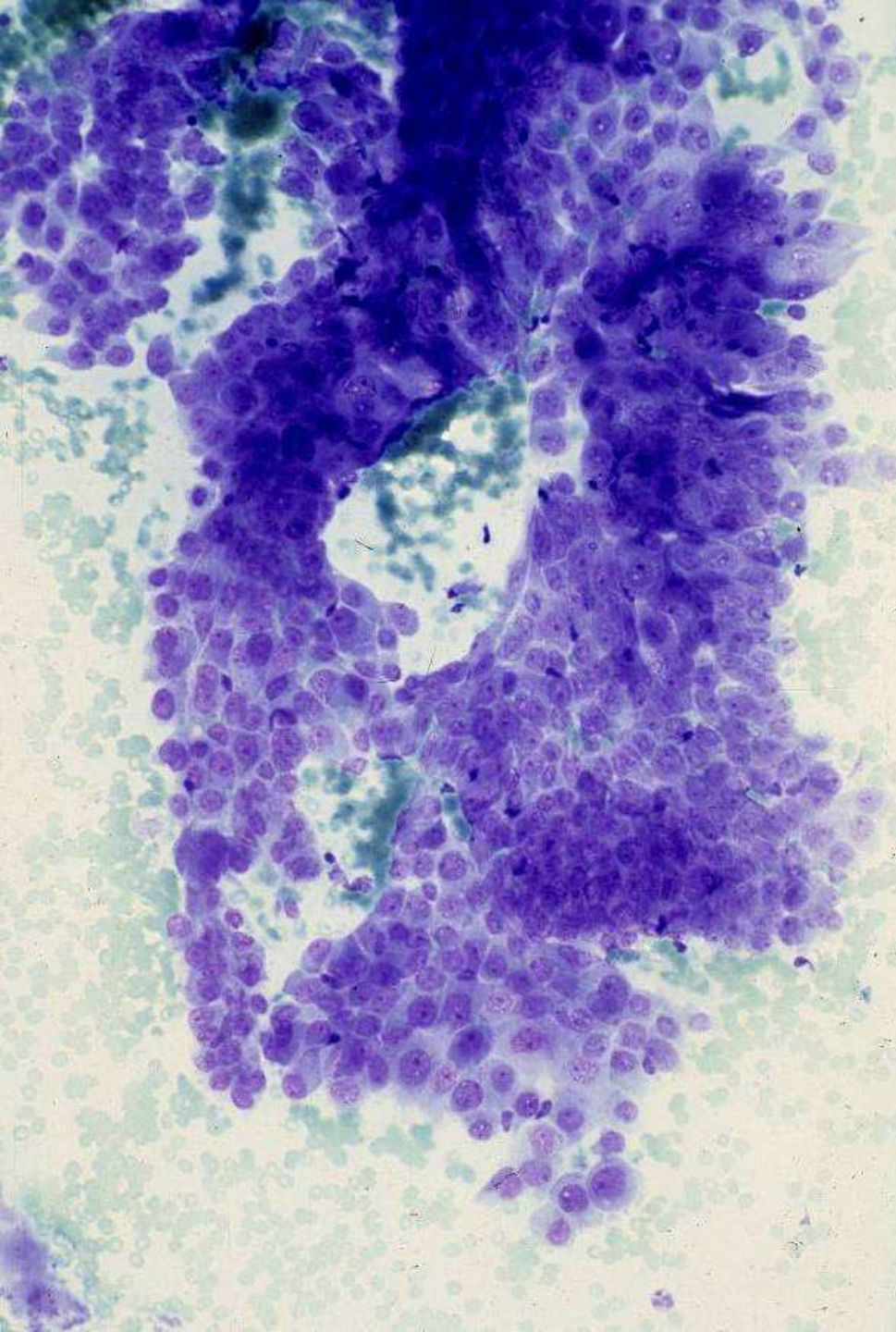
- Carcinoma papilar
- Carcinoma medular
- Carcinoma anaplasico
- Linfoma

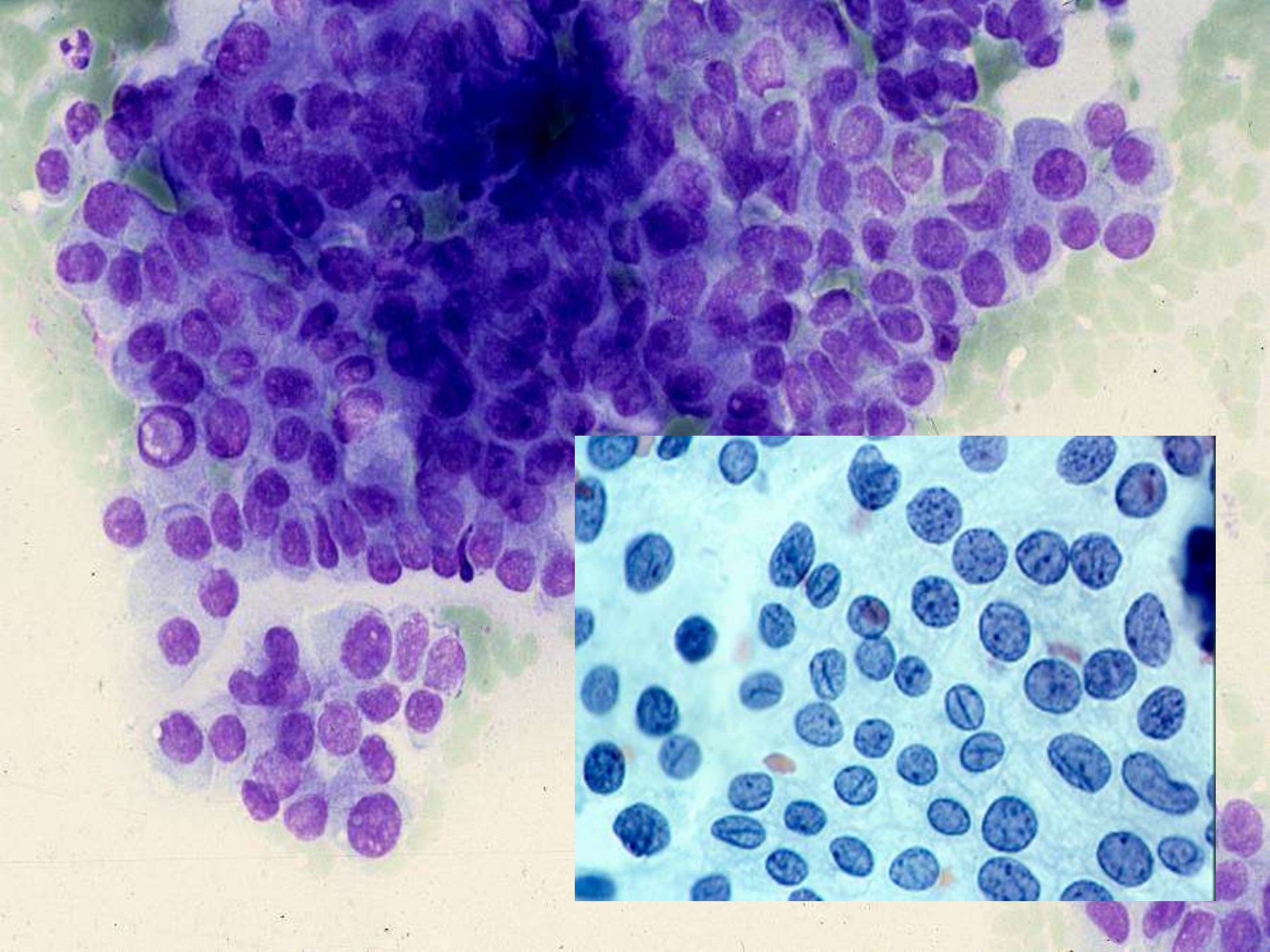


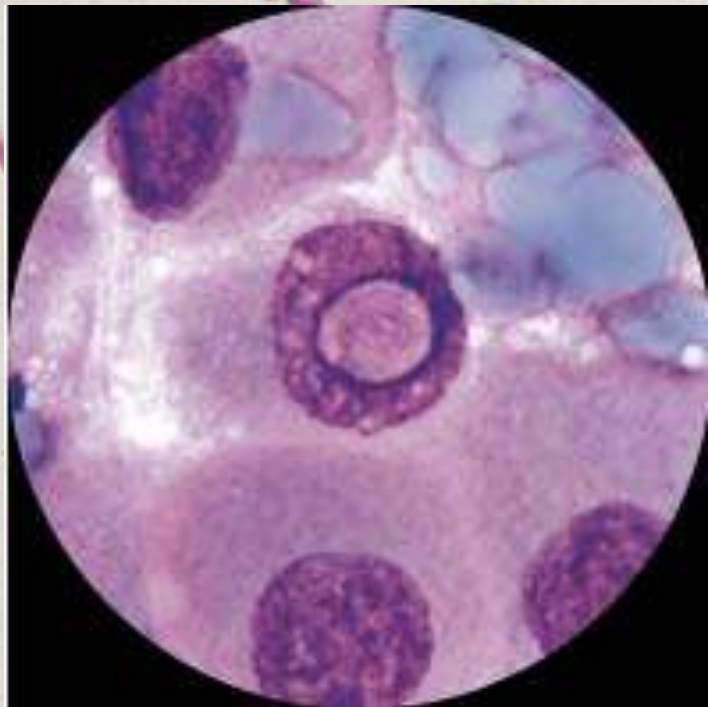
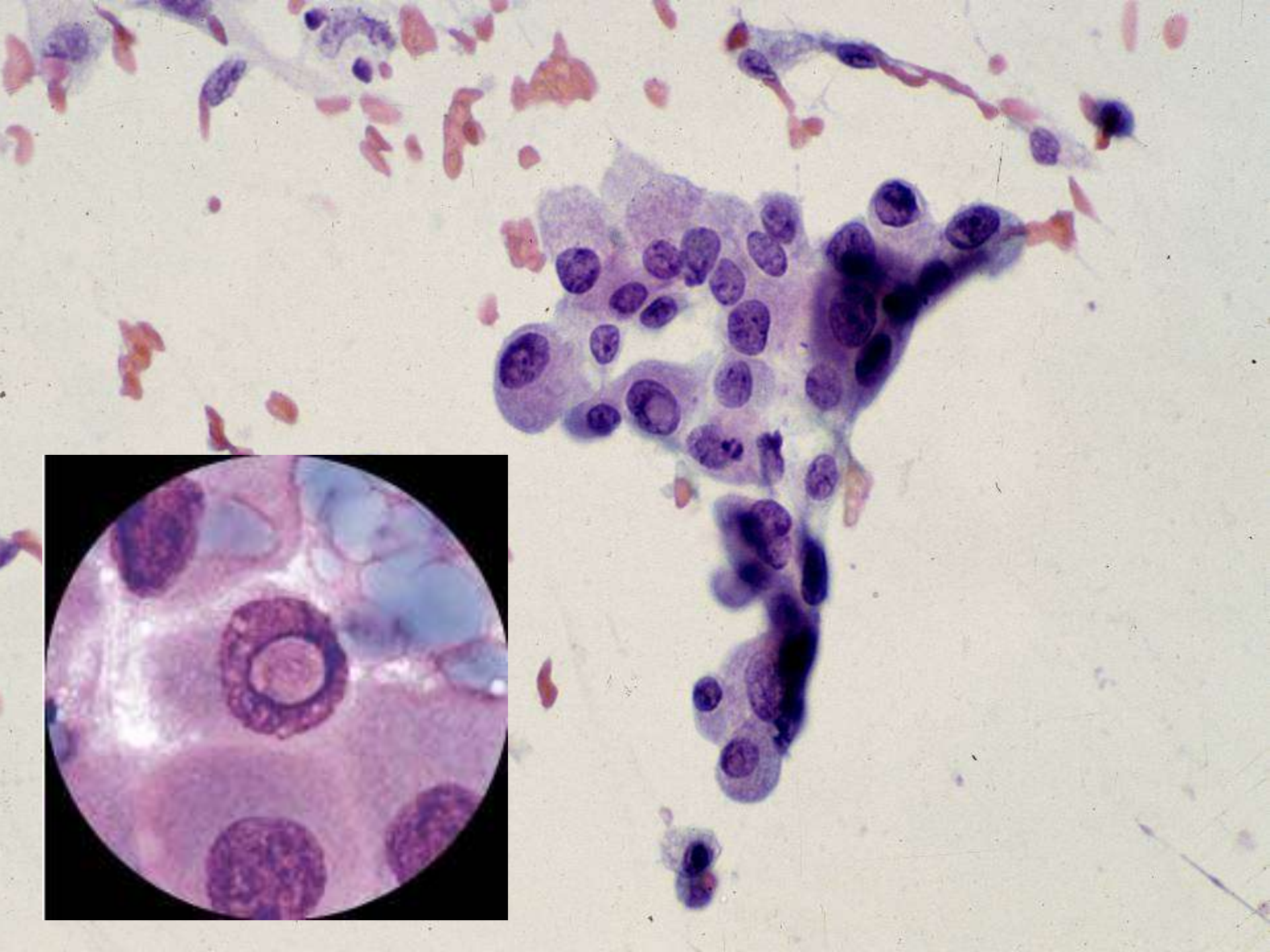
CARCINOMA PAPILAR

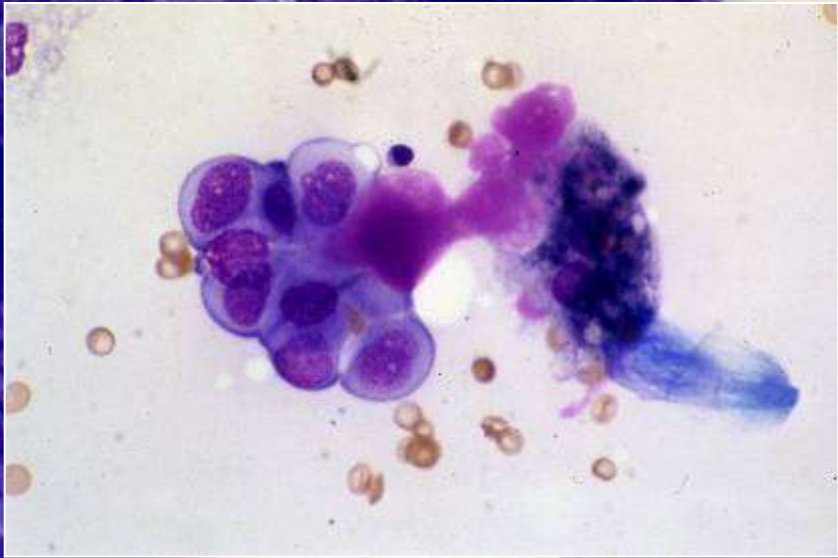
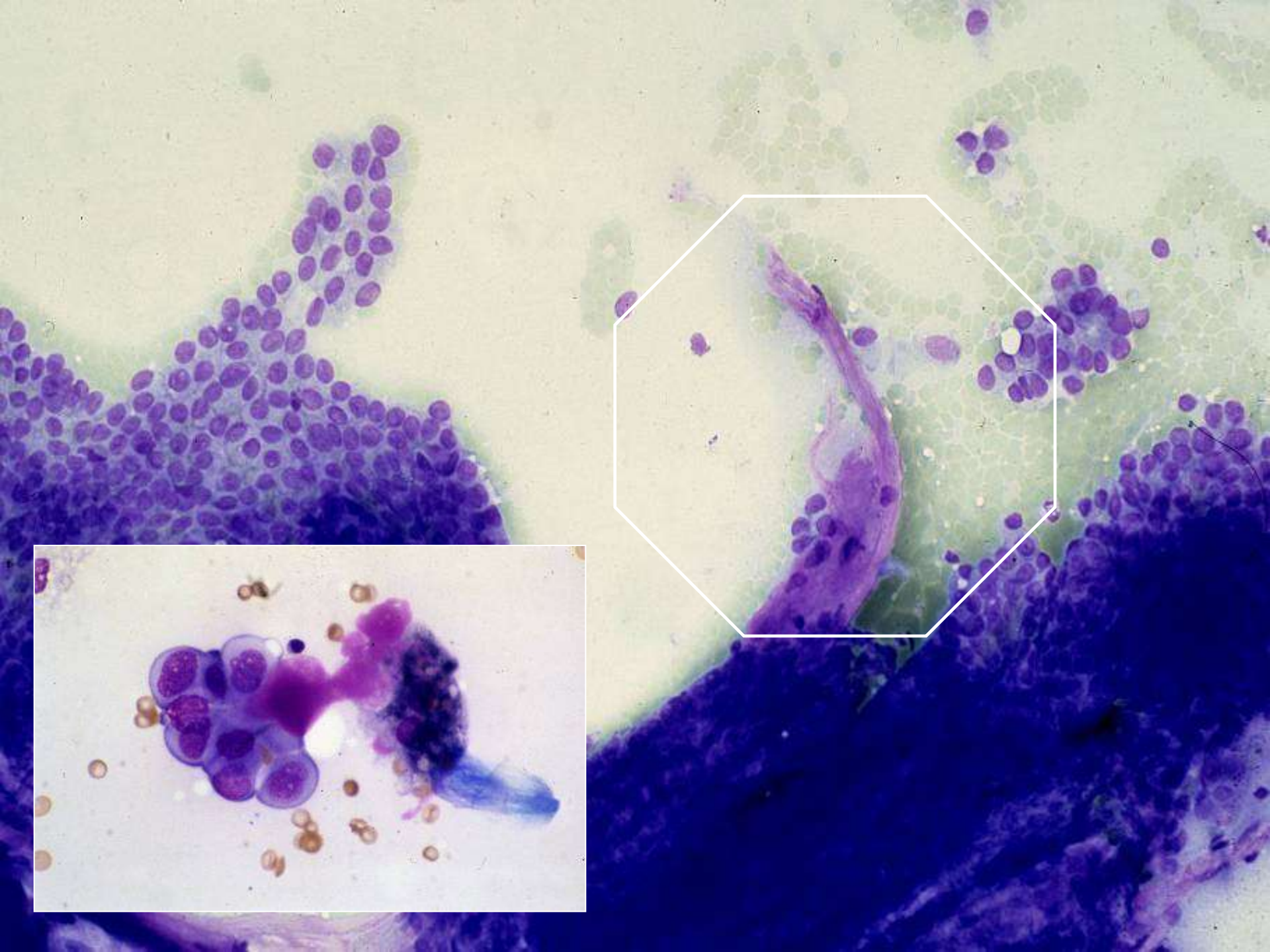


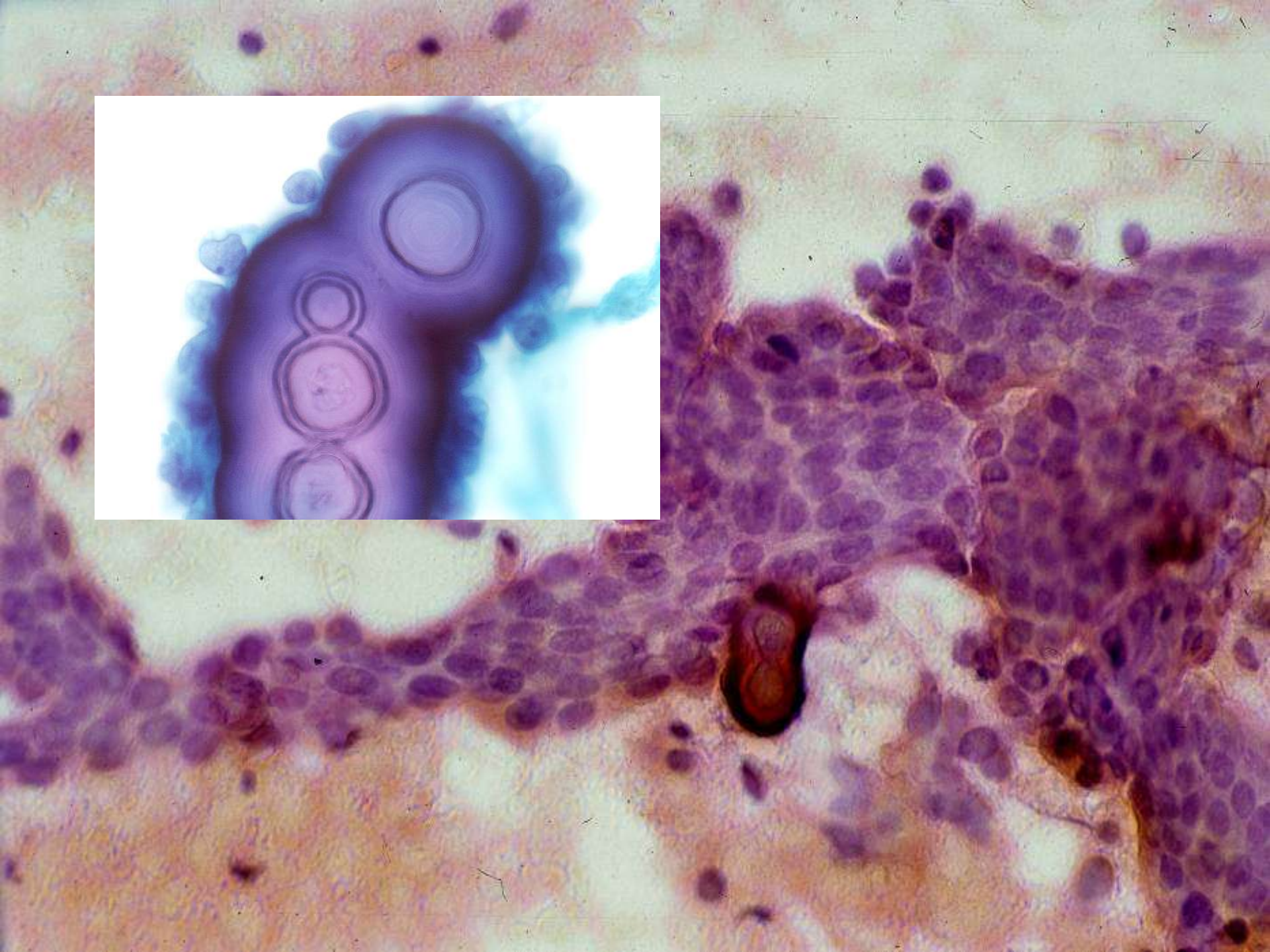
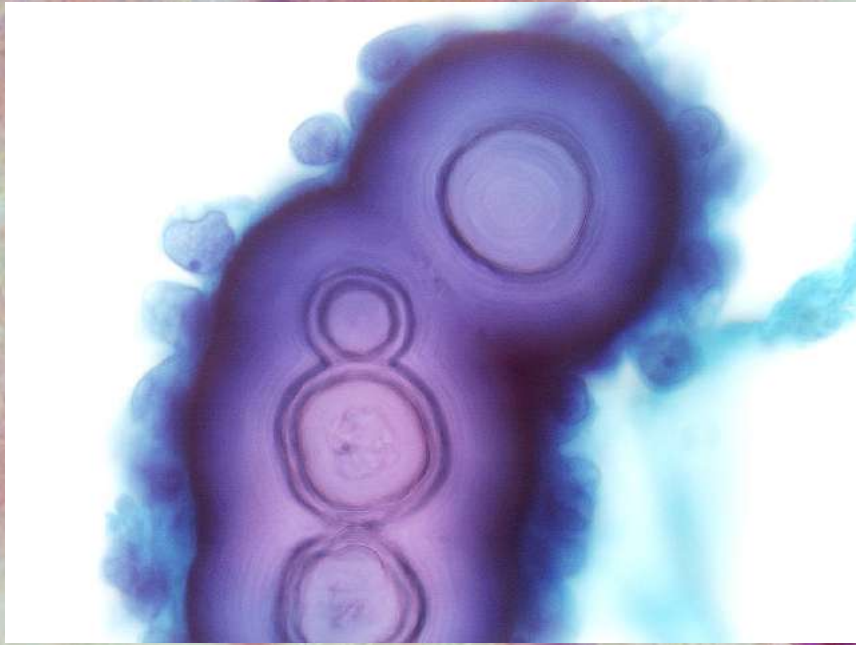






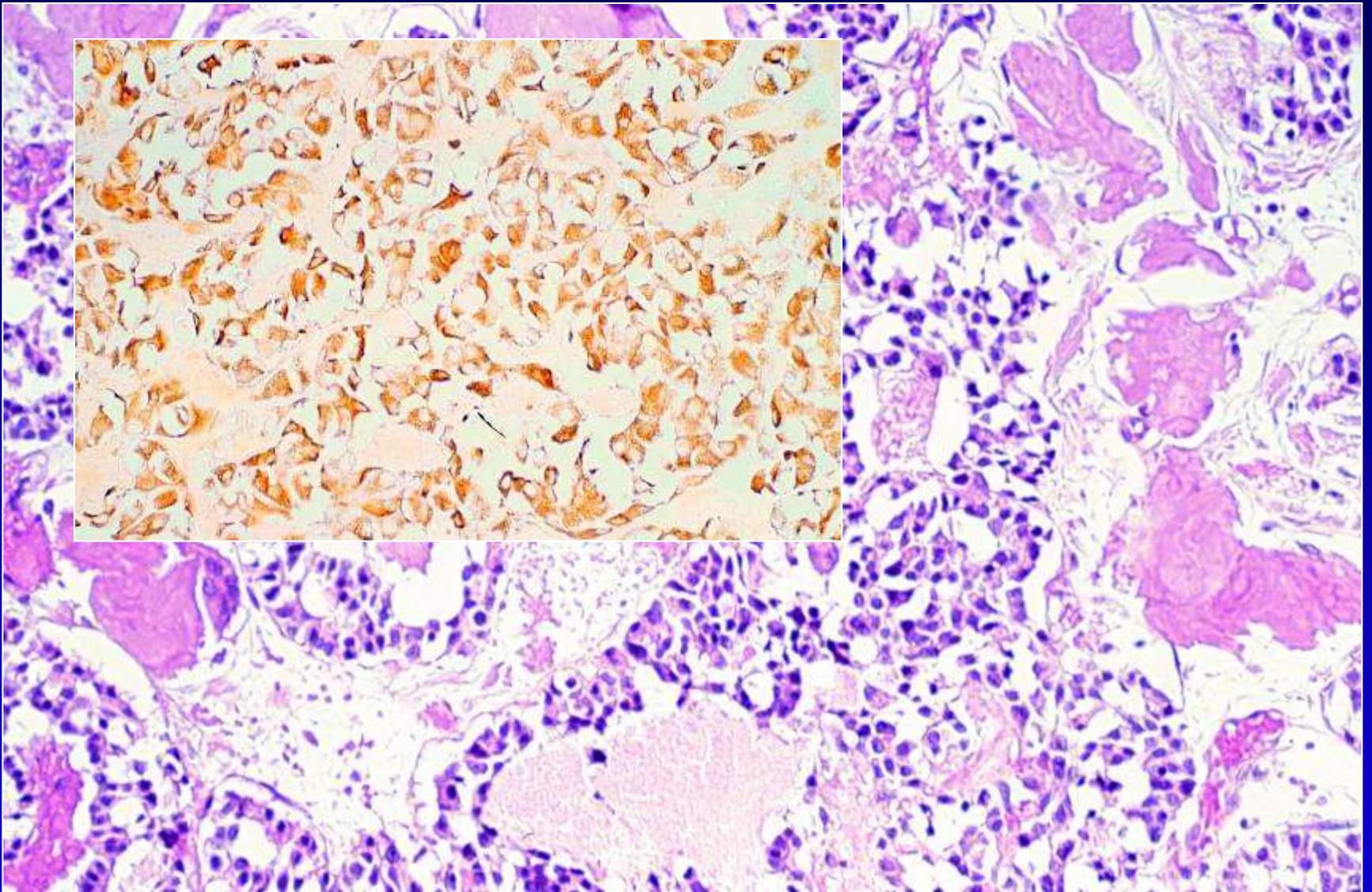




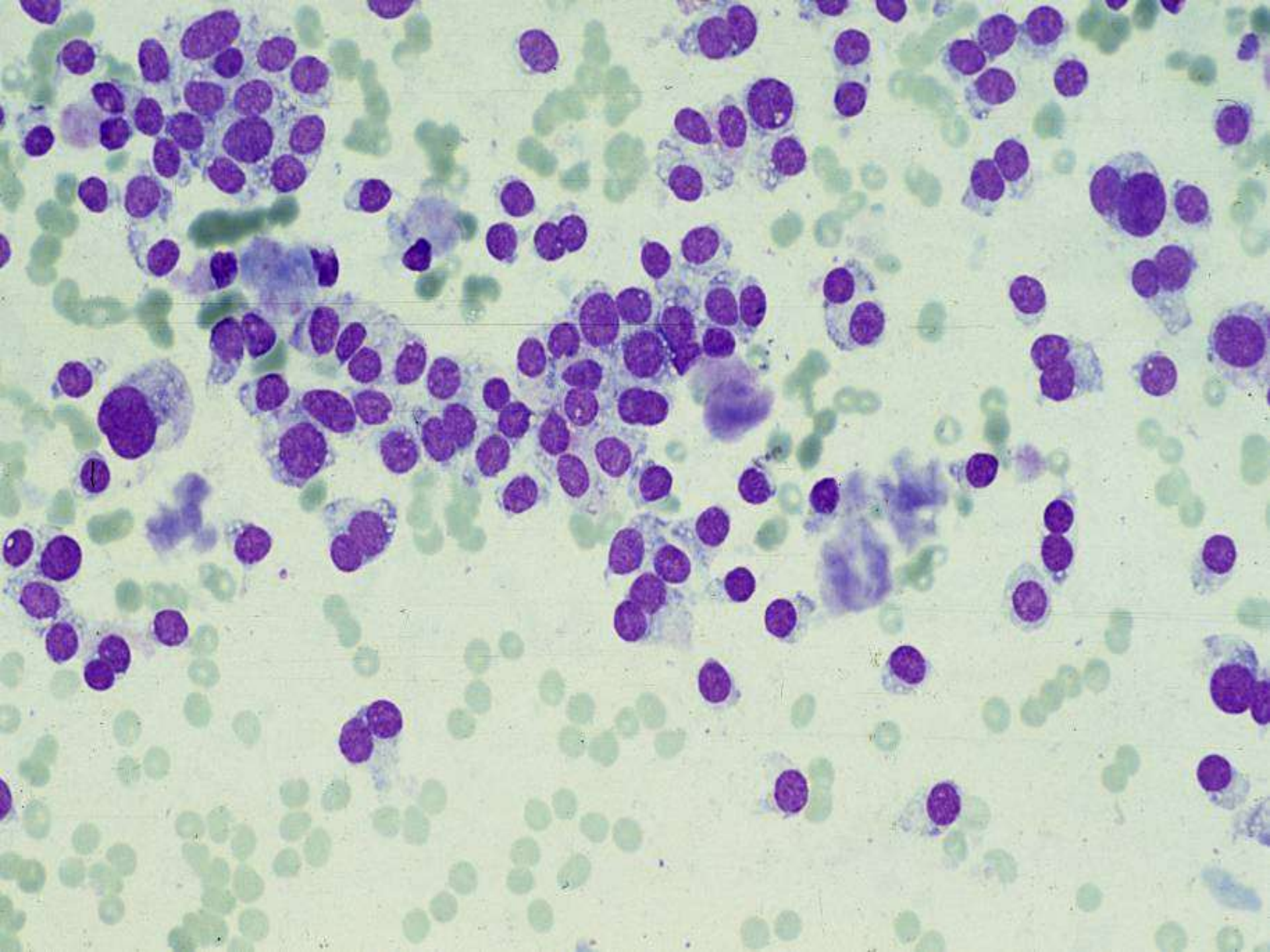


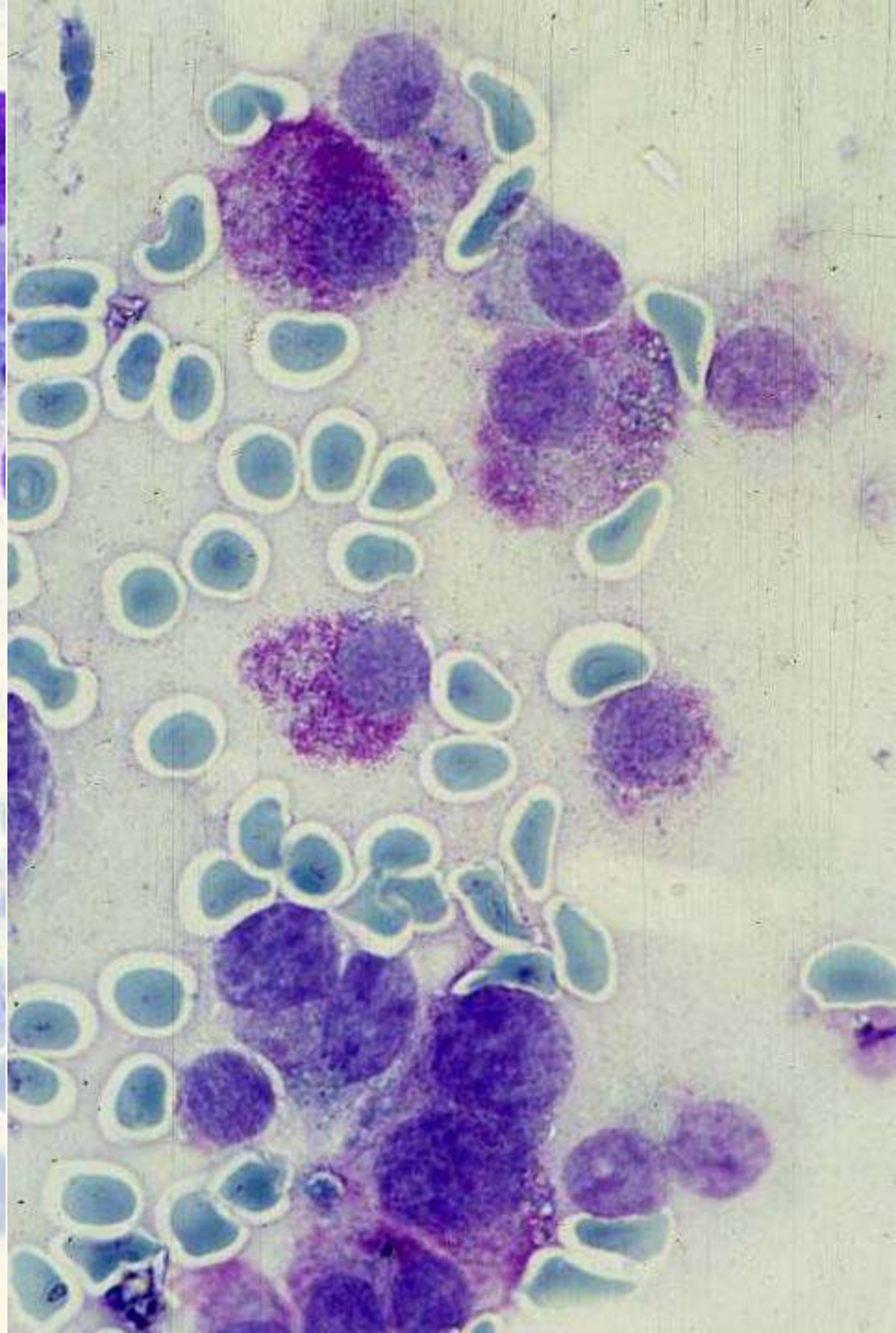
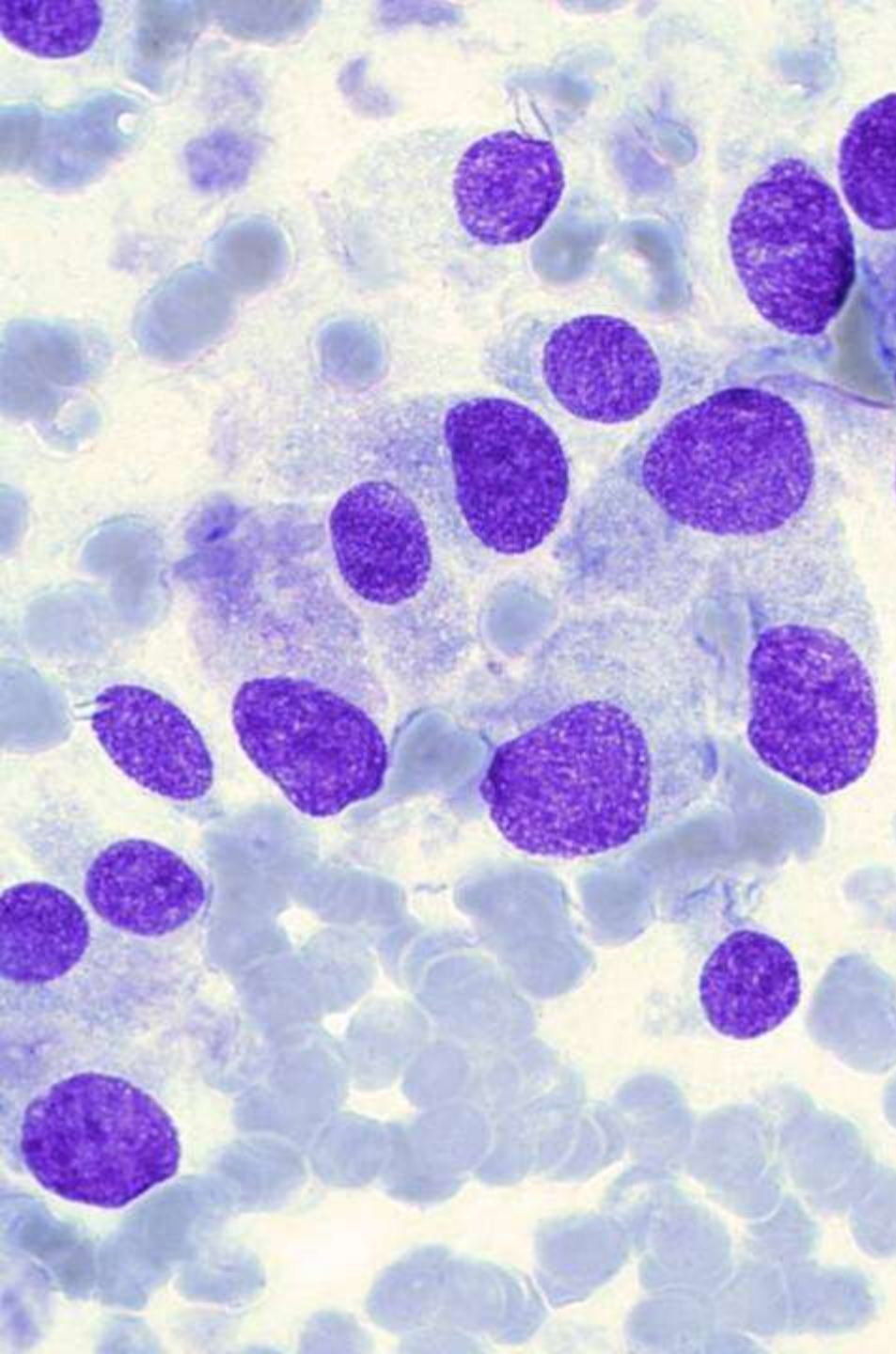
CARCINOMA PAPILAR

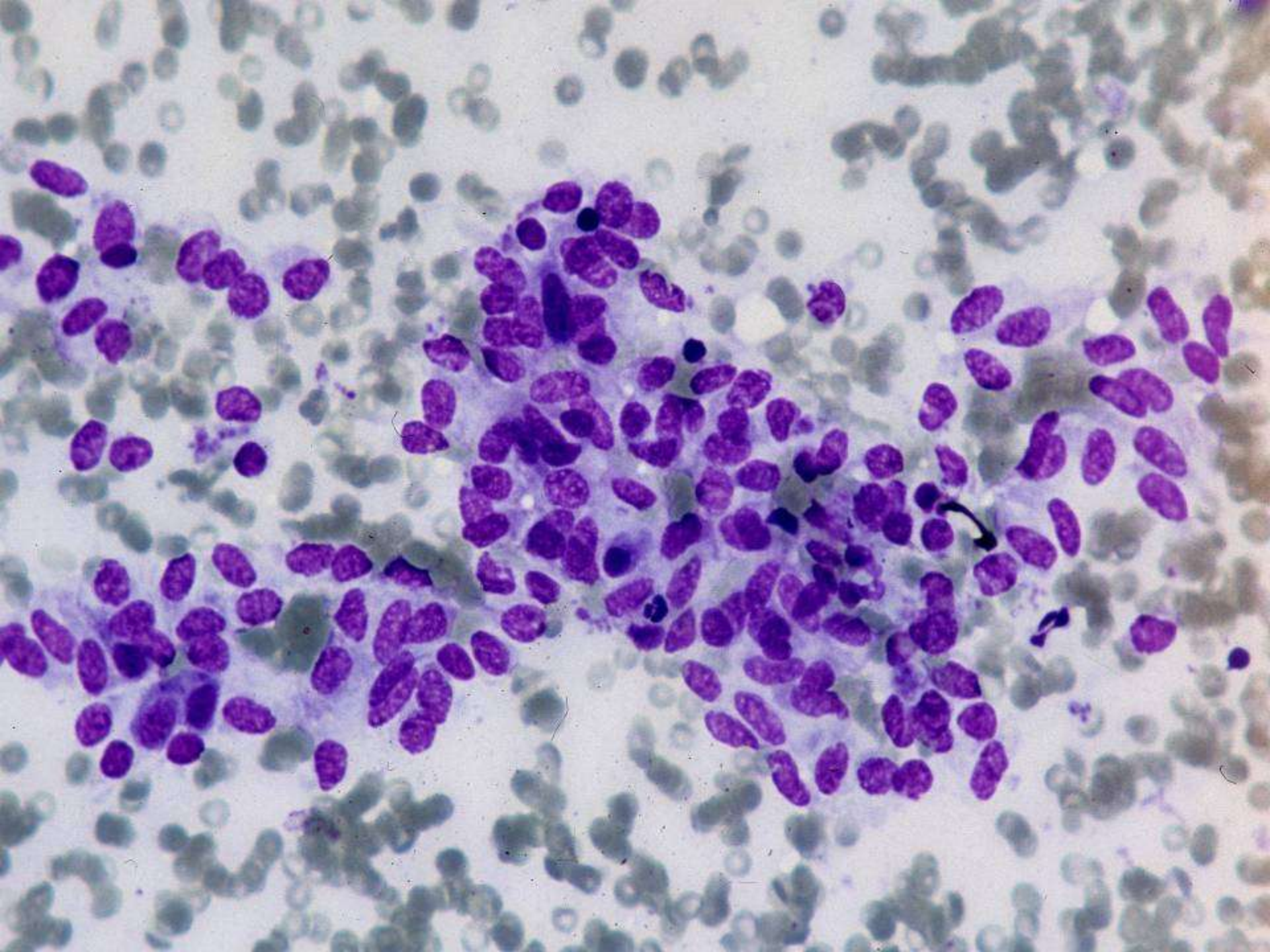
- Extendido muy celular con placas o grupos tridimensionales
- Citoplasma denso
- Núcleo voluminoso, pálido, con plegaduras e inclusiones
- Coloide denso
- Cuerpos de psammoma

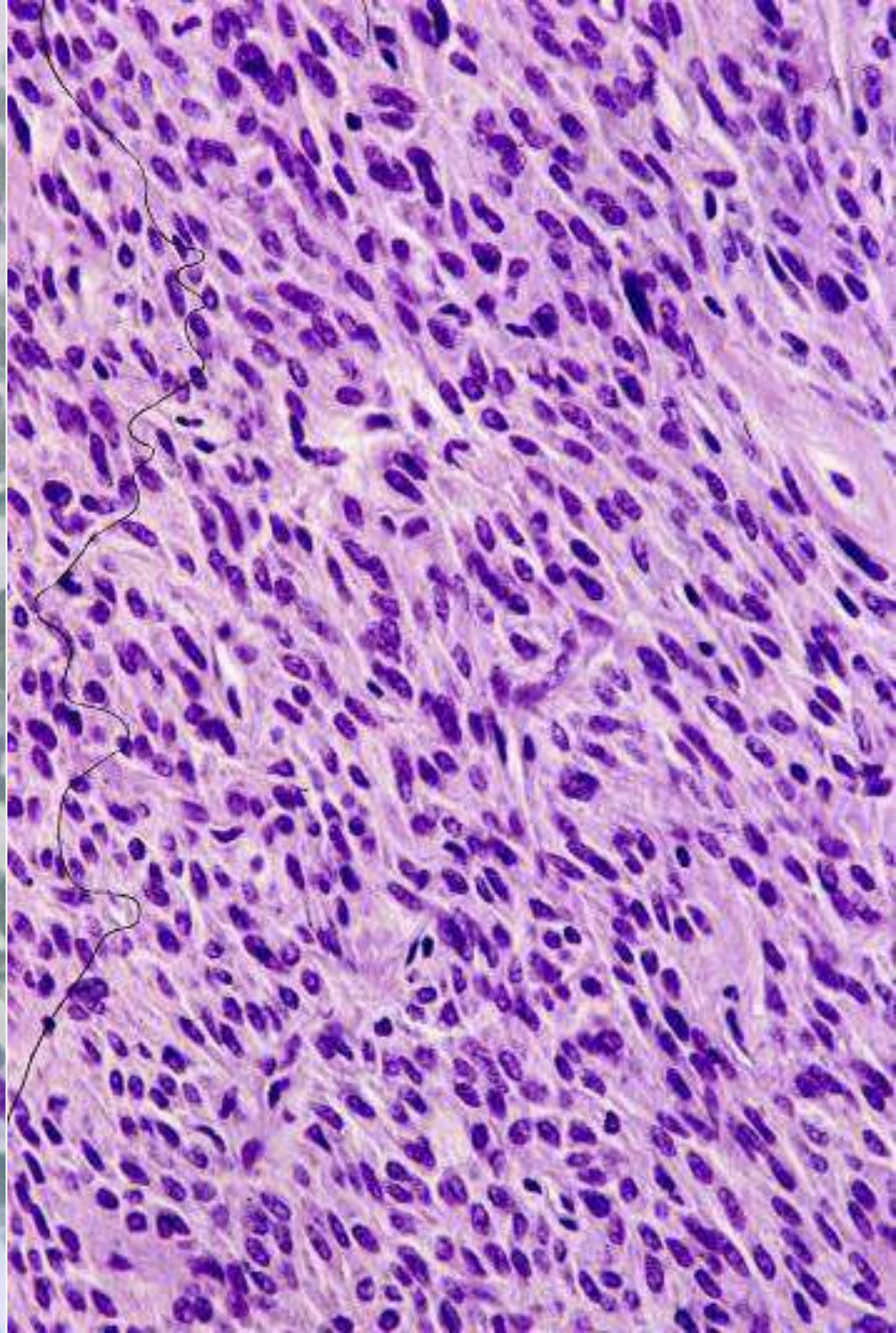
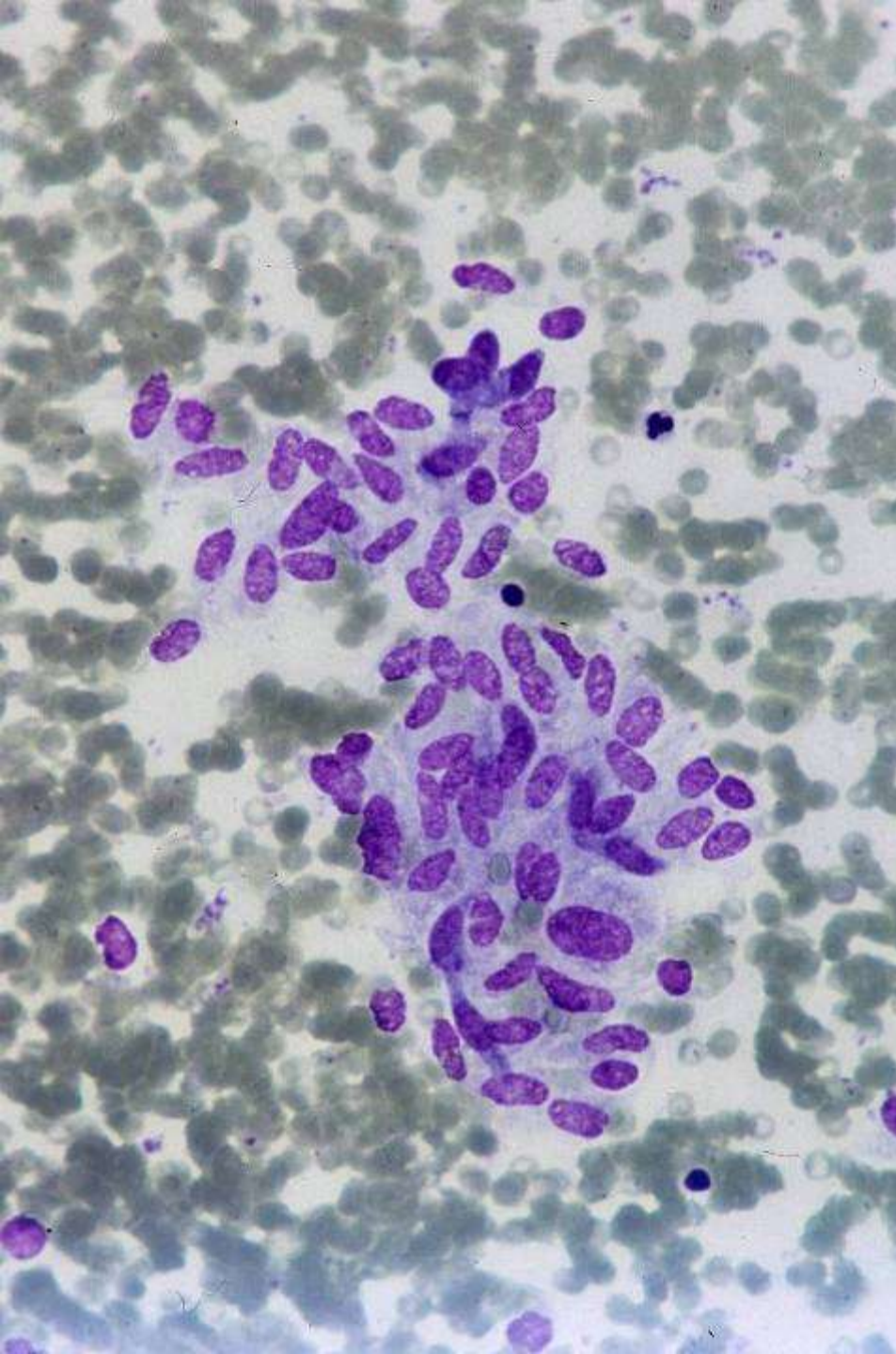


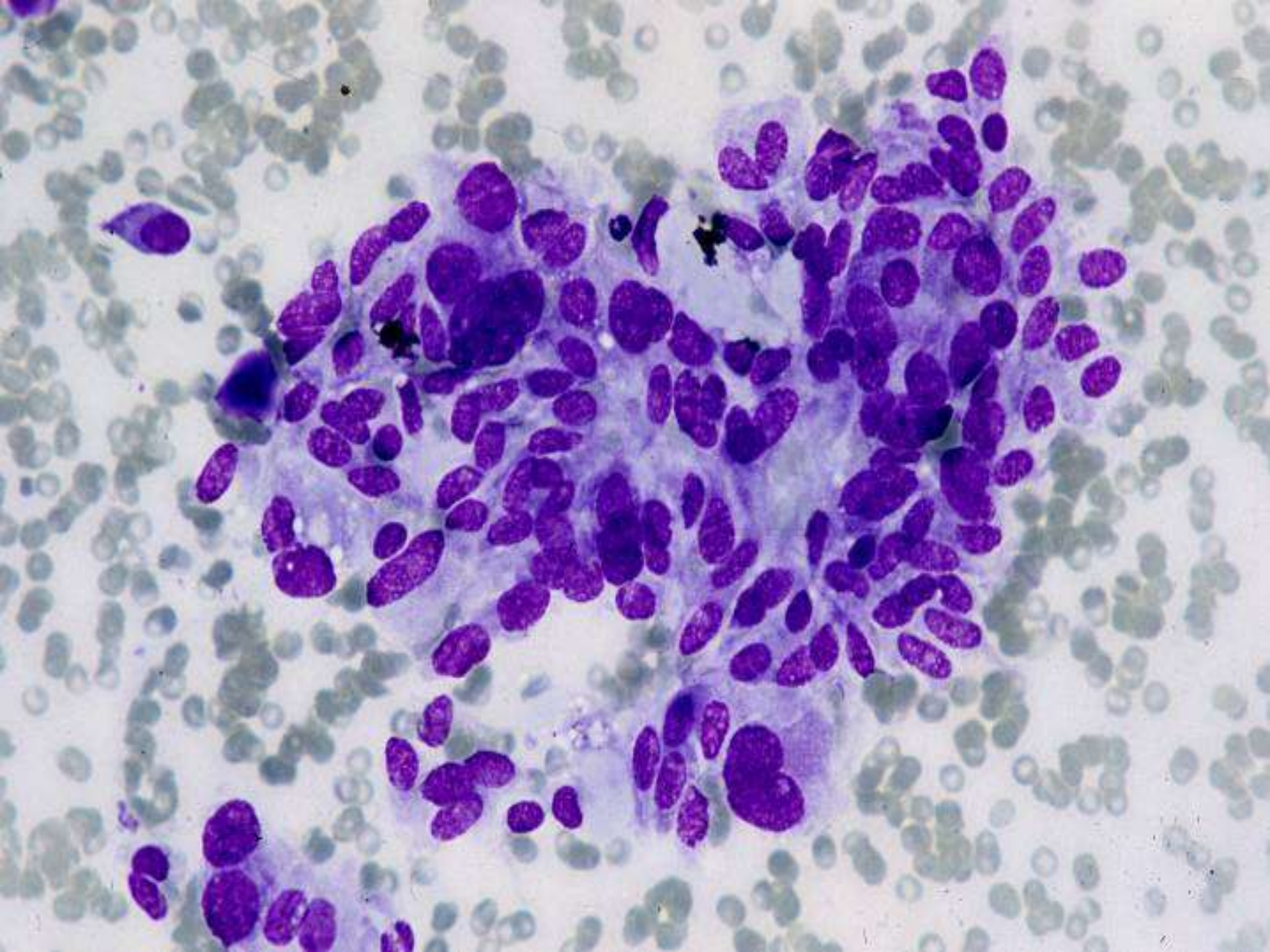
CARCINOMA MEDULAR

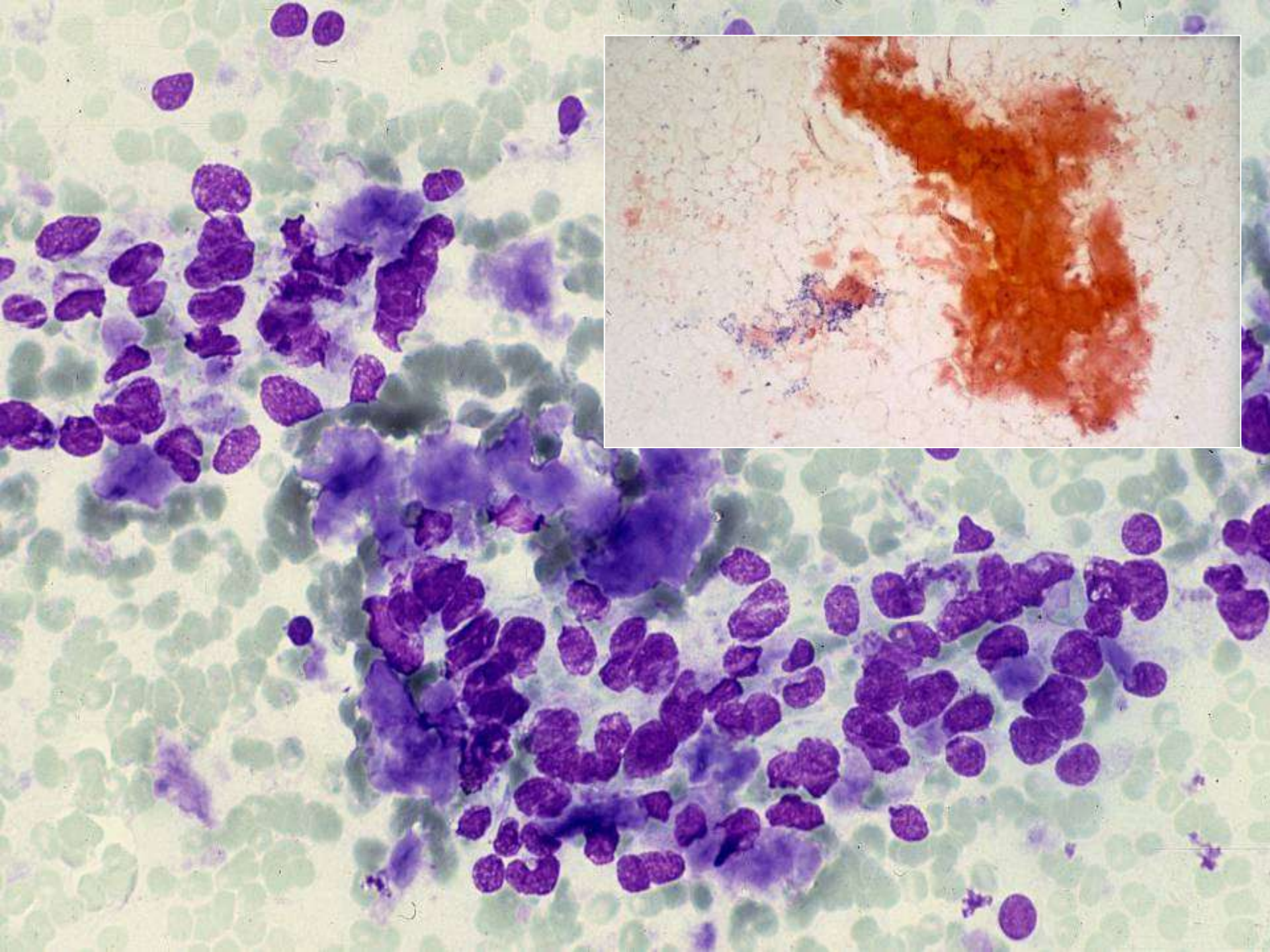






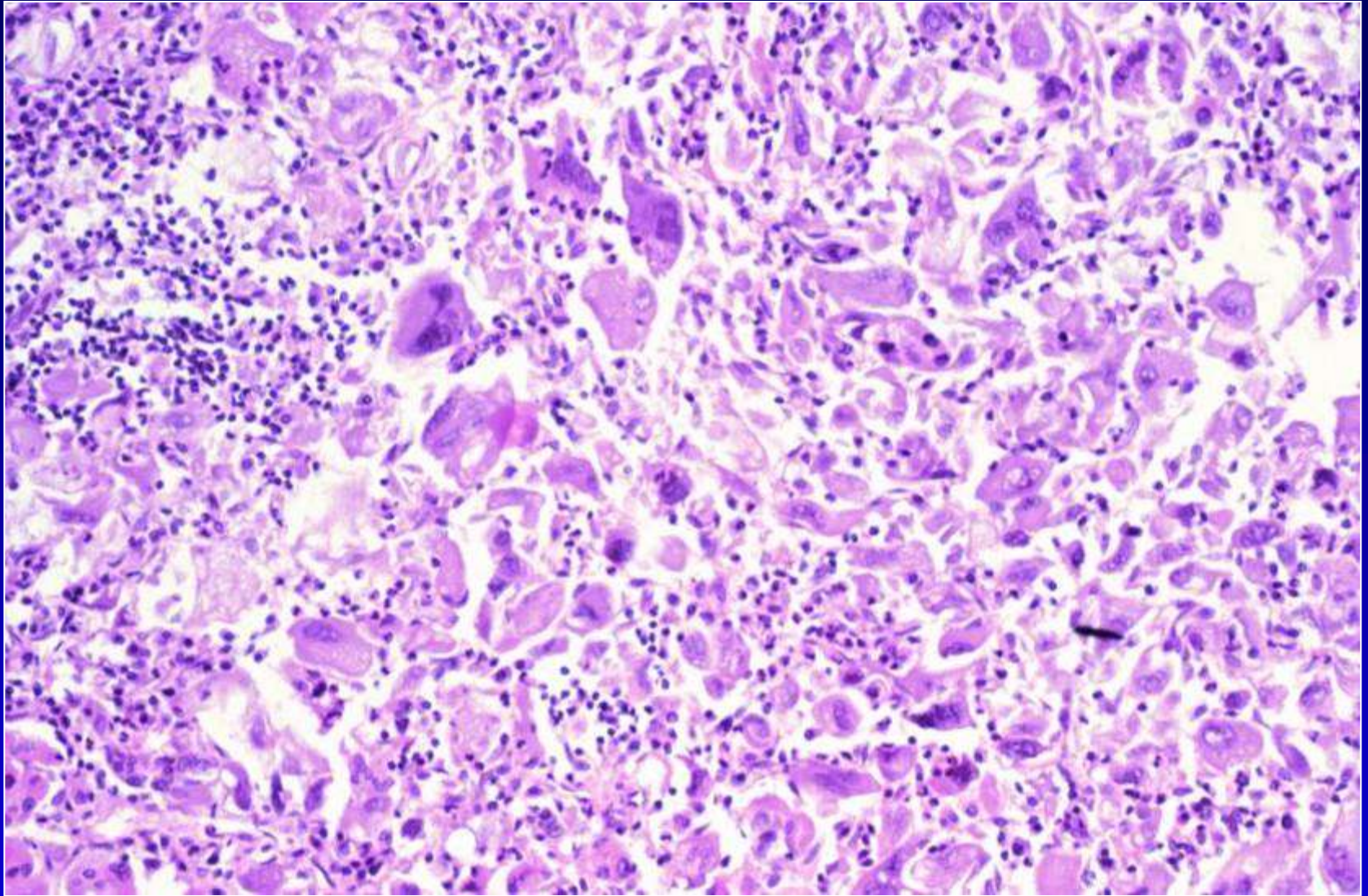




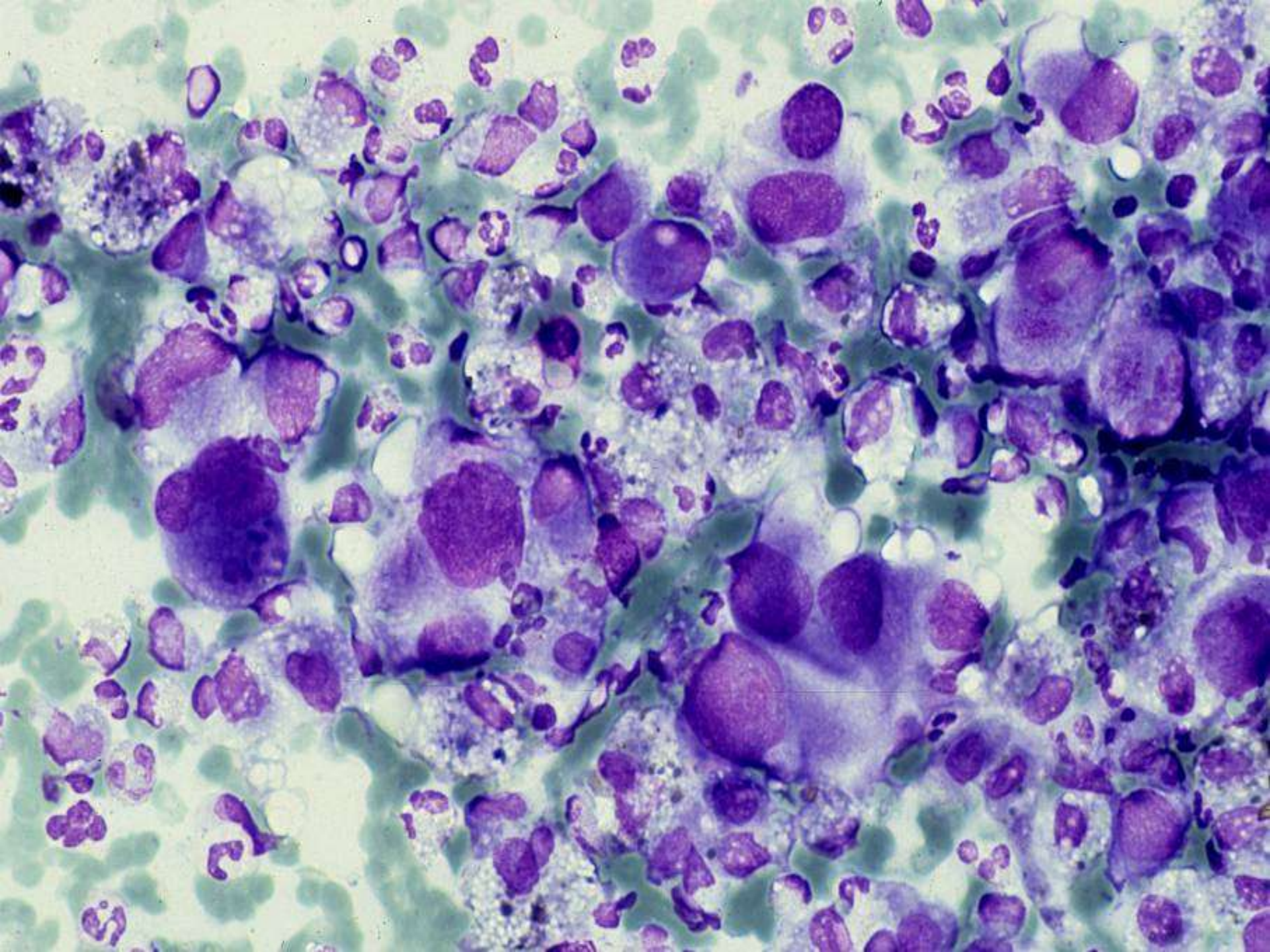


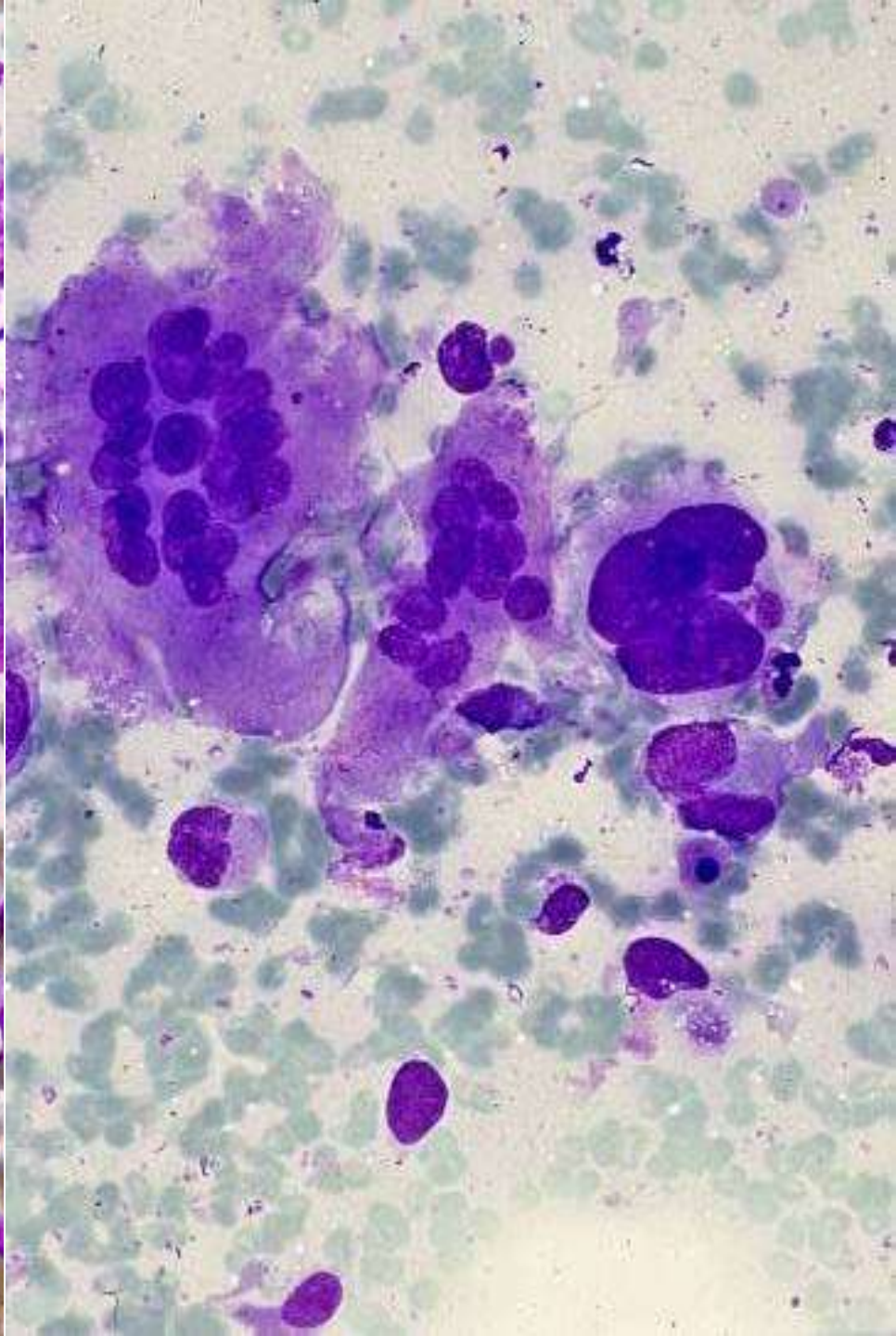
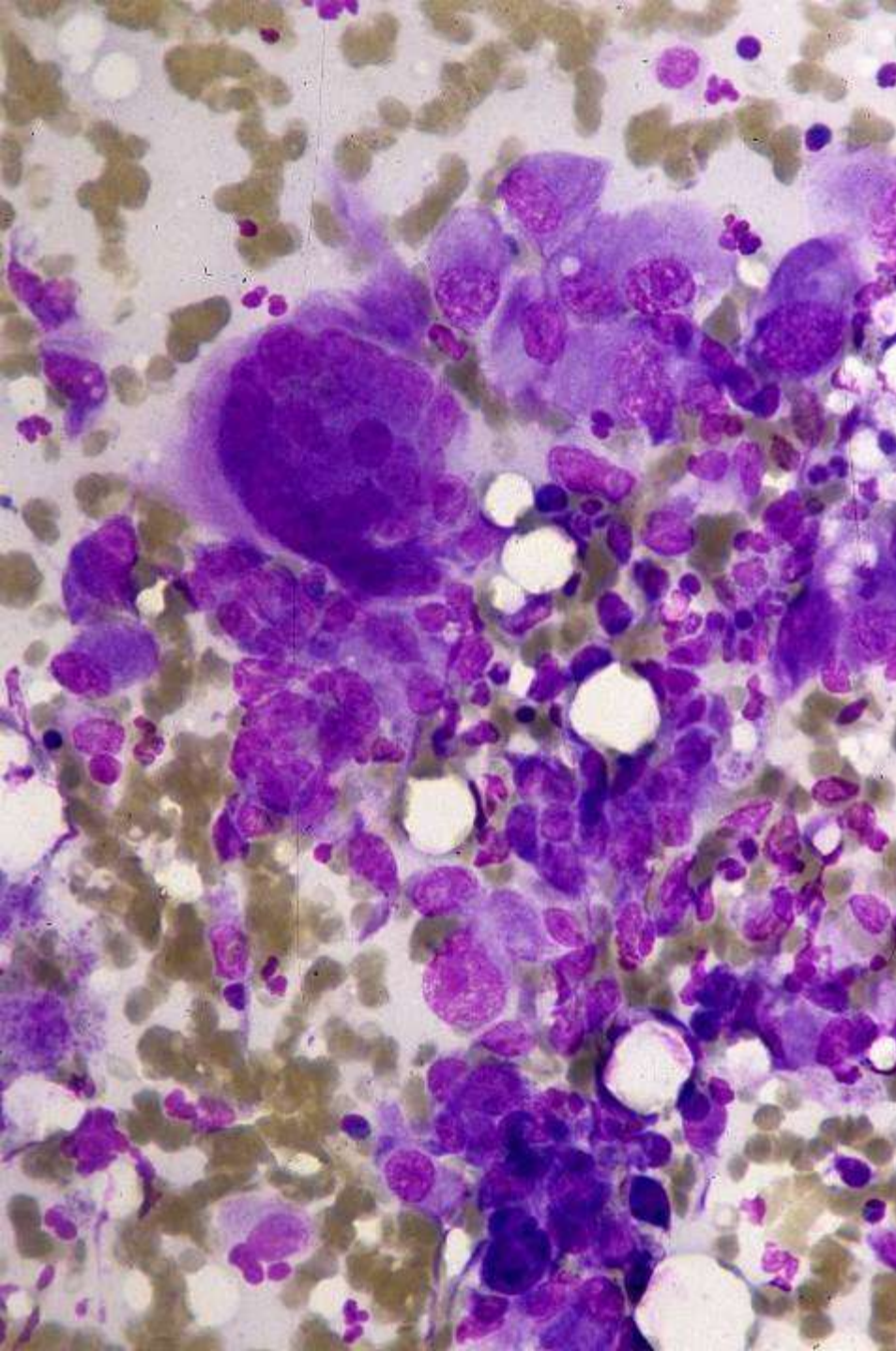
CARCINOMA MEDULAR

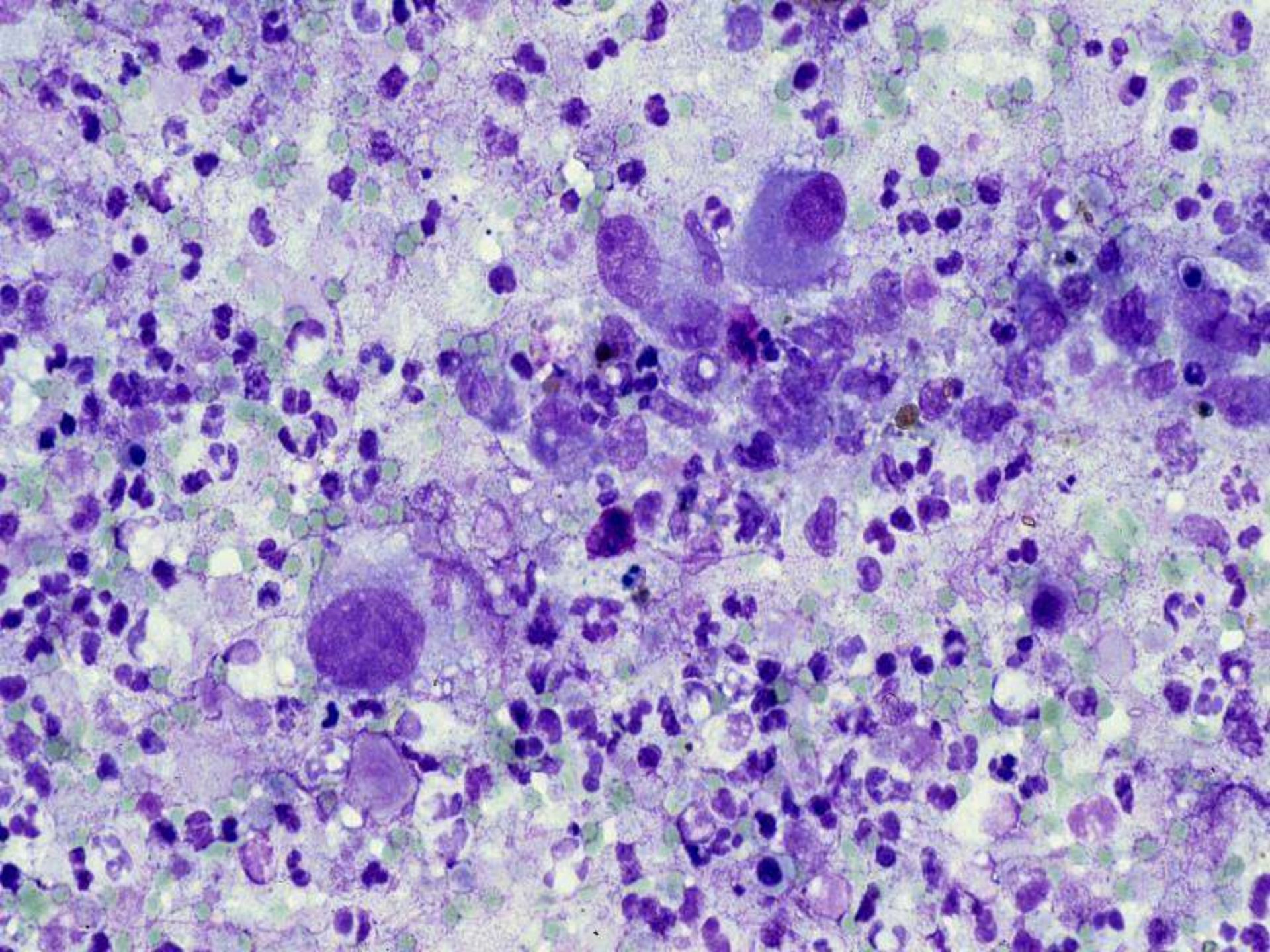
- Células en grupos o aisladas
- Citoplasmas plasmocitoides, poligonales o fusiformes
- Núcleo excéntrico a veces múltiple
- Cromatina en “sal y pimienta”
- Granulación citoplásmica
- Amiloide extracelular

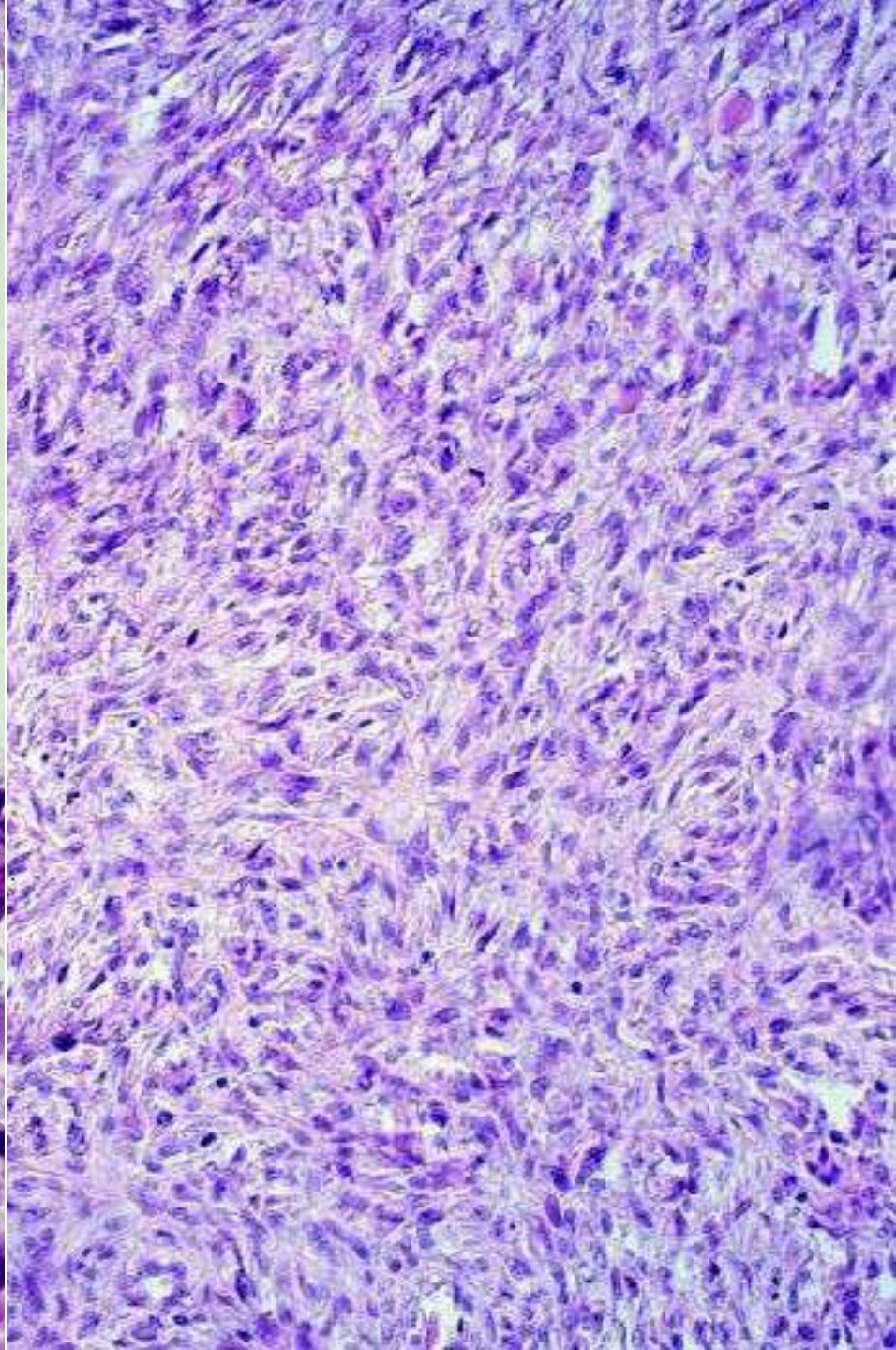
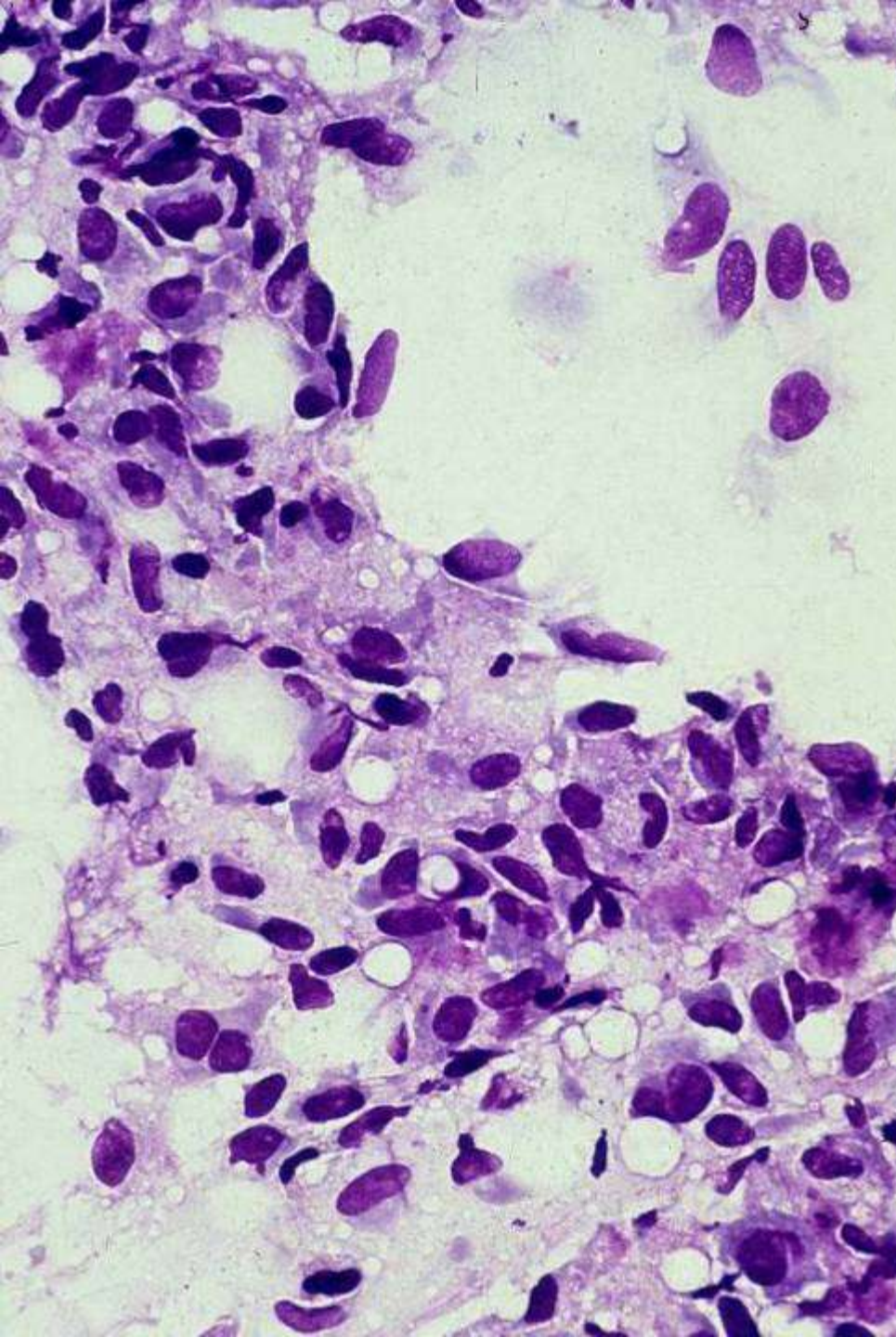


CARCINOMA ANAPLÁSICO



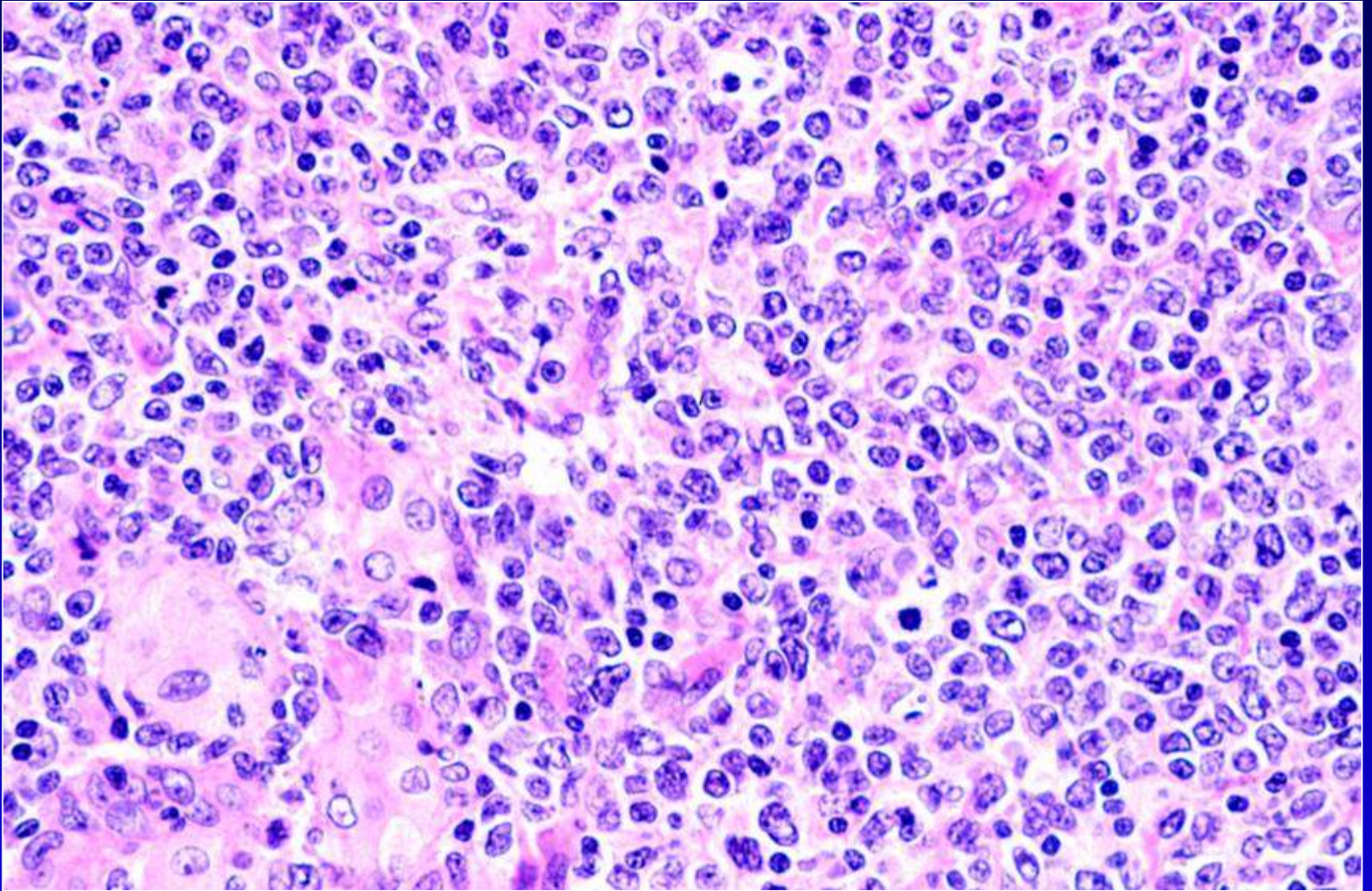






CARCINOMA ANAPLASICO

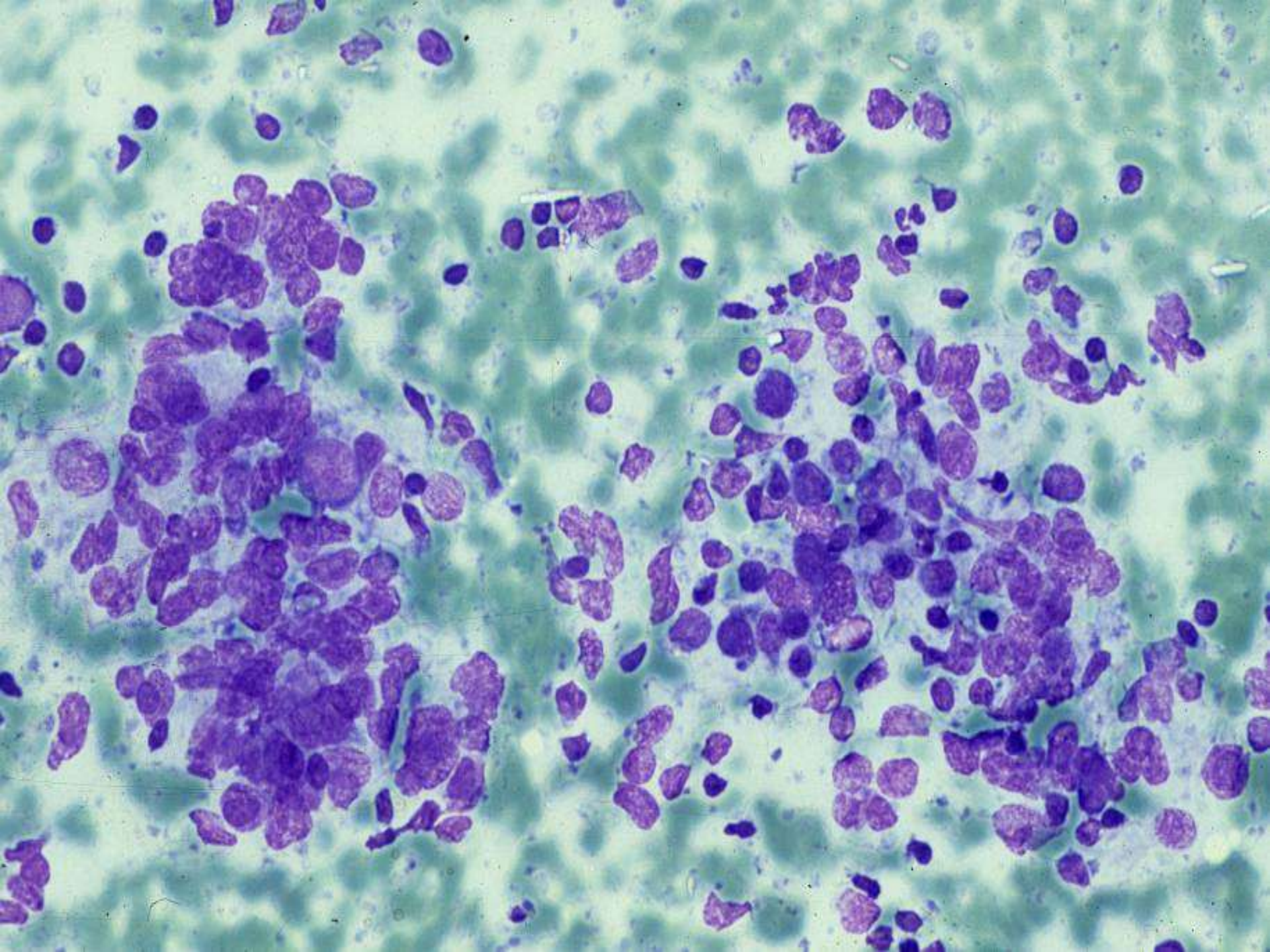
- Células grandes polimorfas o fusiformes
- Núcleos abigarrados con macronucléolos
- Células gigantes de tipo osteoclastico
- Fondo necrótico-inflamatorio
i confusión con tiroiditis aguda !

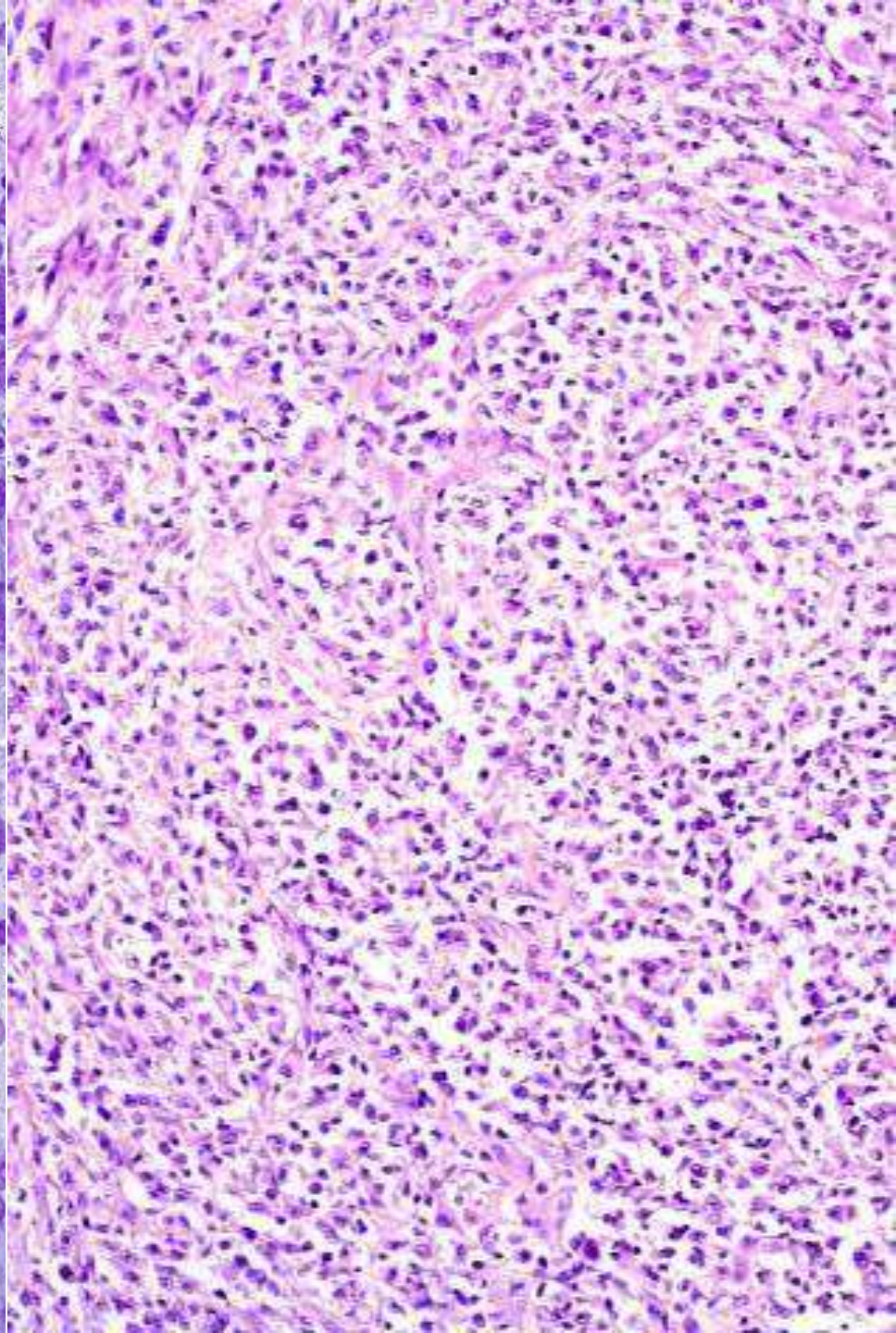
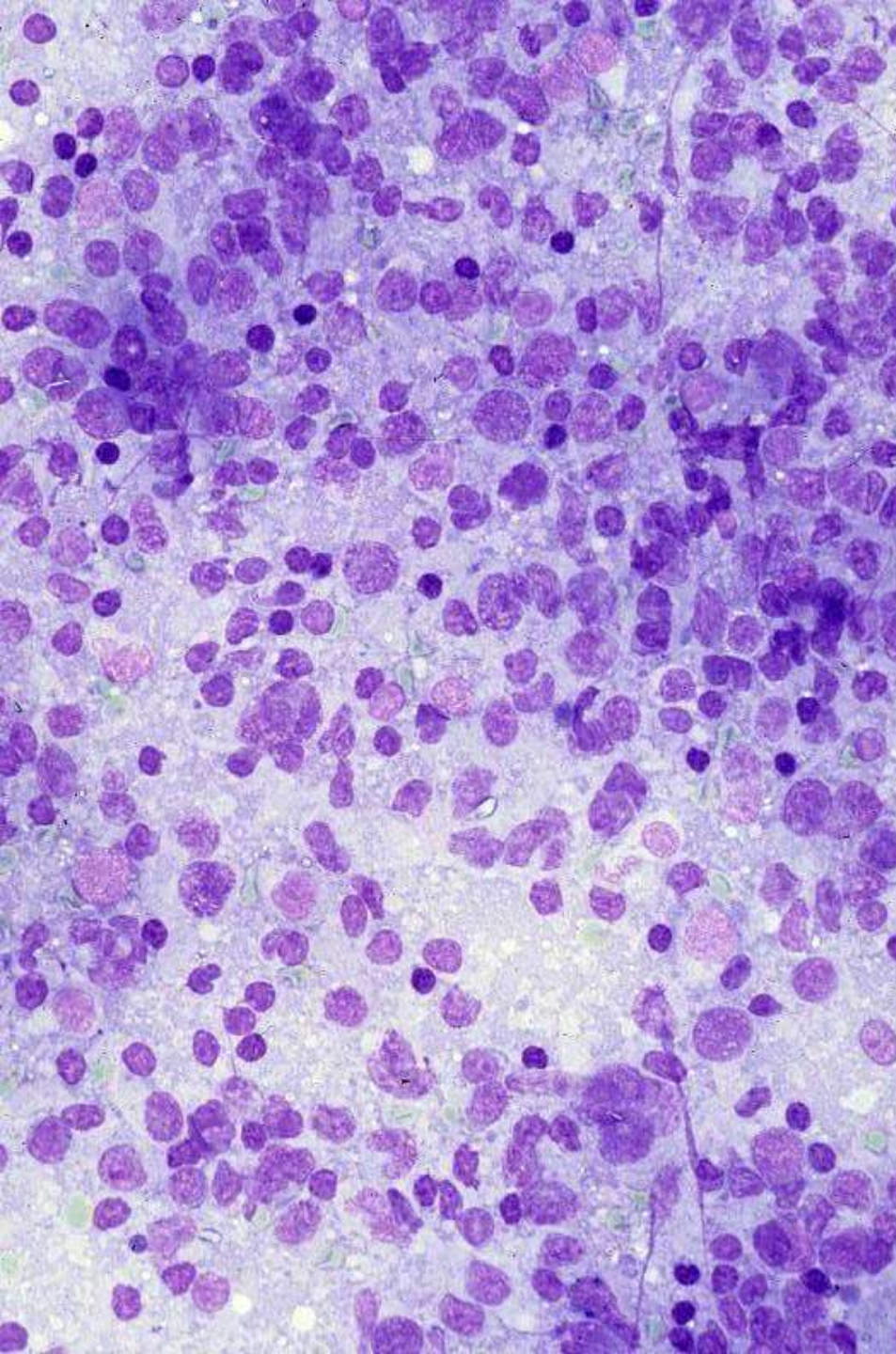


LINFOMA TIROIDEO

LINFOMAS TIROIDEOS

- Historia previa de tiroiditis crónica
- Mayoría (Linfomas B)
 - Difuso de célula grande
 - MALT
 - Mixtos
- Raros (Miscelánea)
 - Linfomas T
 - Hodgkin
 - Mieloma



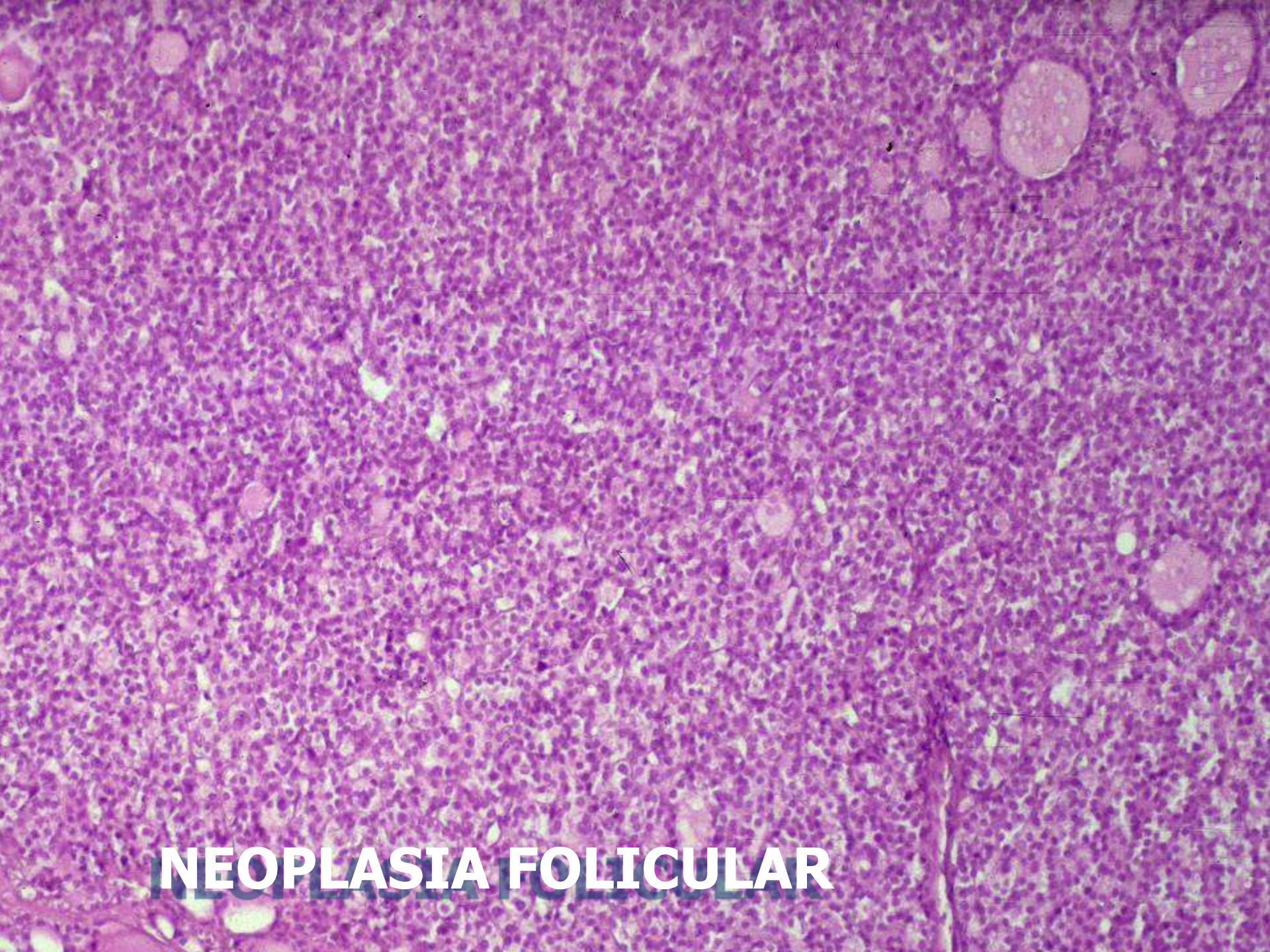


LINFOMA

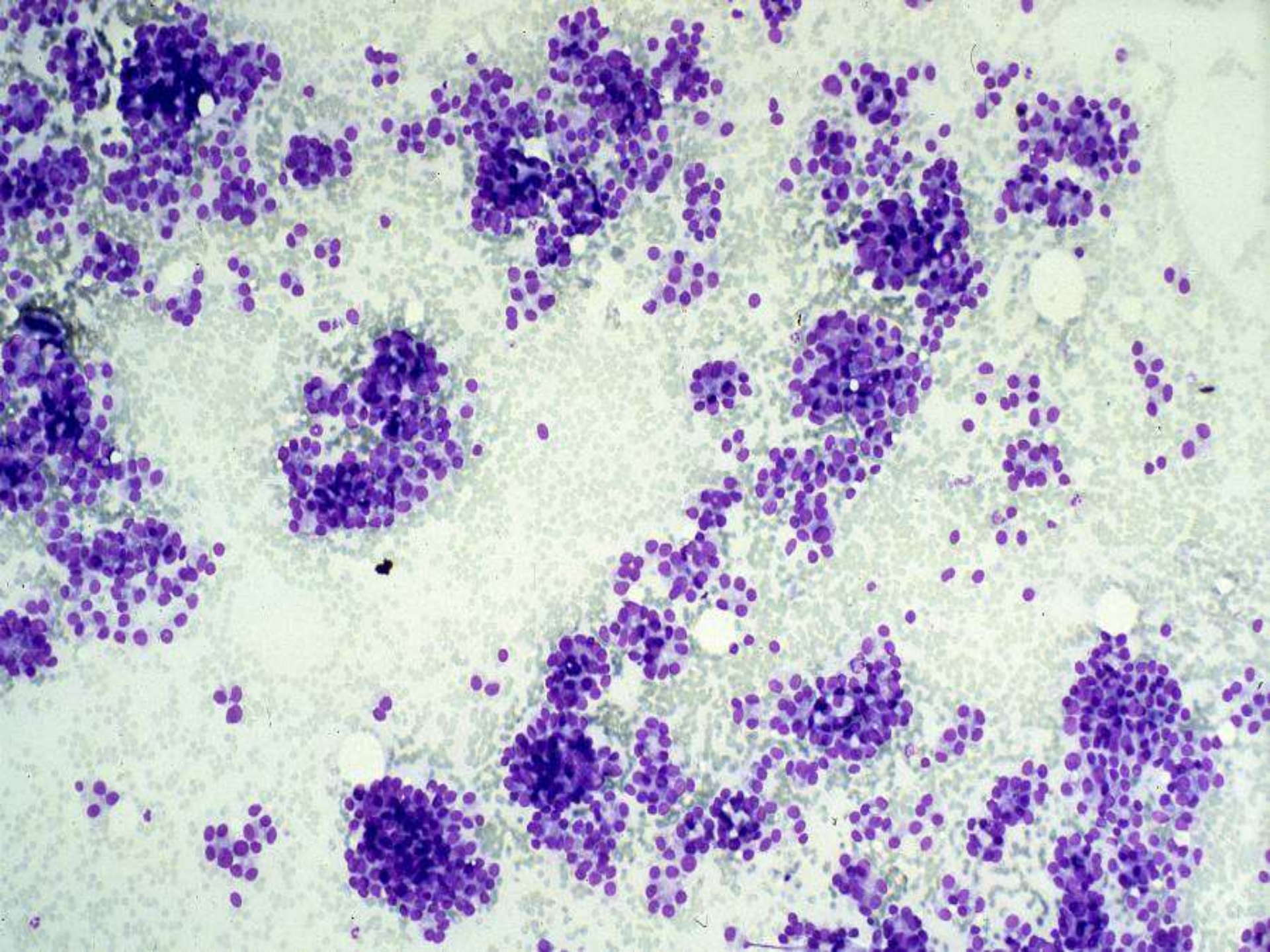
- Extendidos muy celulares sin coloide
- Población celular atípica monomorfa de hábito linfoide
- Células sueltas, no agregados
- Presencia de cuerpos linfoglandulares
- Diagnóstico Diferencial: Tiroiditis

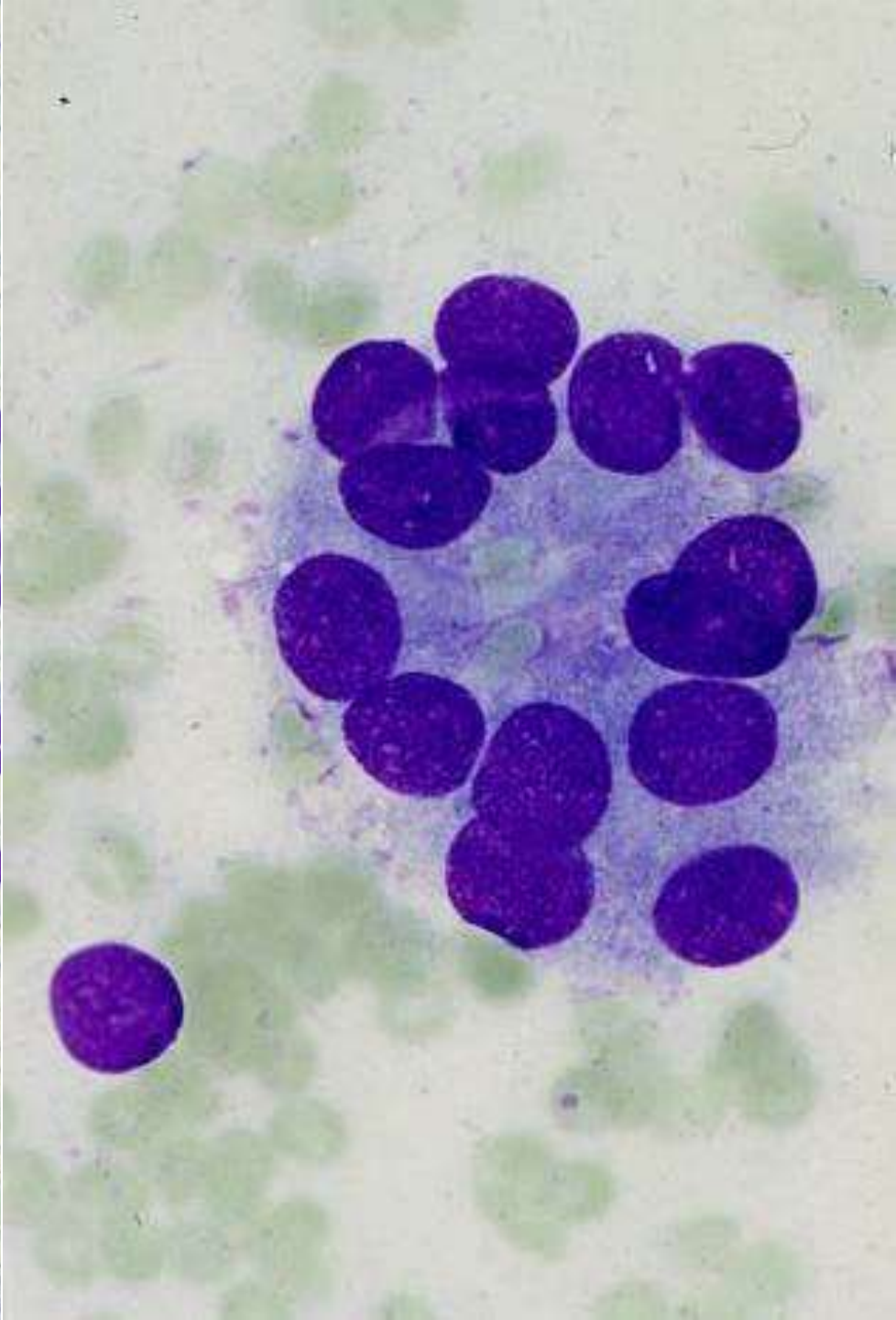
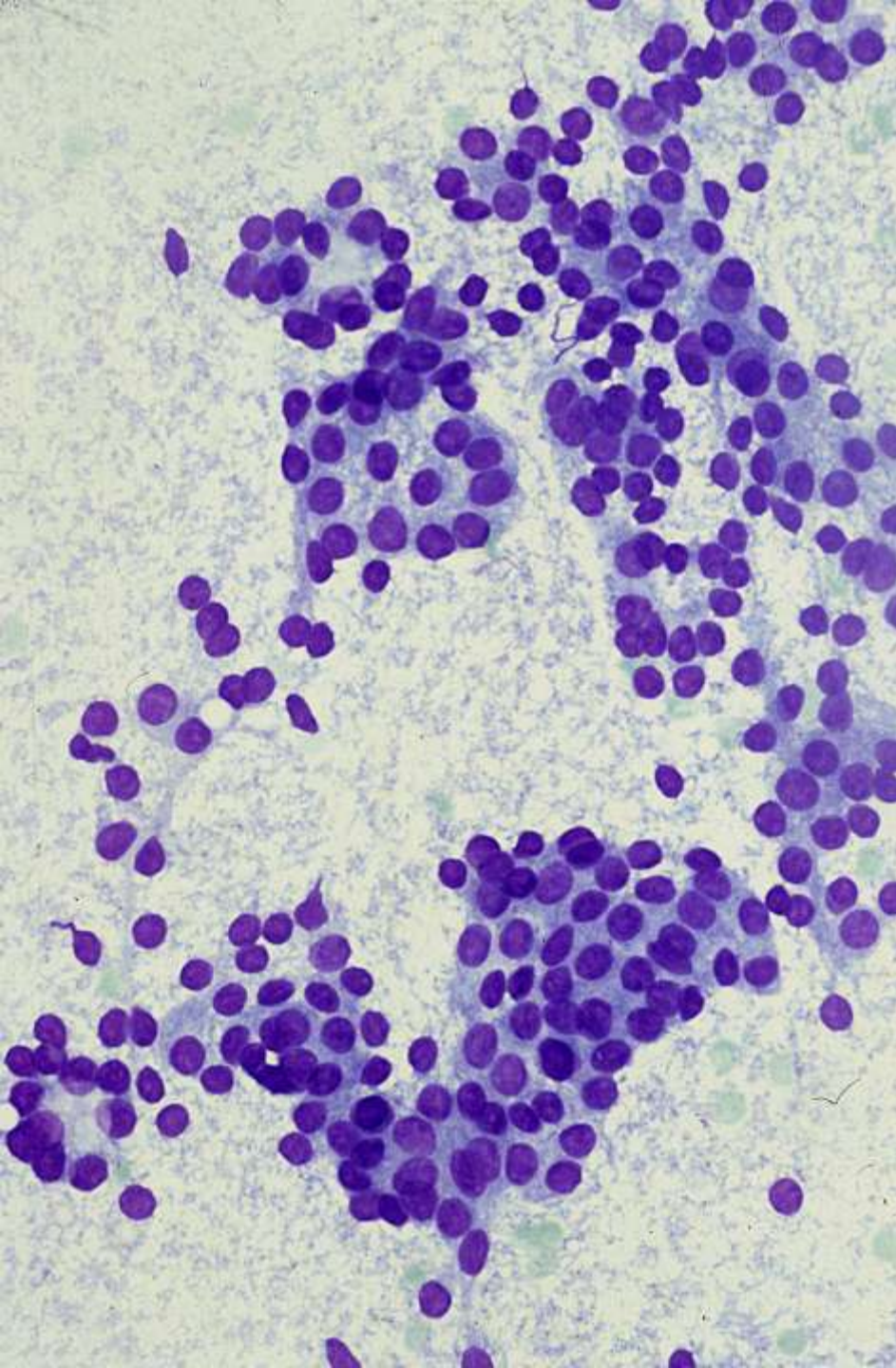
NEOPLASIA FOLICULAR

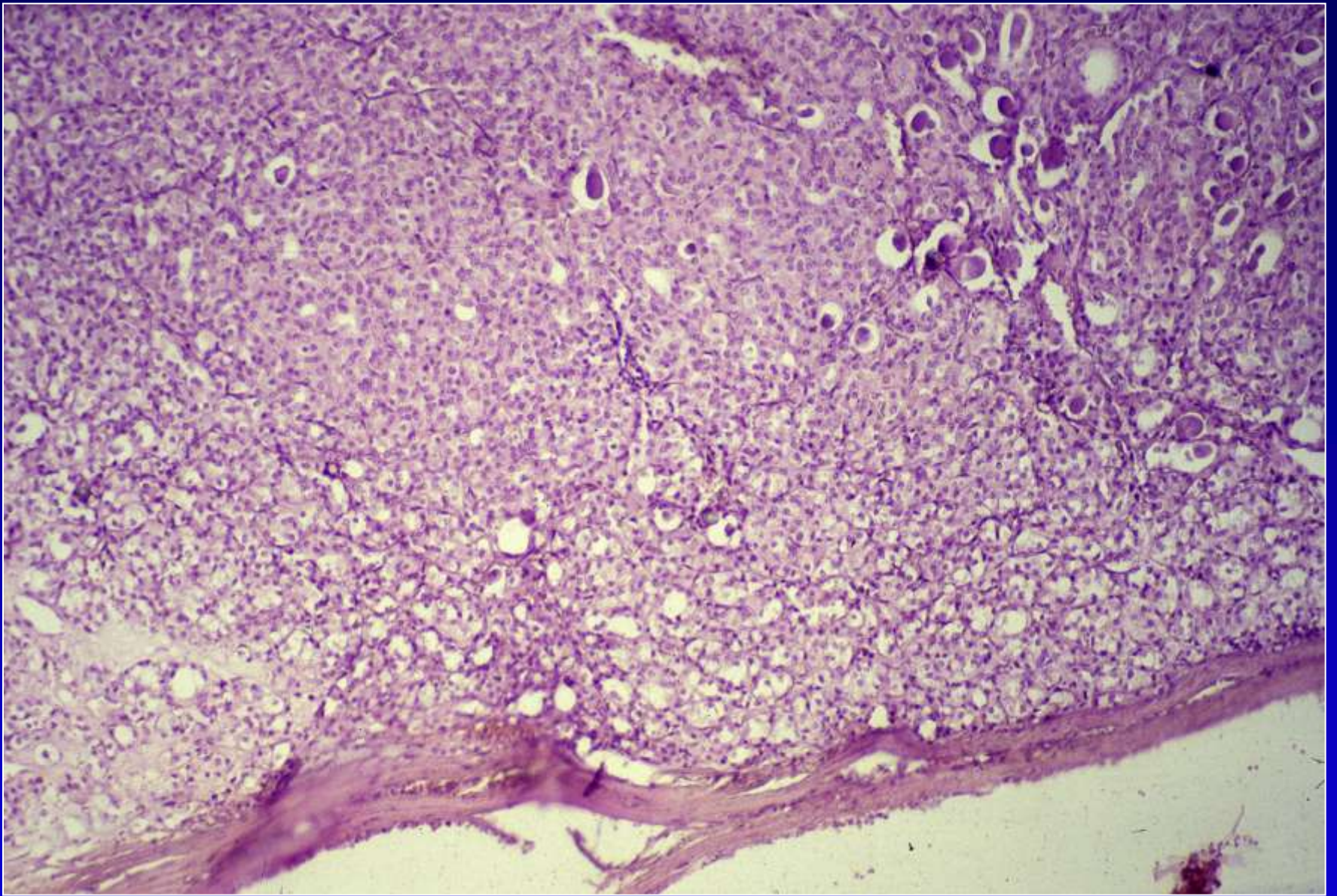
- No es posible por citología diferenciar:
 - Adenoma / Carcinoma folicular
 - Adenoma / Carcinoma cel. oxifilicas



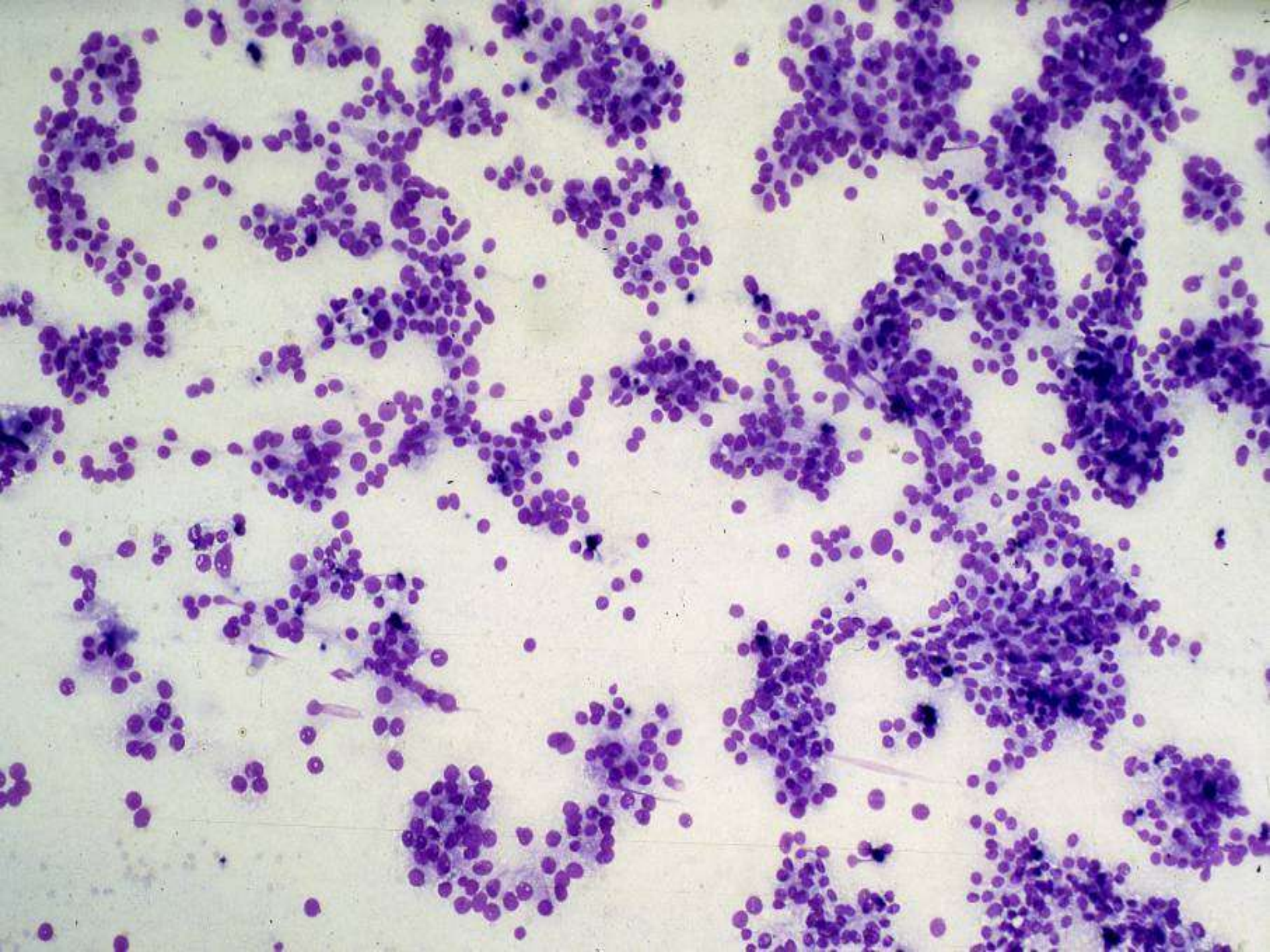
NEOPLASIA FOLICULAR

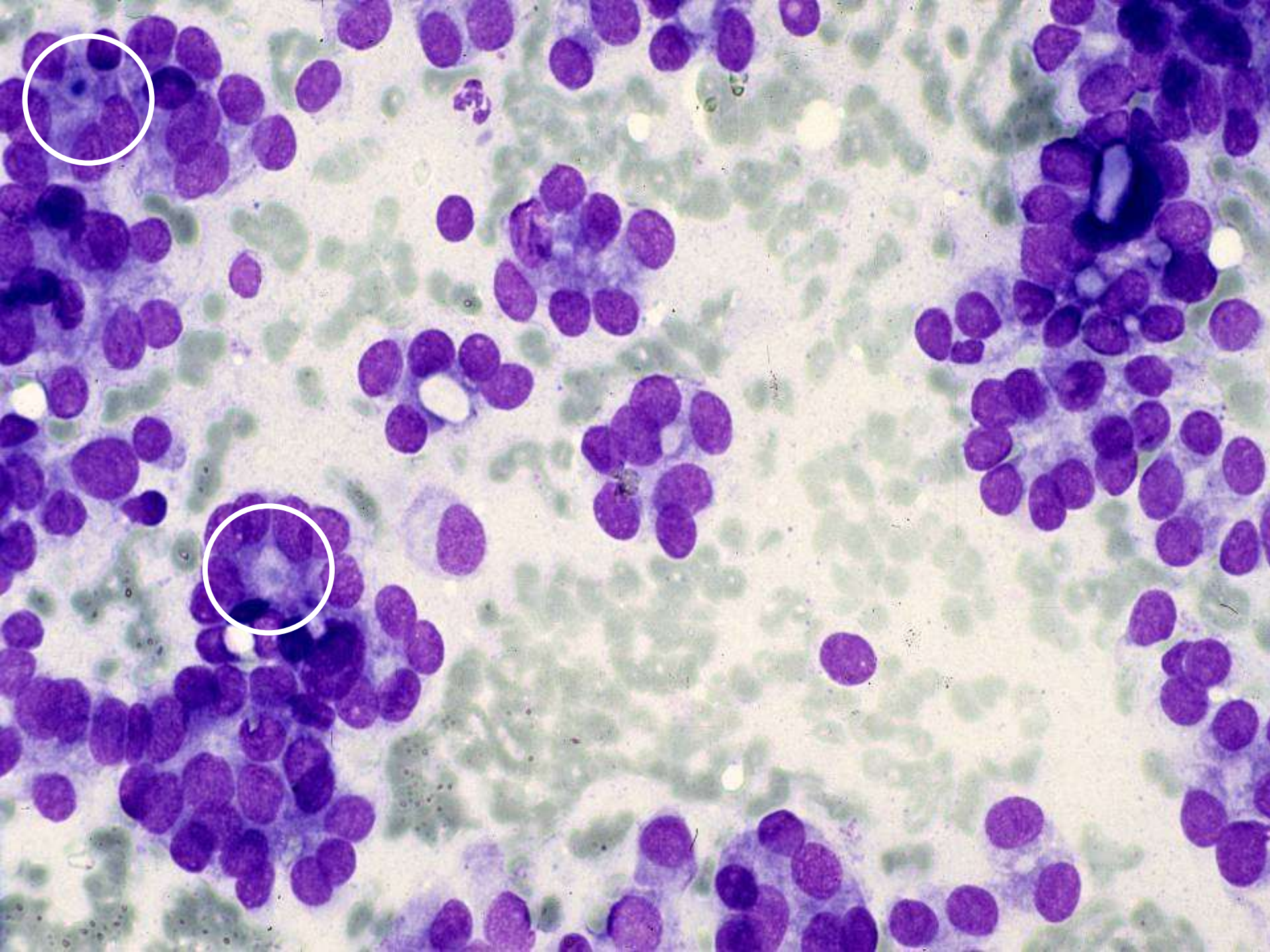


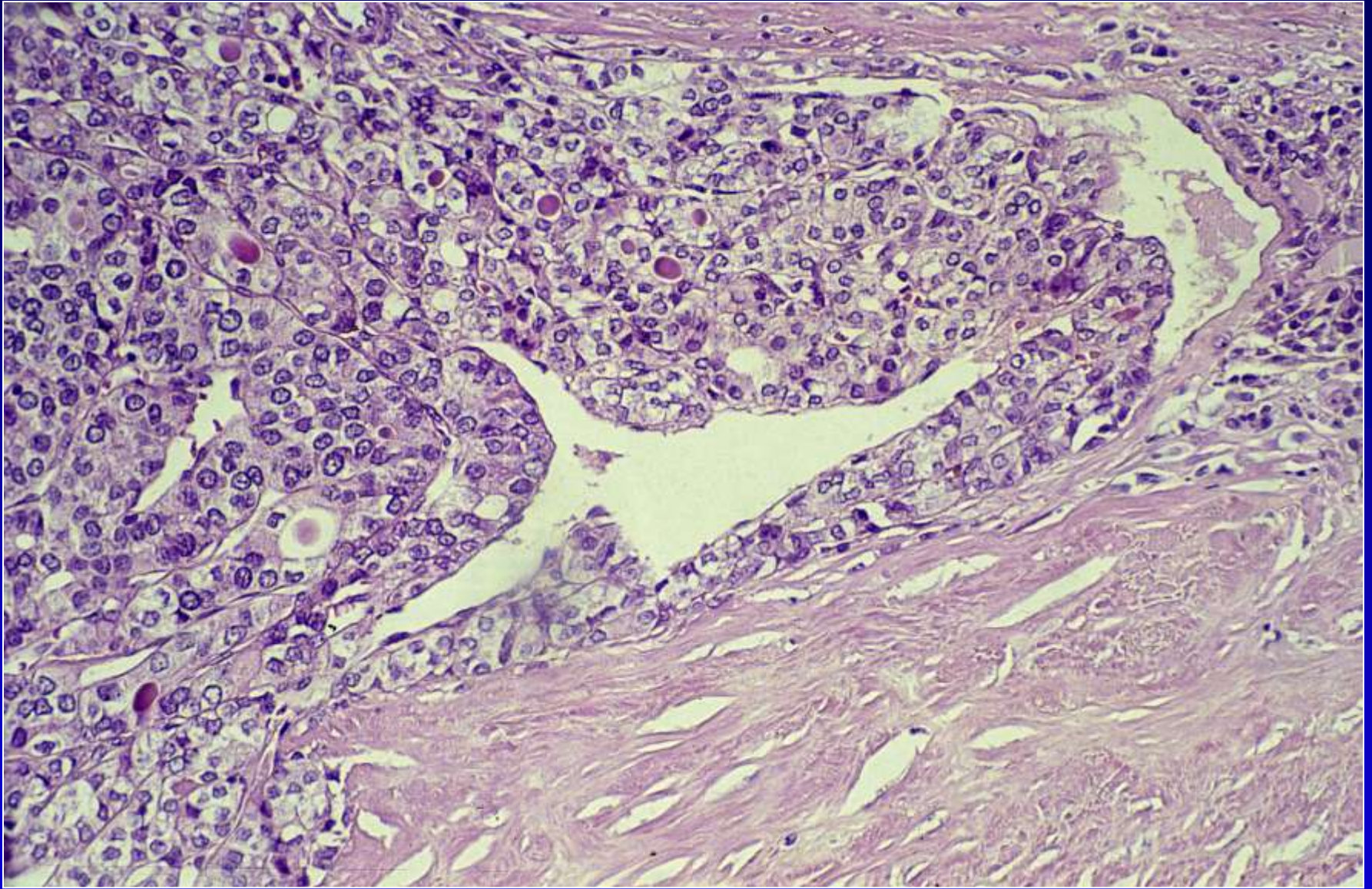




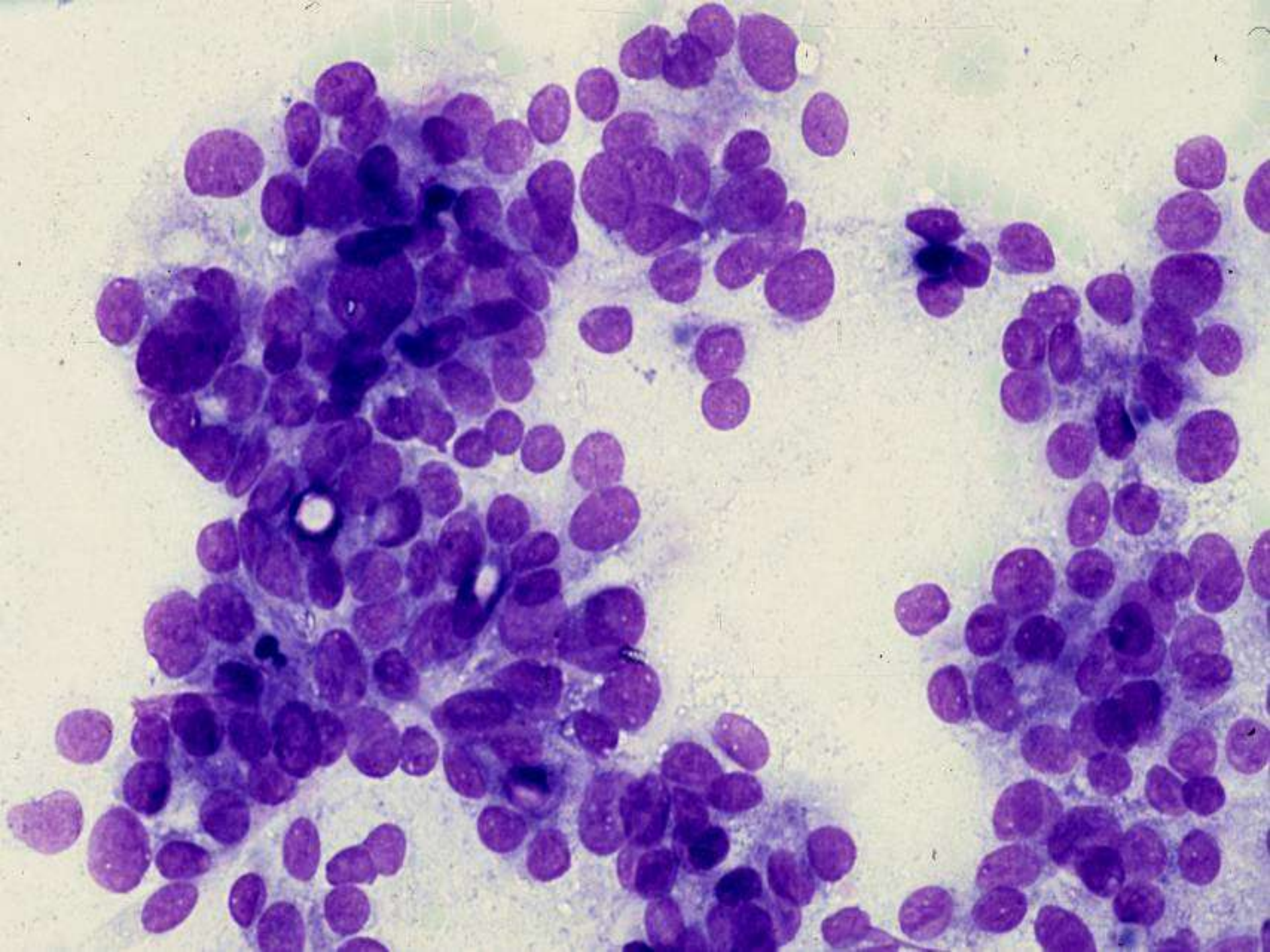
ADENOMA FOLICULAR







CARCINOMA FOLICULAR

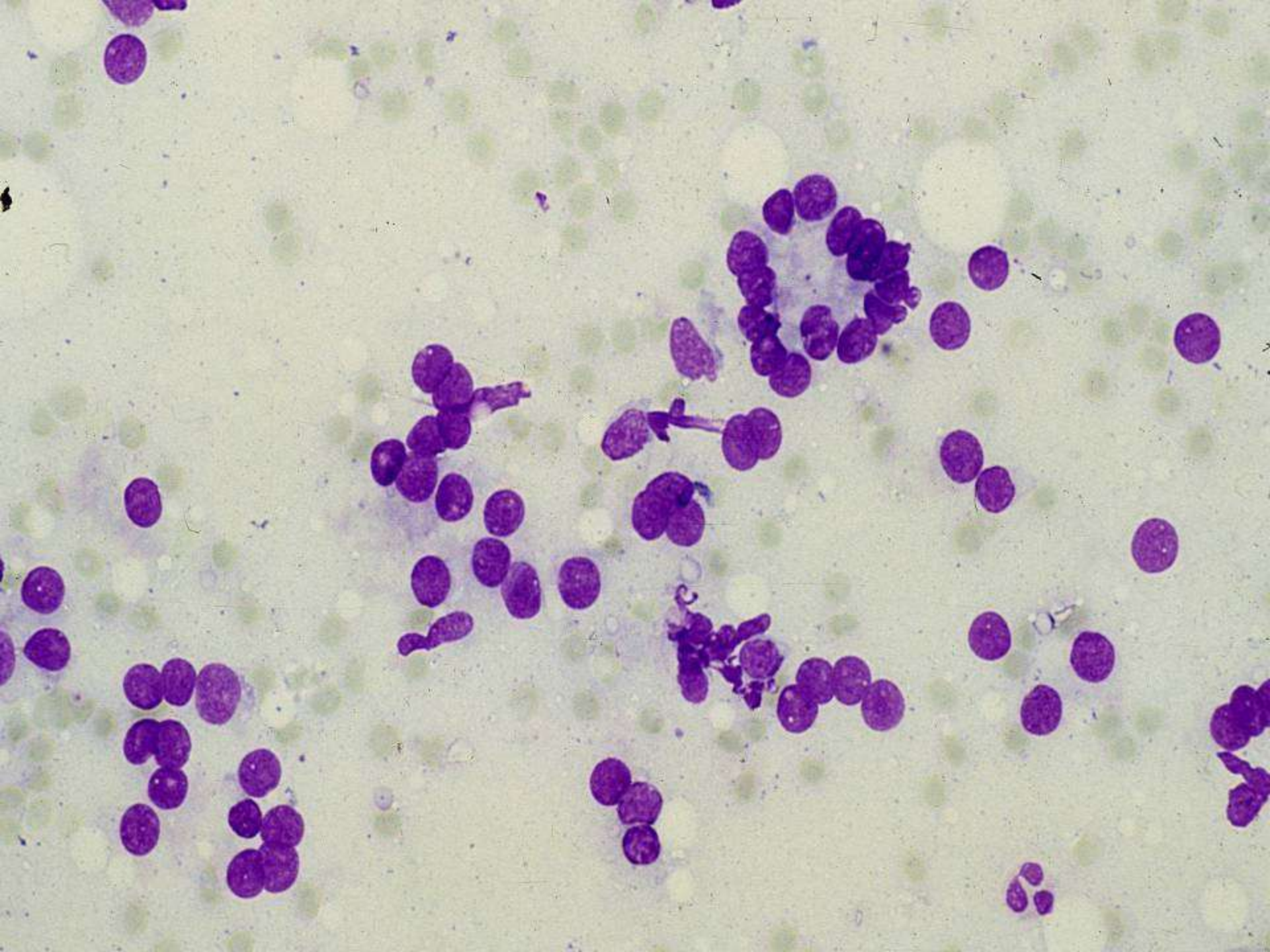


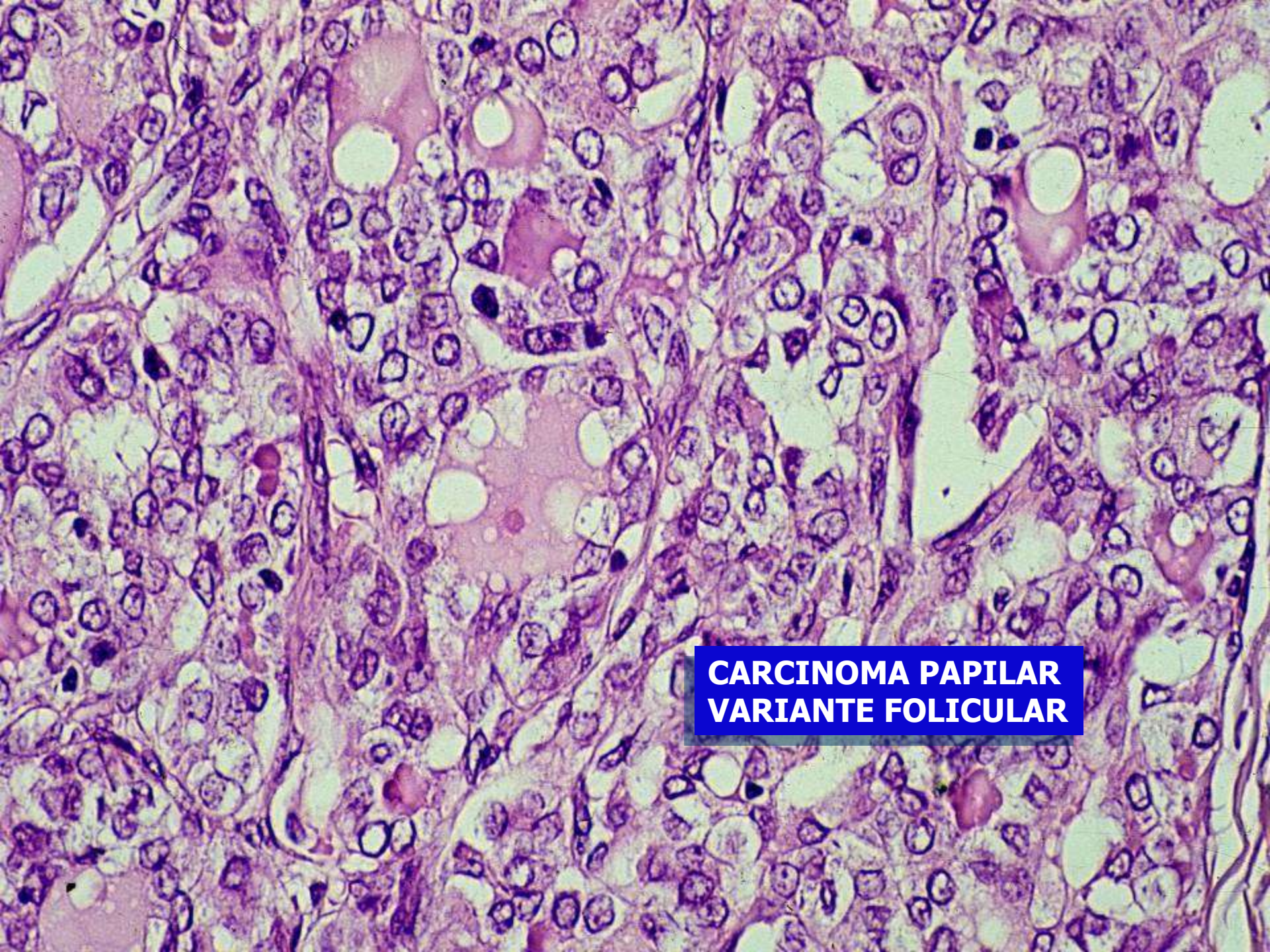
NEOPLASIA FOLICULAR

- Extensiones celulares
- Proliferación epitelial uniforme
- Estructuras microfoliculares
- Escaso coloide
- En ocasiones malignidad obvia, pero no es posible excluirla

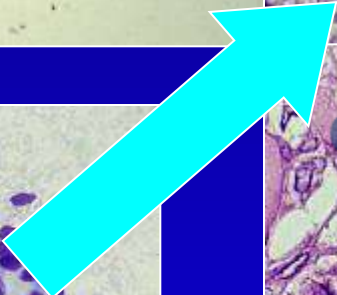
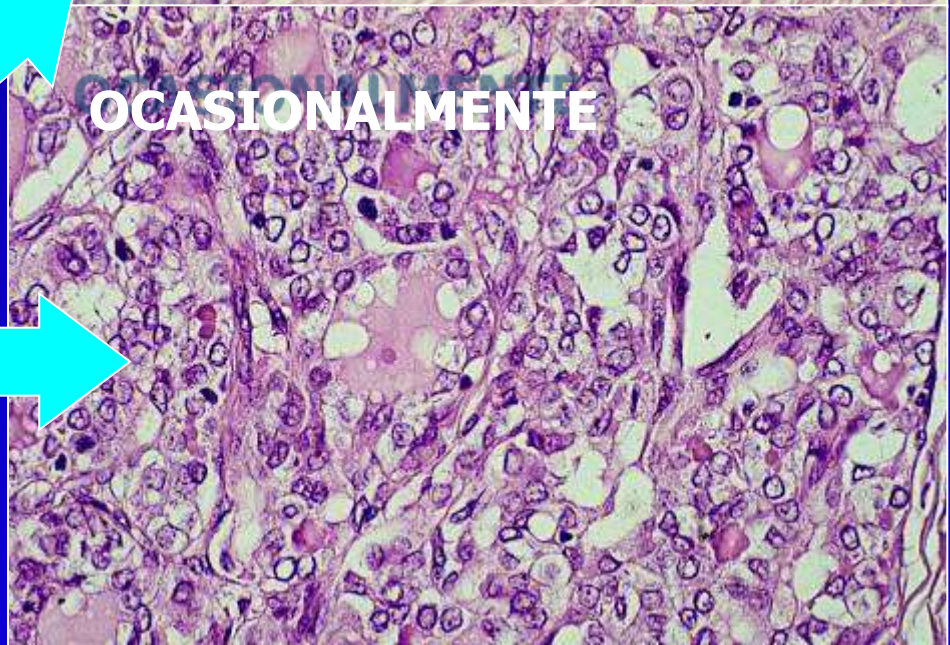
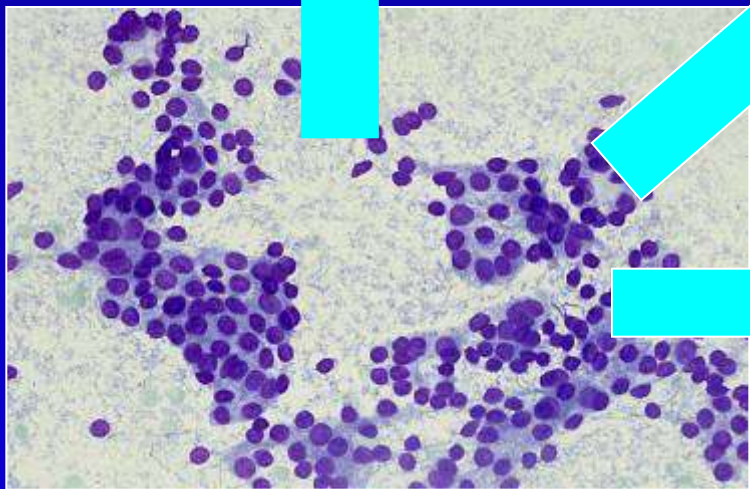
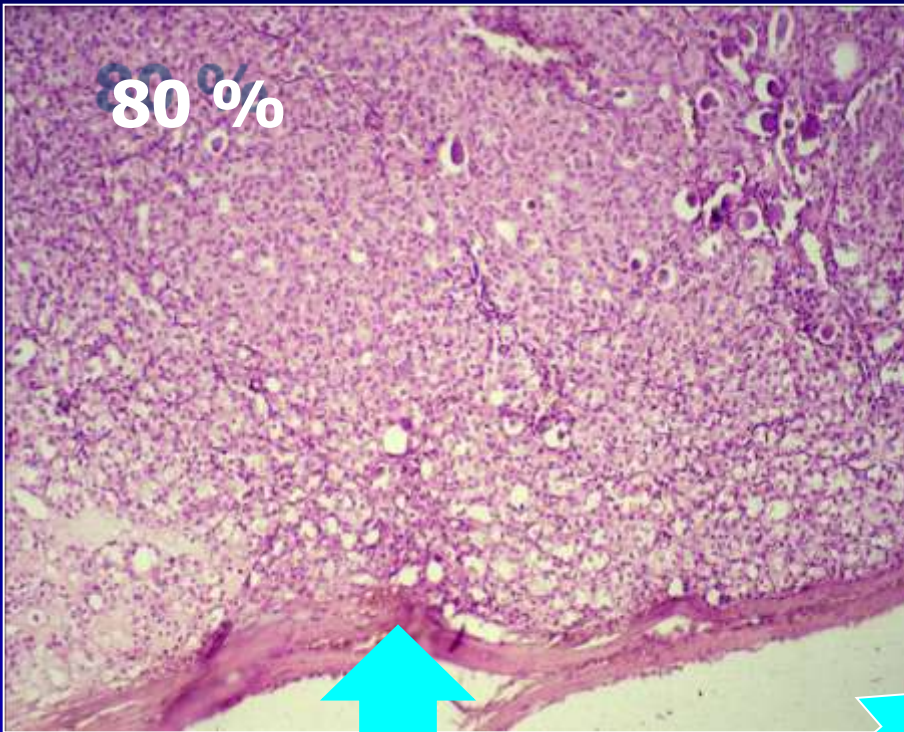
NEOPLASIA FOLICULAR

- Problemas:
 - Carcinoma papilar variante folicular
 - Bocios hiperplasicos / adenomatosos

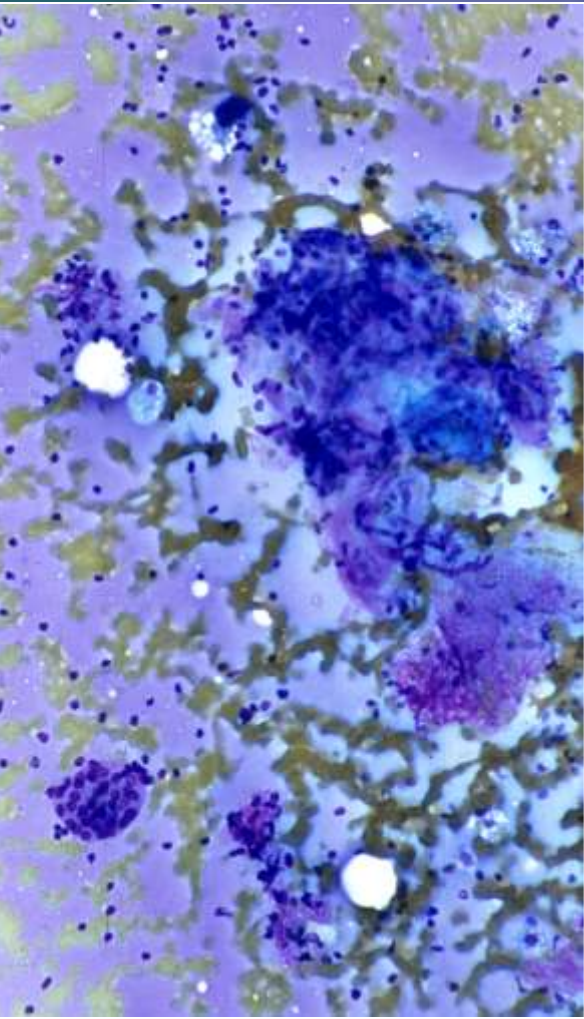




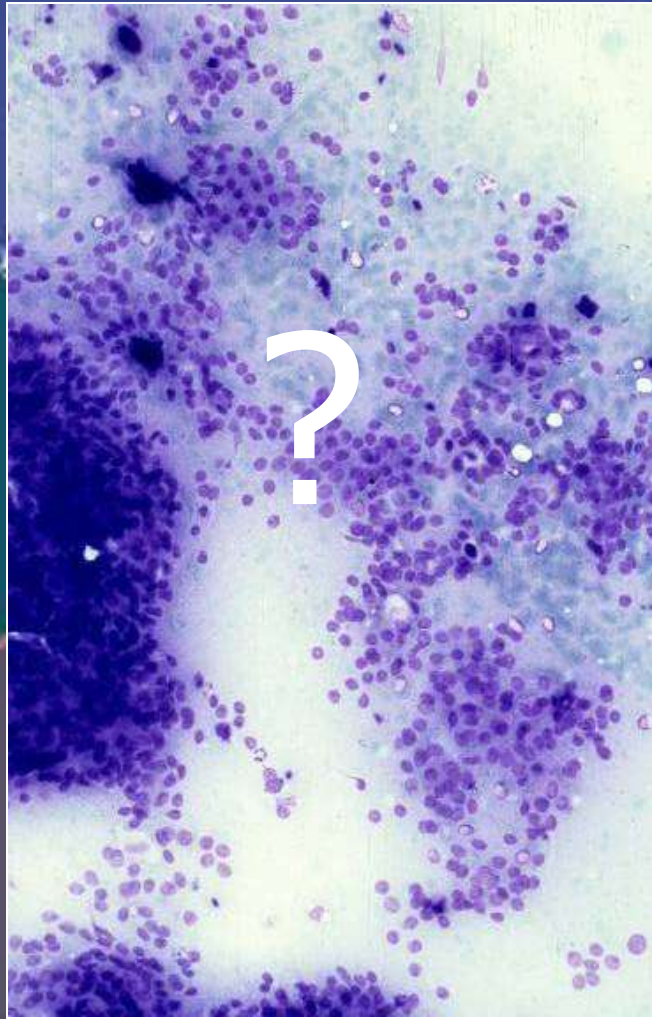
**CARCINOMA PAPILAR
VARIANTE FOLICULAR**



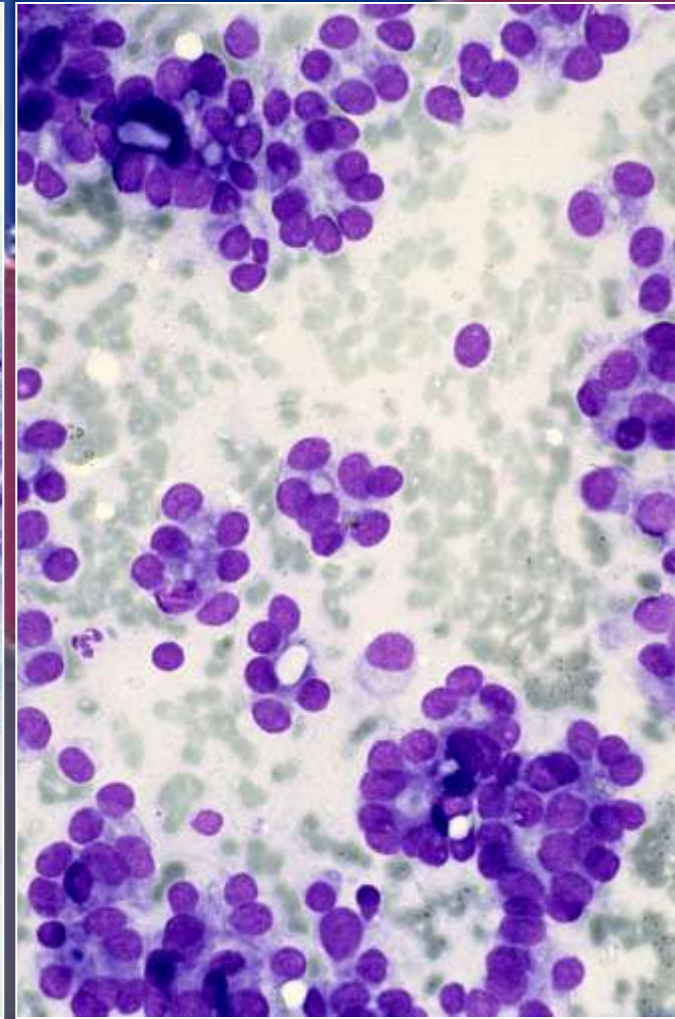
Zone
I



Zone
II



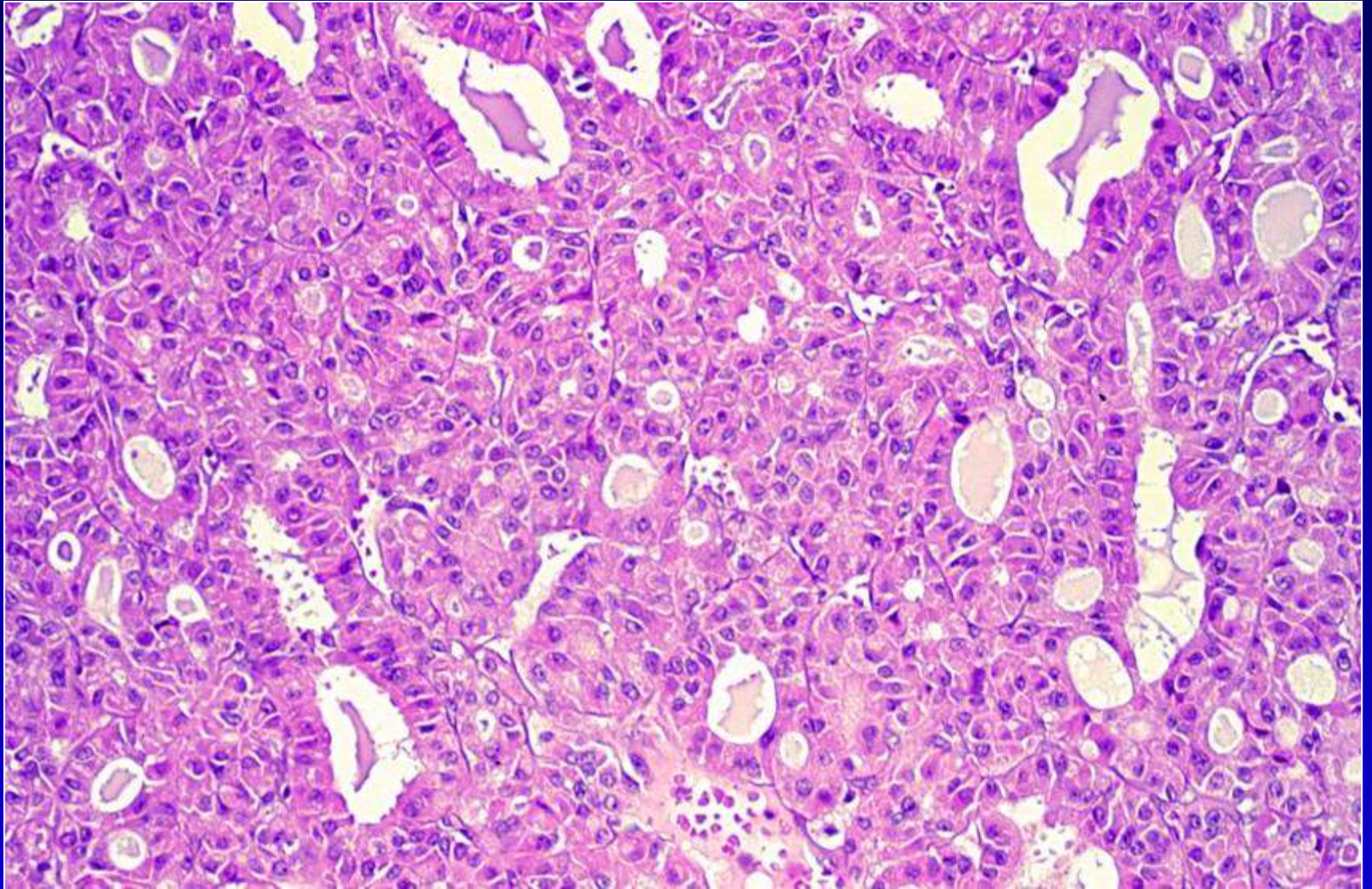
Zone
III



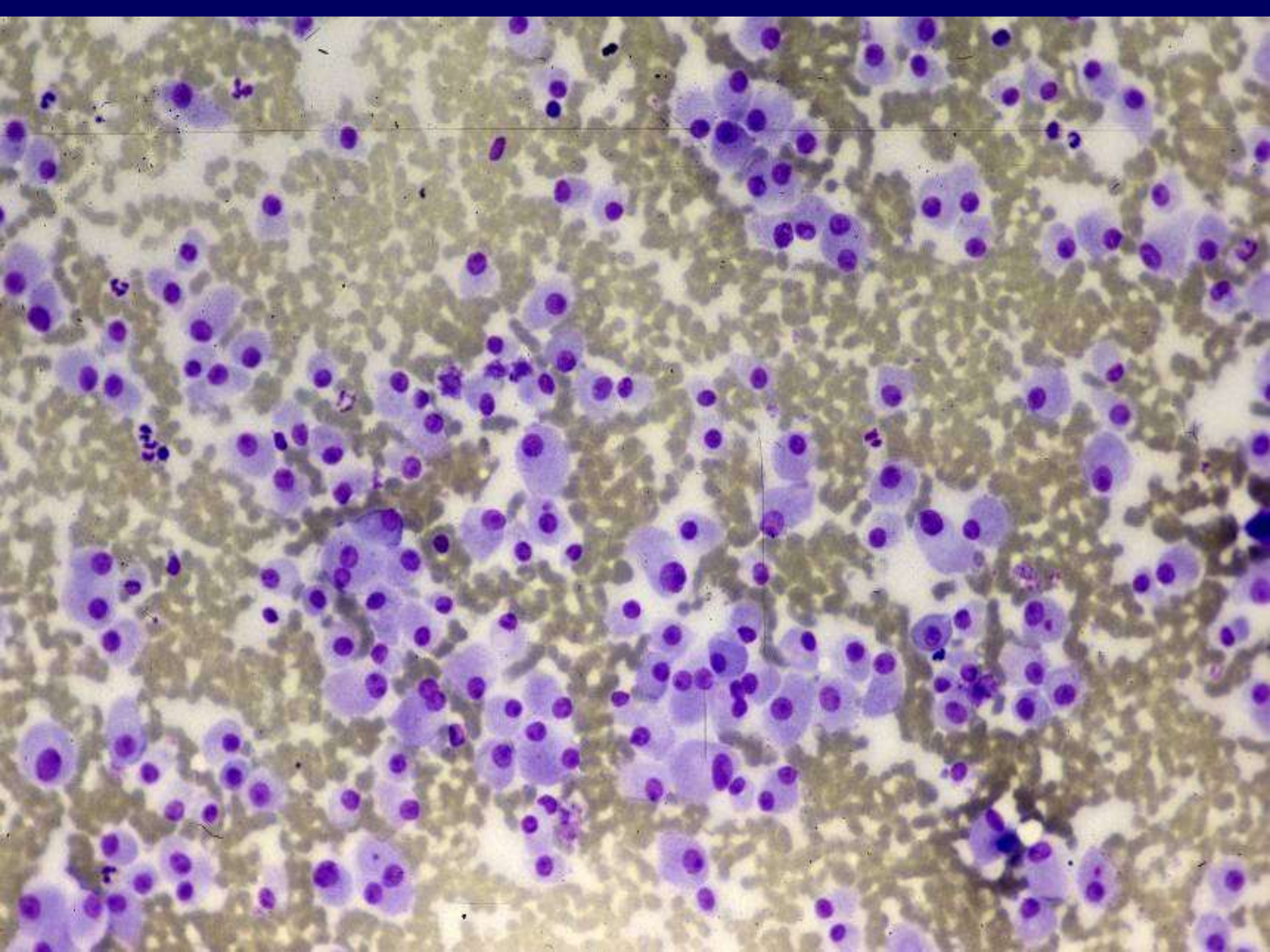
**Colloid
Nodule**

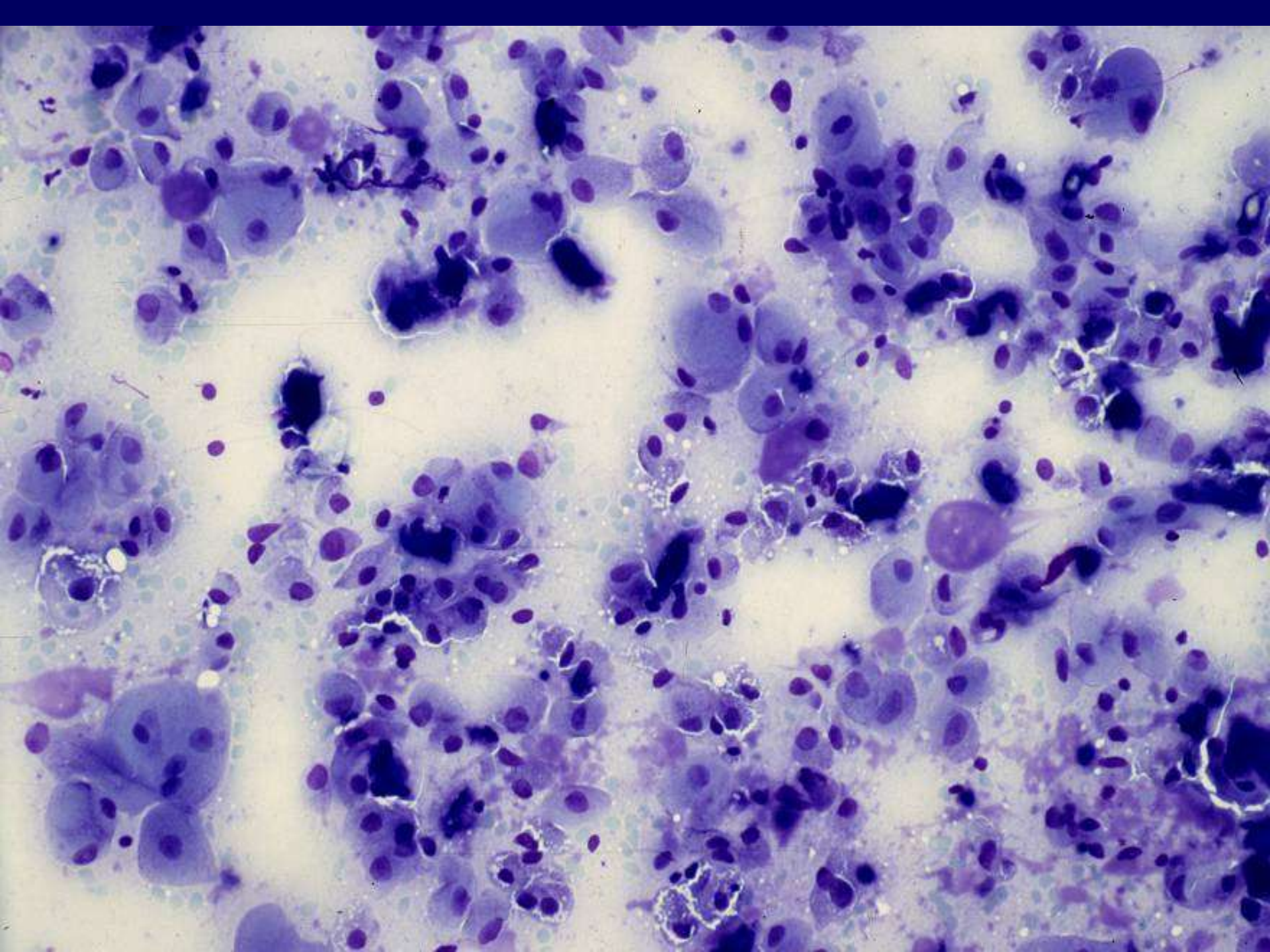
**Adenomatous
or Cellular Nodule**

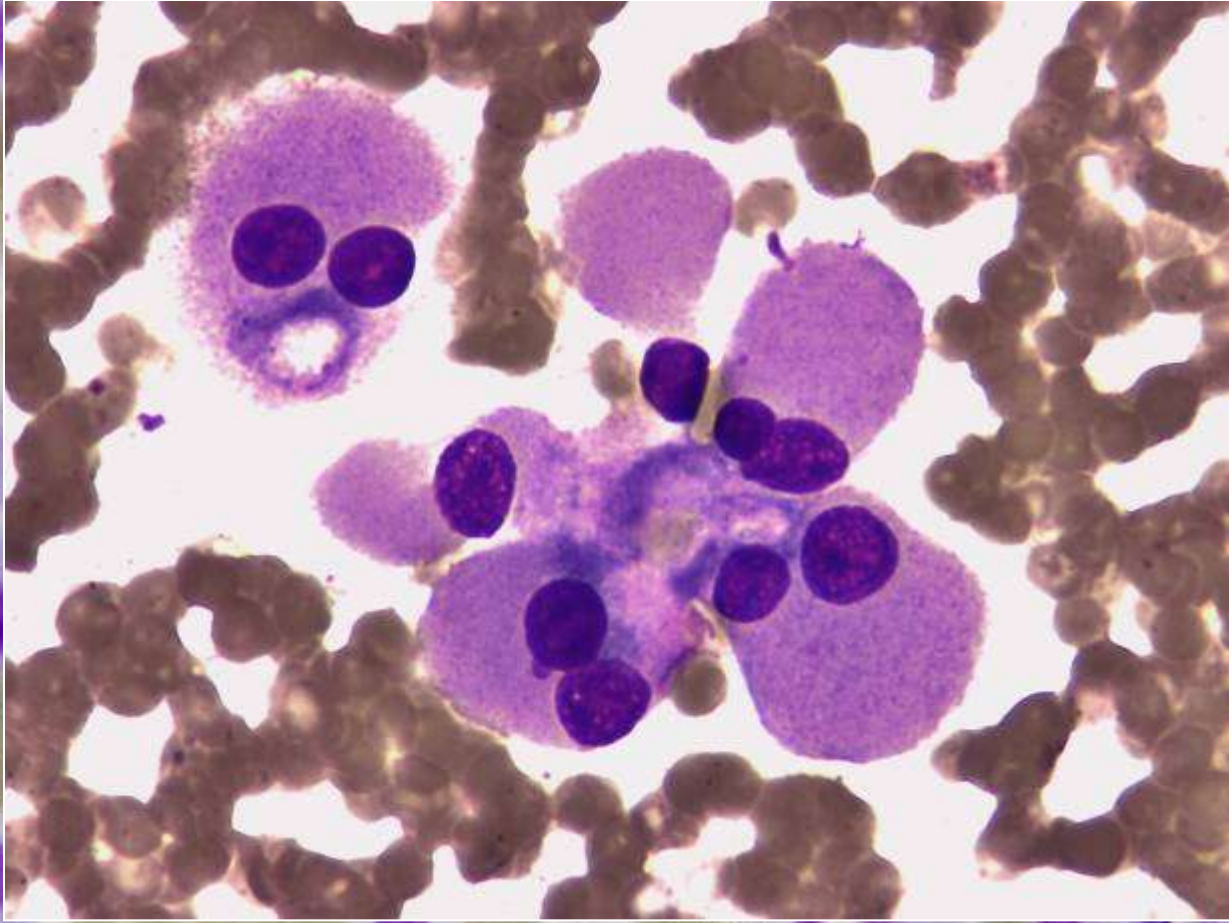
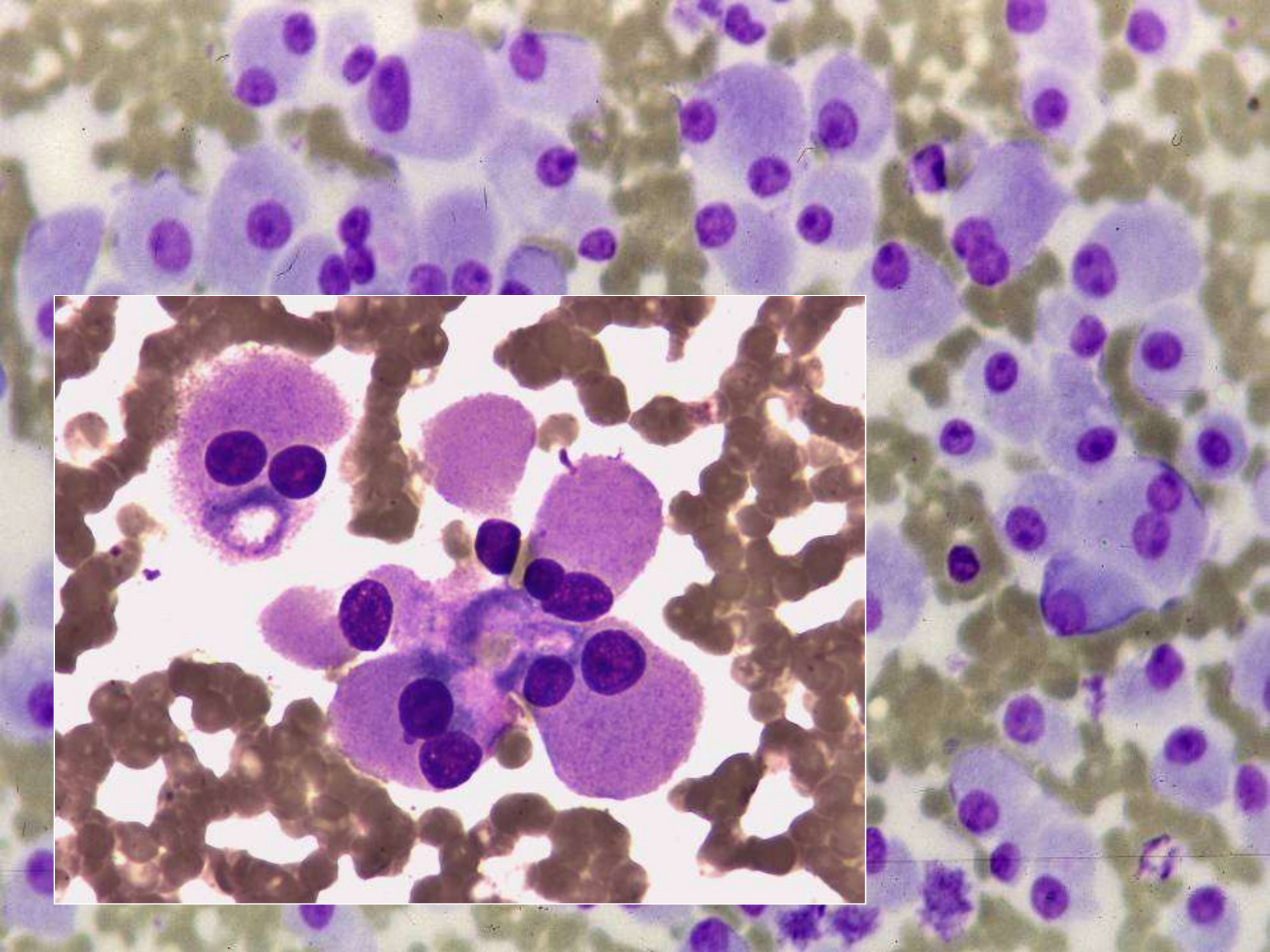
**Follicular
Neoplasm**



TUMOR CELULAS OXIFILICAS

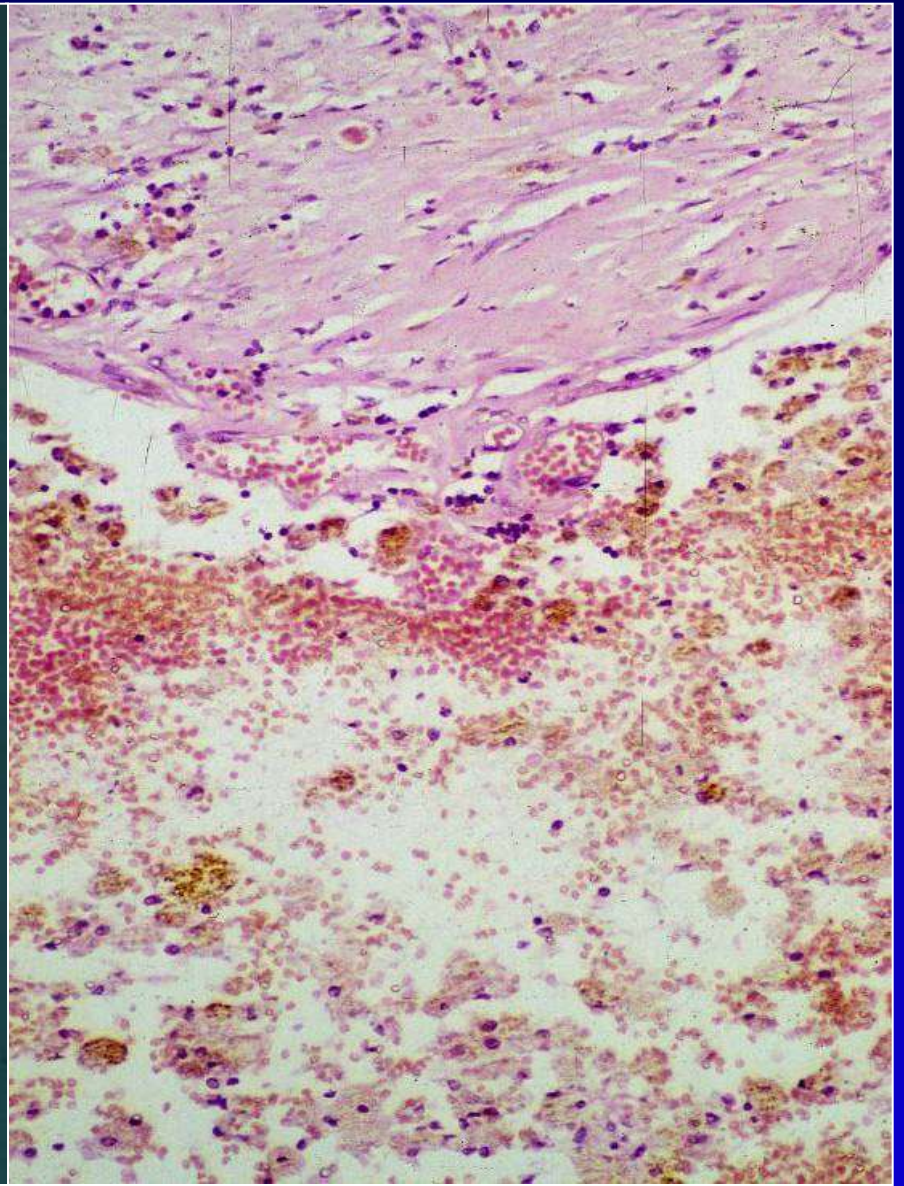






NEOPLASIA DE C. OXIFILICAS

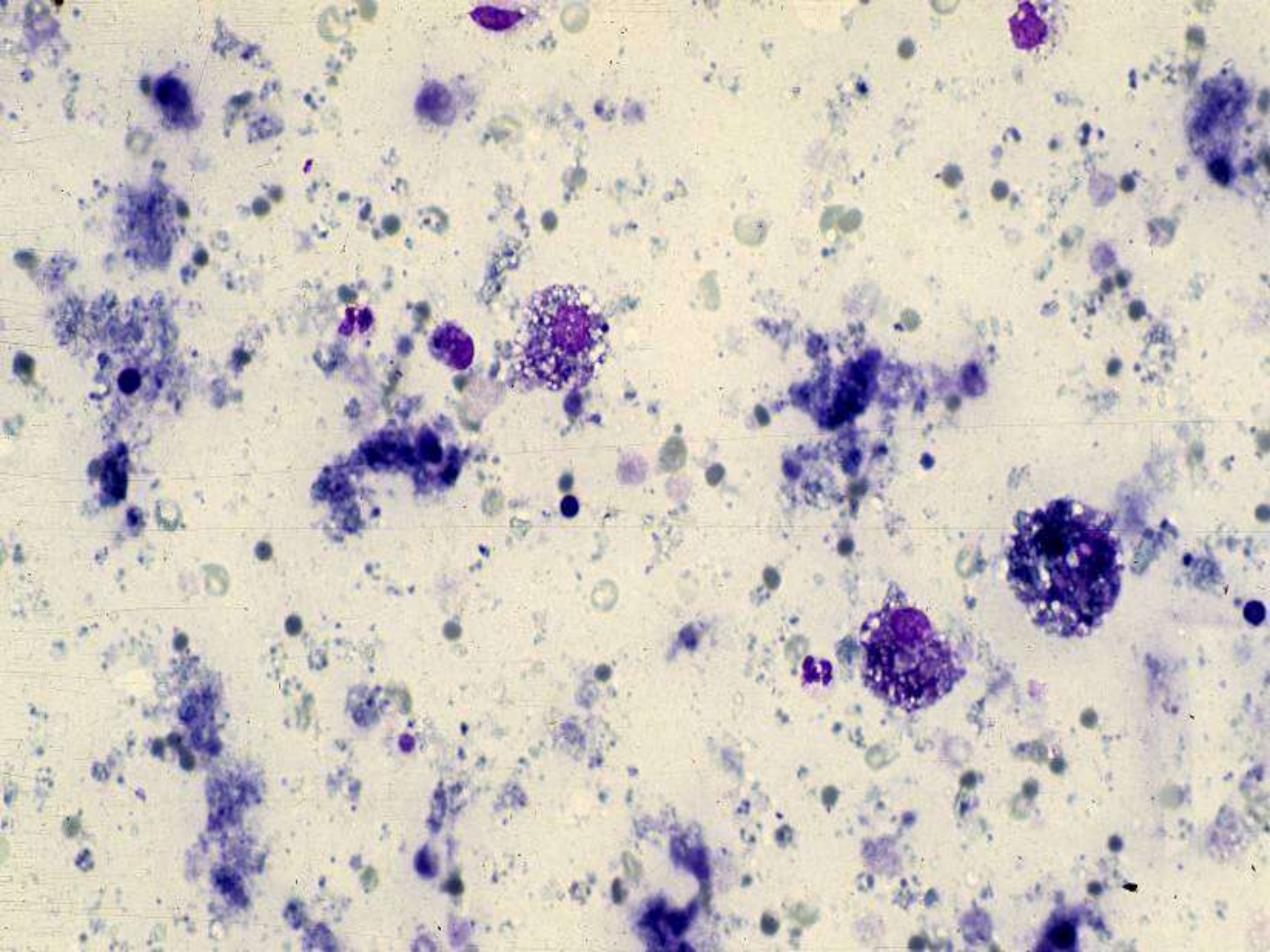
- Elevada celularidad escasamente cohesiva
- Población celular monomorfa
- Células grandes de hábito oncocítico
- Citoplasma granular y abundante
- Núcleo redondo con macronucléolo
- Coloide ausente o escaso

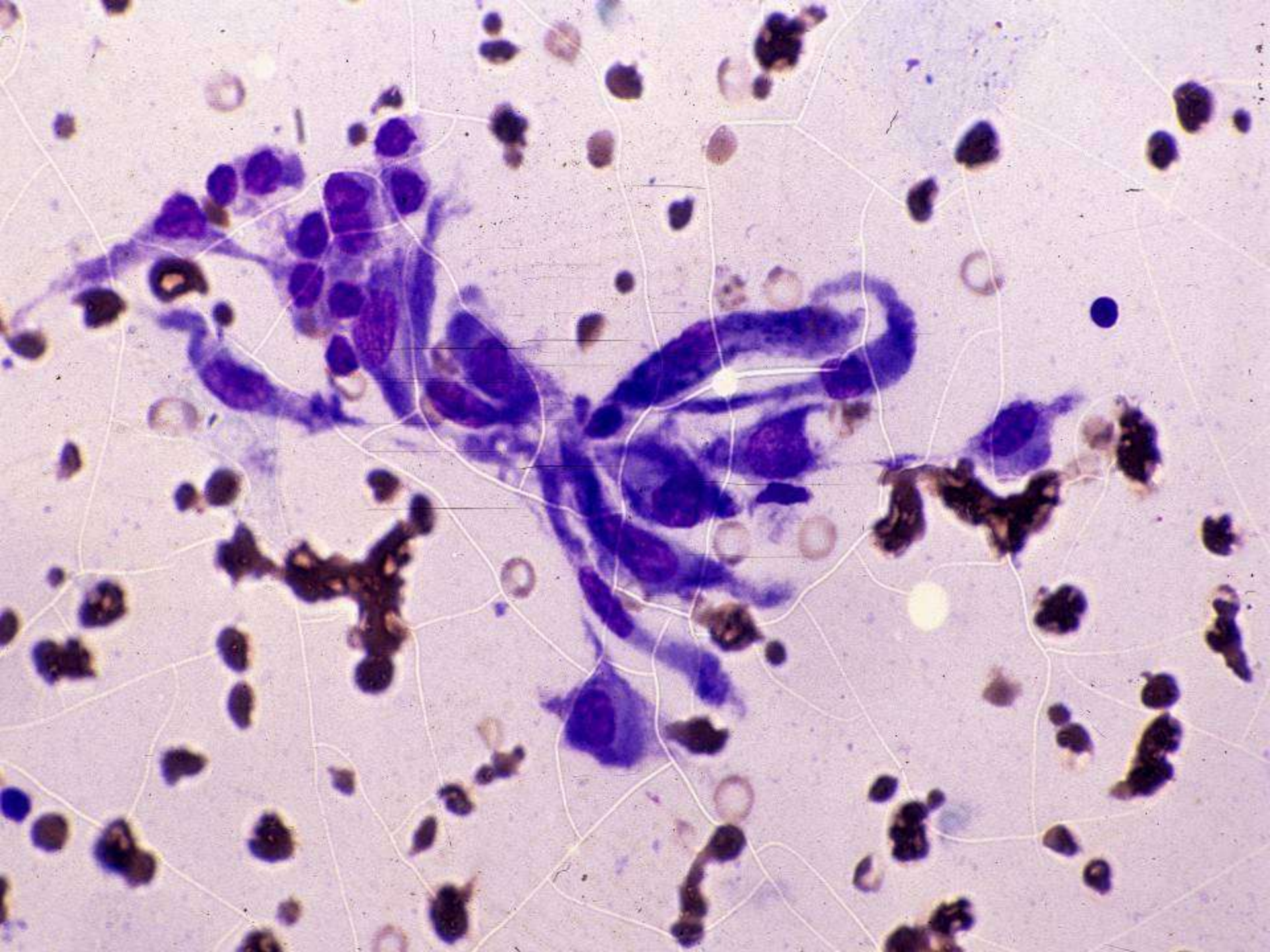


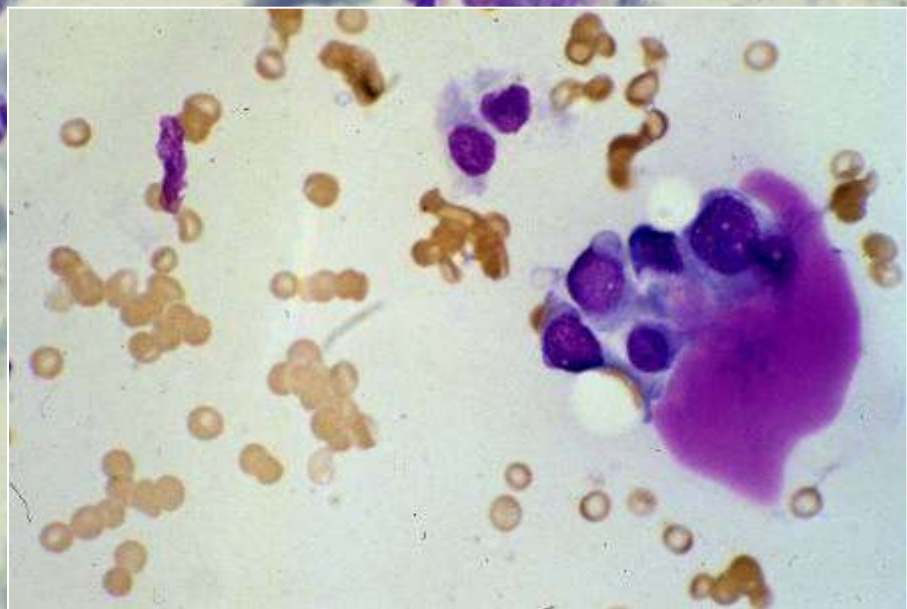
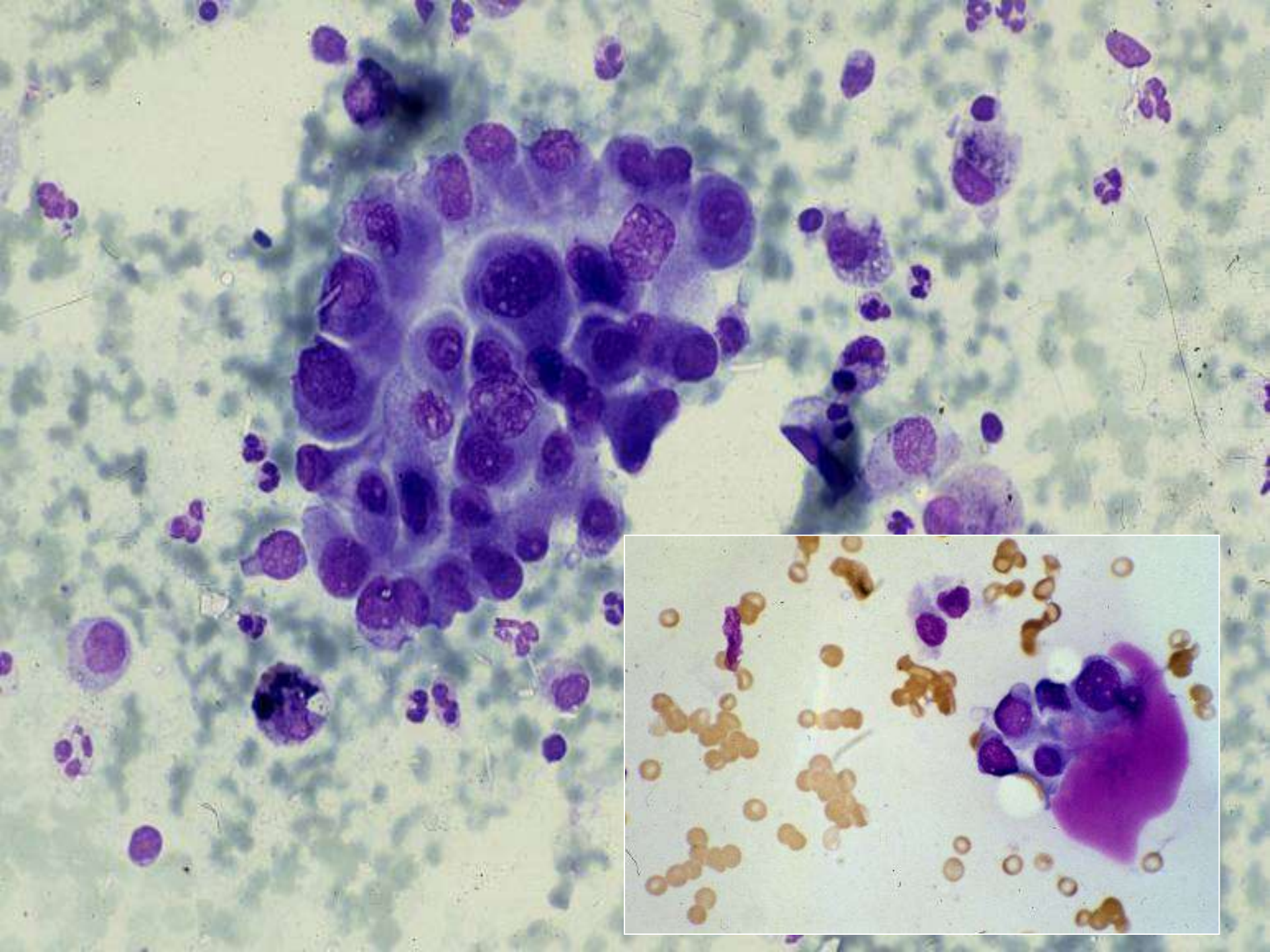
NODULO QUISTICO

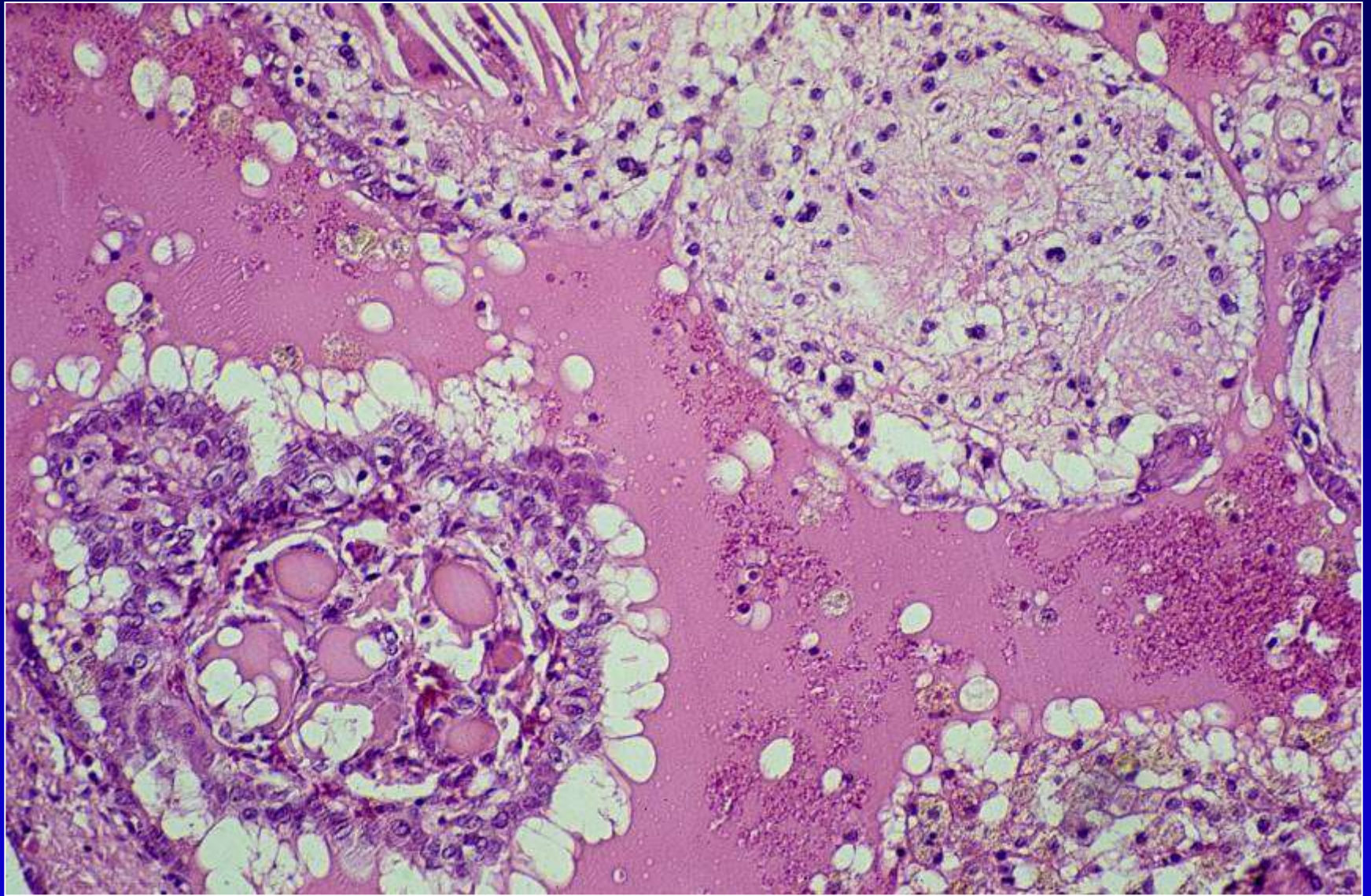
NODULO QUISTICO

- Secundario a degeneración, necrosis o hemorragia en nódulos adenomatosos
- La mayoría, pues, son benignos
- Celularidad variable
 - Histiocitos
 - Cristales de colesterol
 - Células gigantes
 - Células foliculares con cambios degenerativos
- Riesgo de malignidad: 4-15%







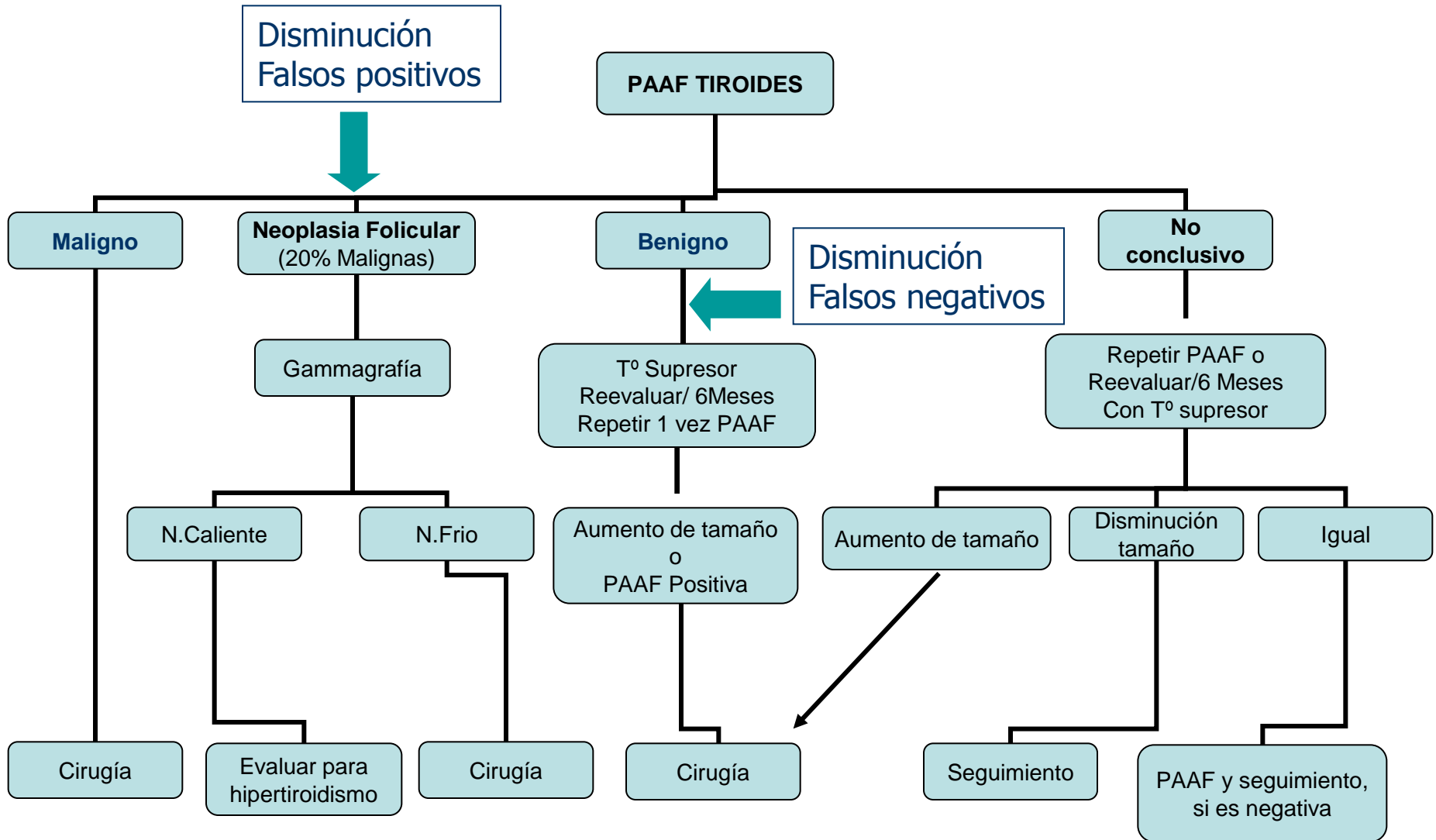


CARCINOMA PAPILAR QUISTICO

PROBLEMAS DIAGNOSTICOS

- Carcinoma papilar variante folicular
- Carcinoma papilar quístico
- Tiroiditis crónica / Linfoma bajo grado
- Ca. medular anaplasico / Ca. Anaplasico
- Atipia celular sin potencial maligno en:
 - Bocio genético dishormonal
 - Bocio coloide con fibrosis
 - Tratamiento con I* y/o antitiroideos

FLUJO DIAGNOSTICO DEL NODULO TIROIDEO



JUSTIFICACIÓN DE LA TÉCNICA

- Reduce a la mitad el número de intervenciones
- Dobla el número de cánceres identificados por cada 100 intervenciones



¡ Muchas gracias por vuestra
atención !