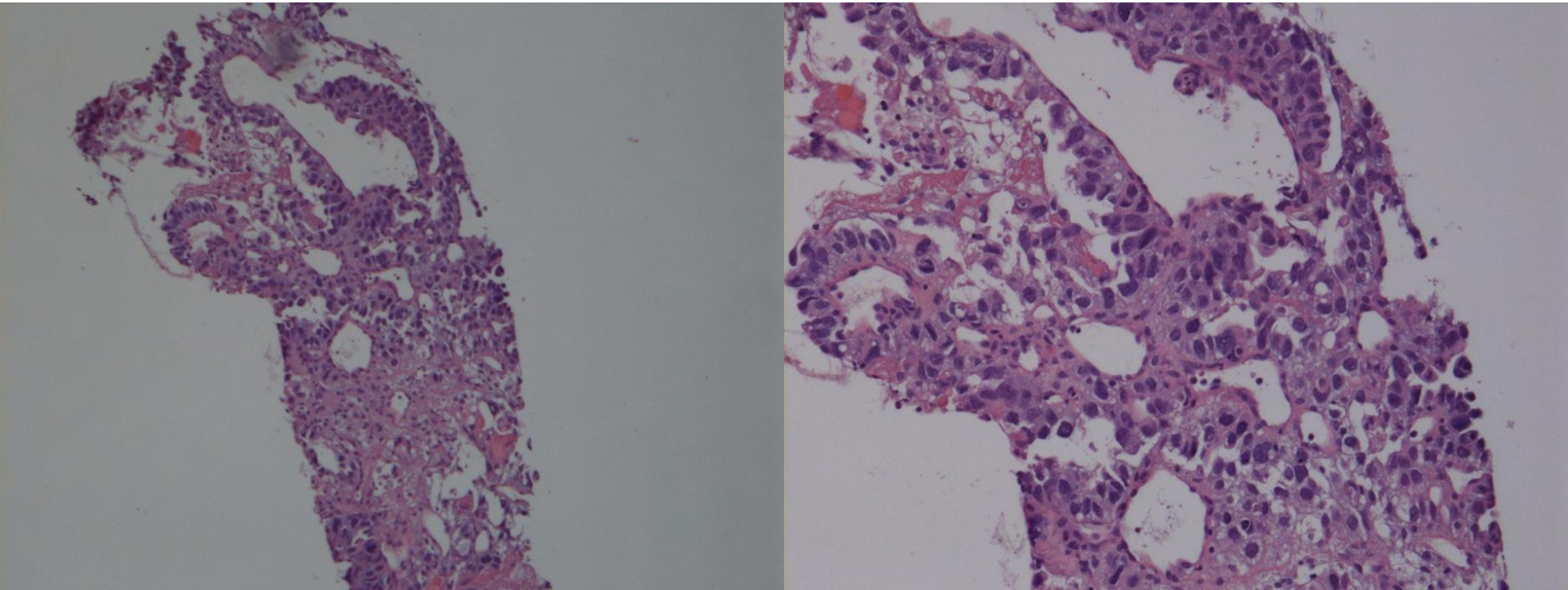




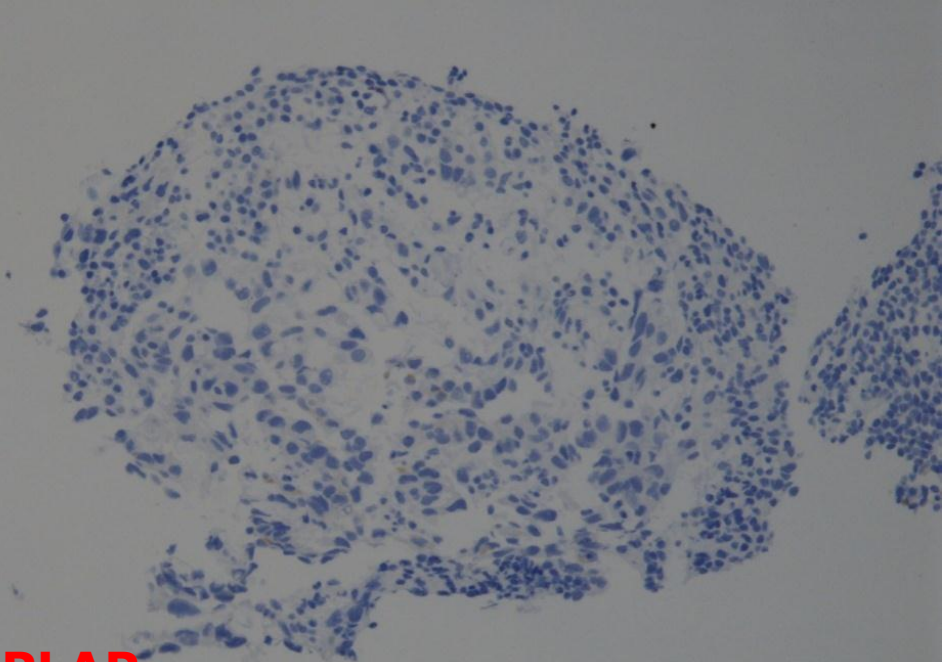
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# Surgical Pathological Conference

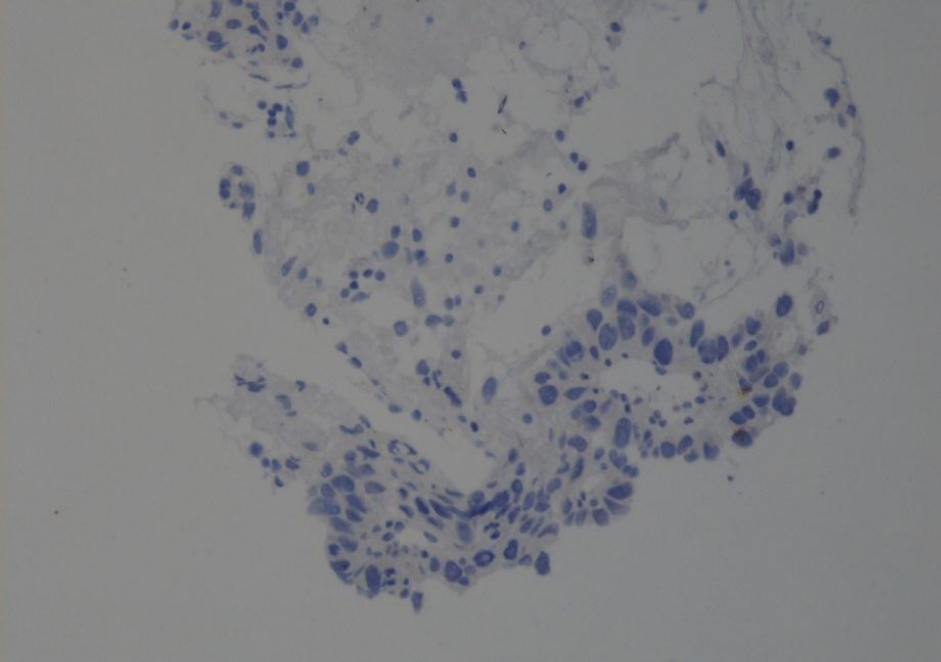
Presented by Dr. W.K. Kwang  
Anatomical Pathology  
2015-06-27  
Path No. 104-06658



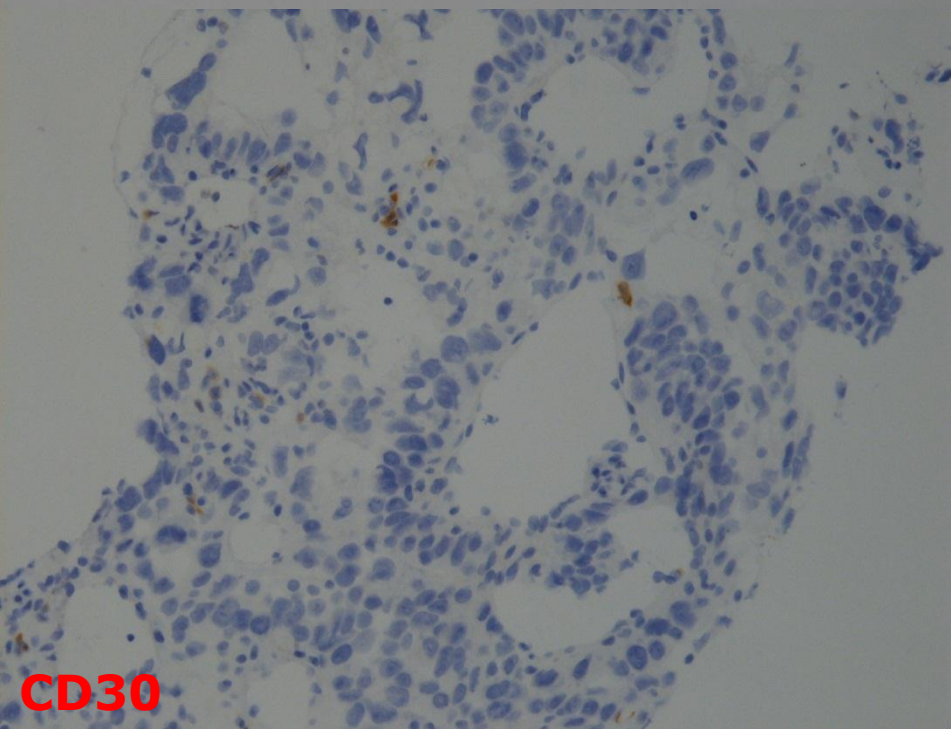
103-16481 mediastinum



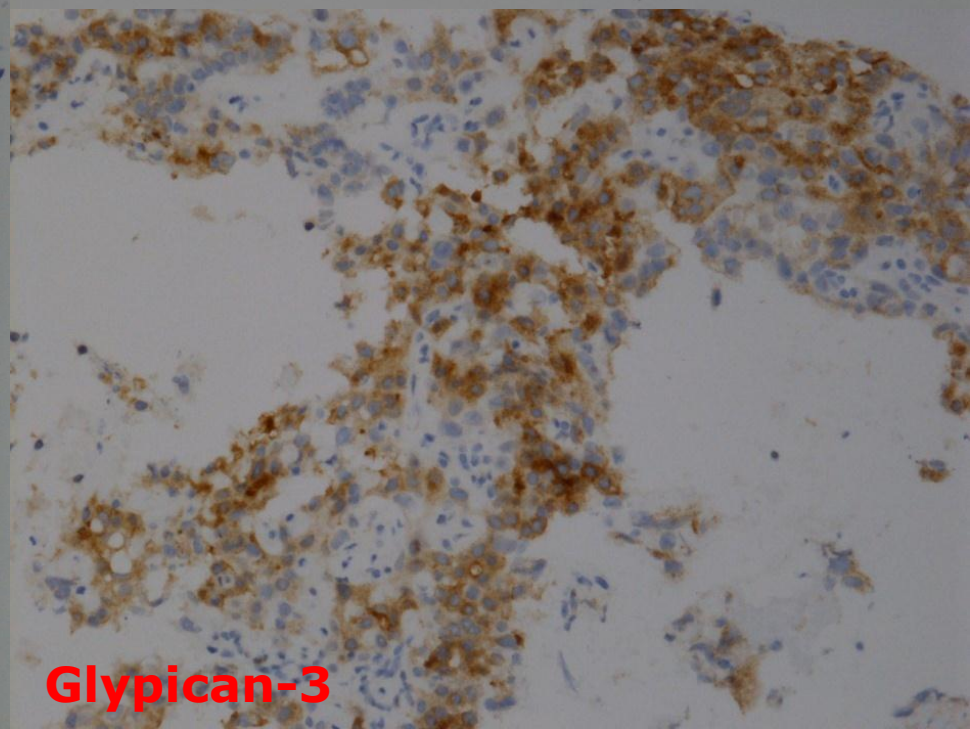
**PLAP**



**CD117**



**CD30**



**Glypican-3**

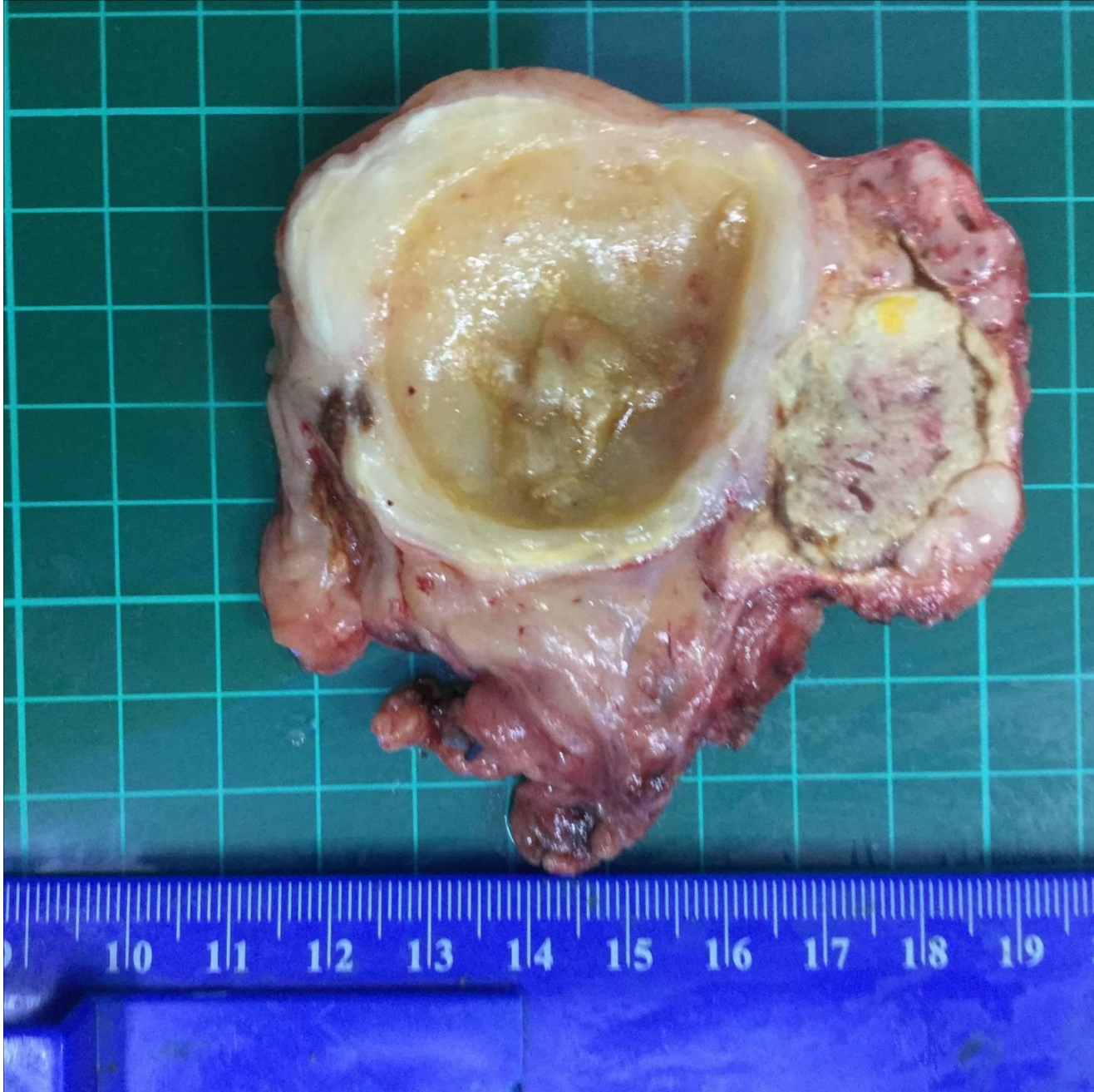


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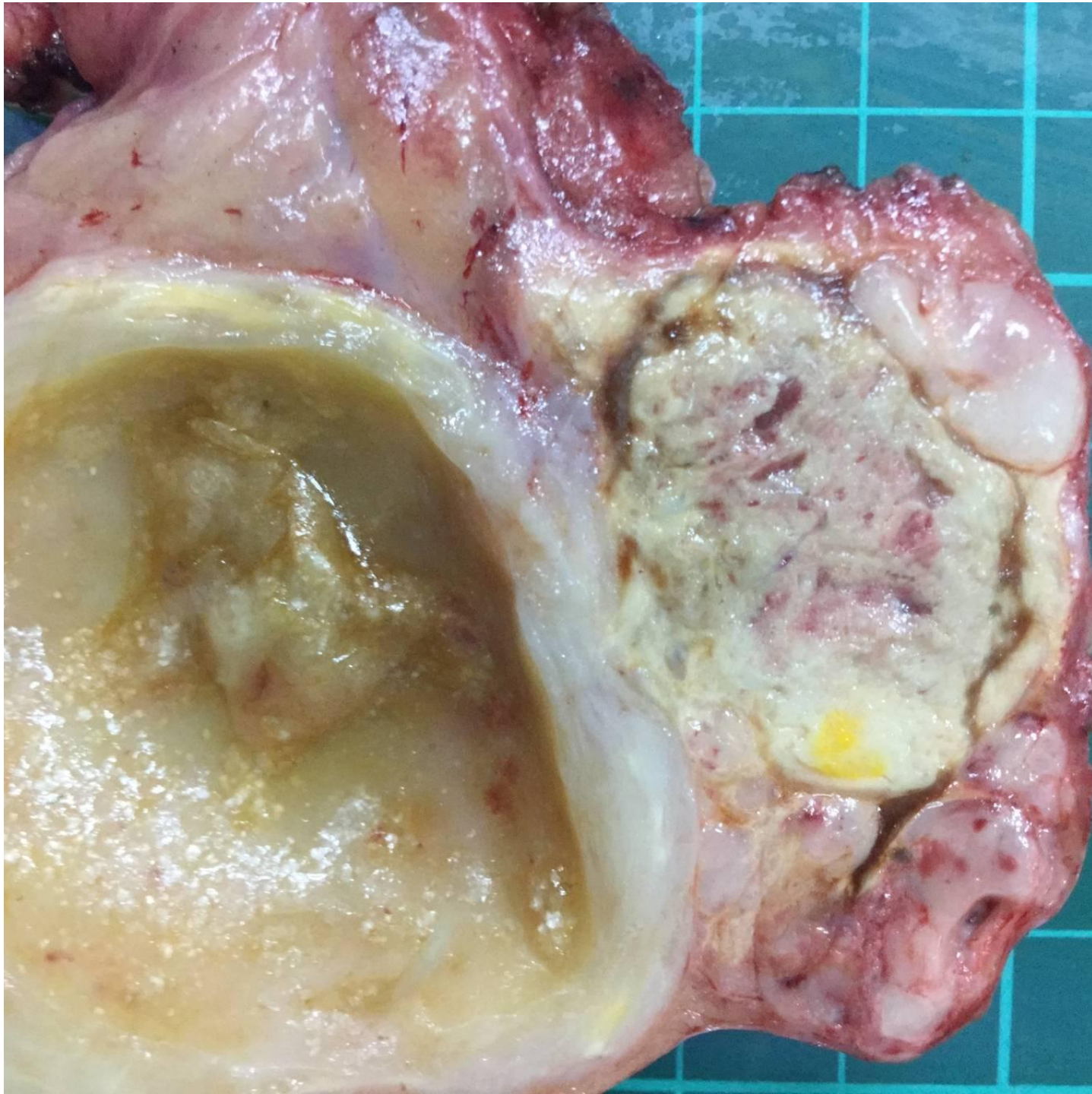
Mediastinum, biopsy  
Germ cell tumor

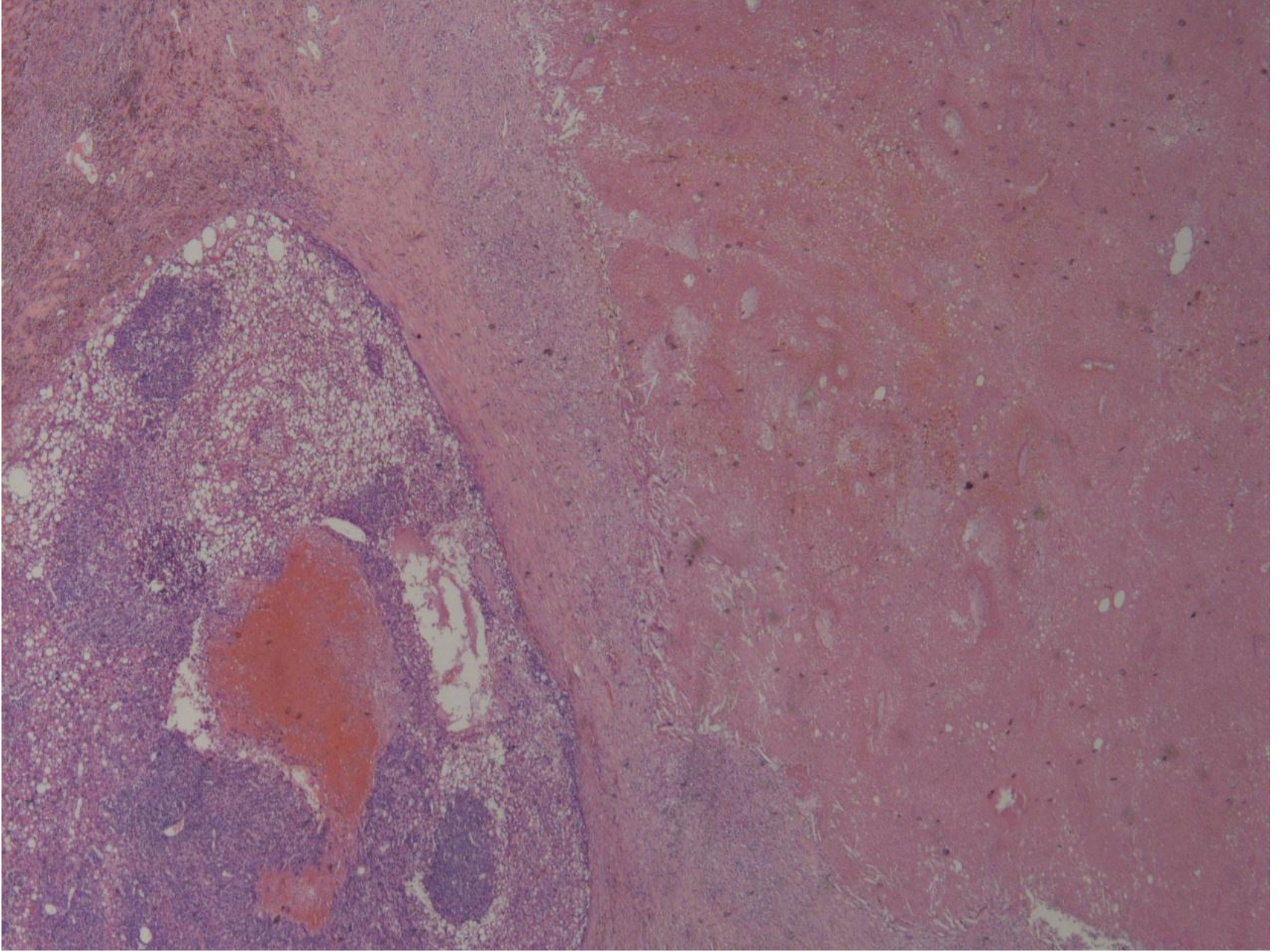


104-06658 anterior medistinum, tumor resection

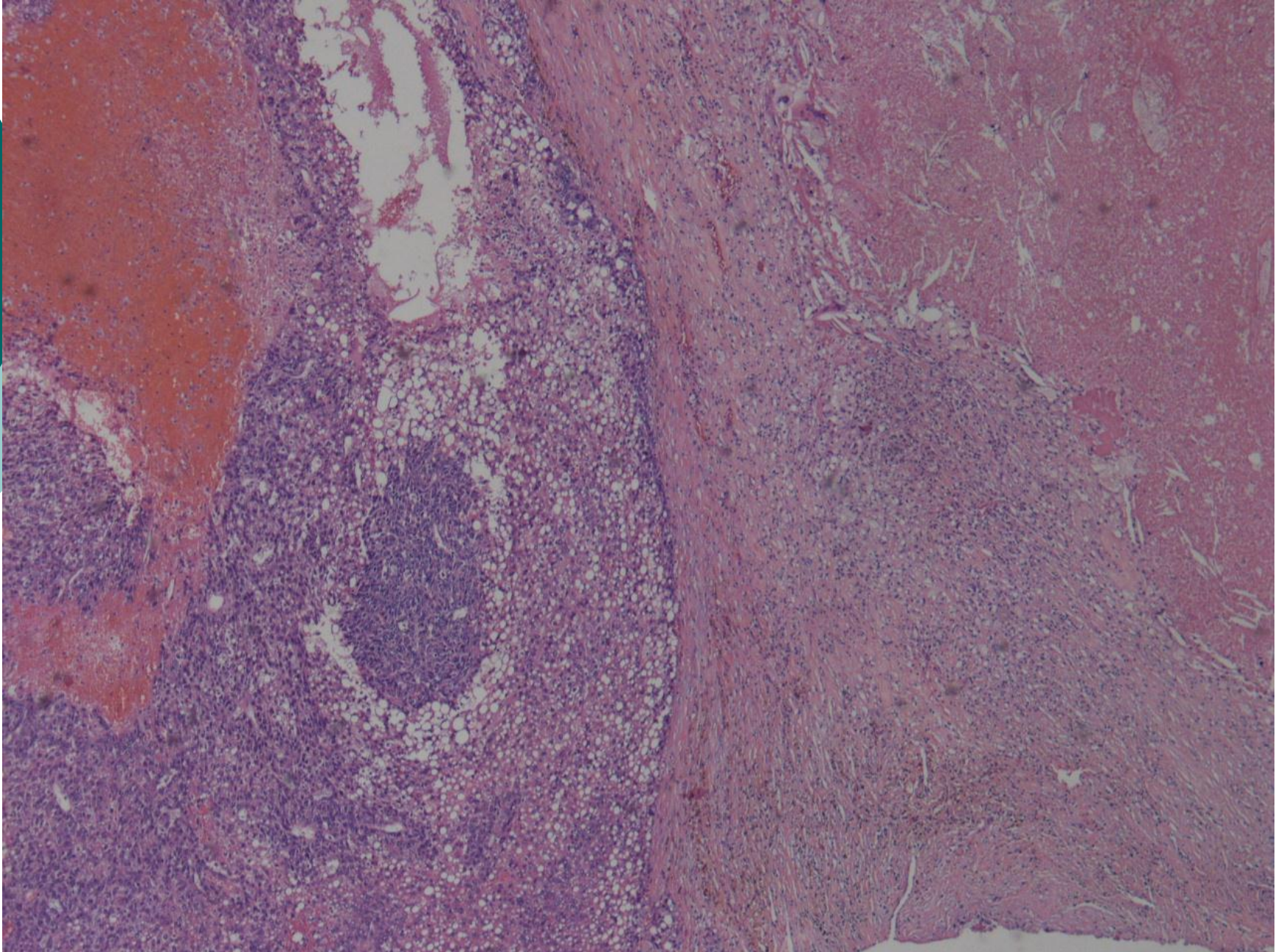


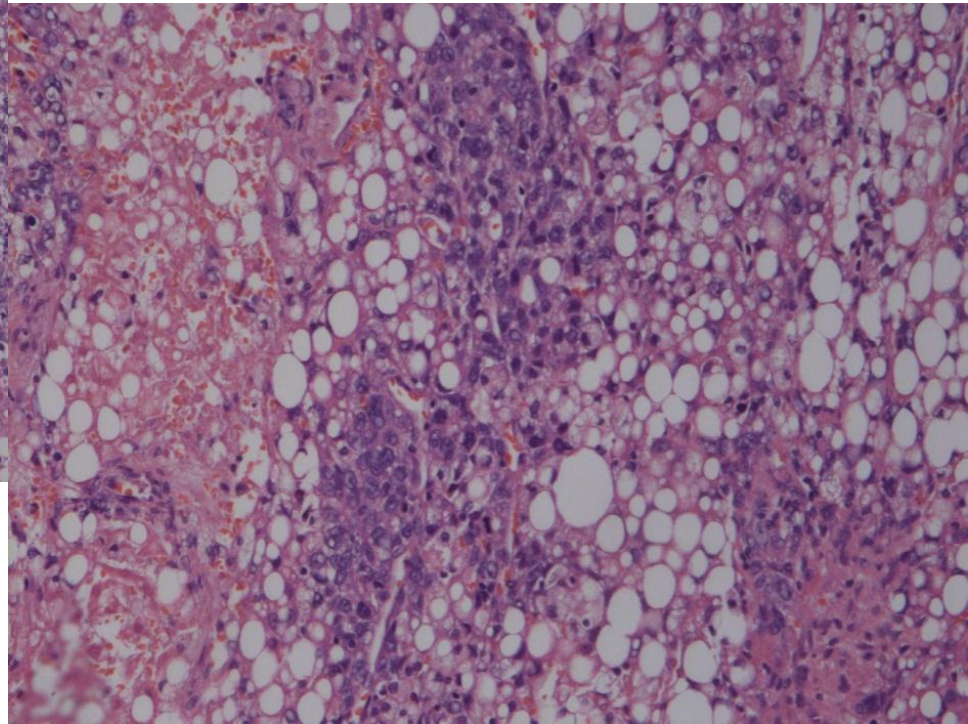
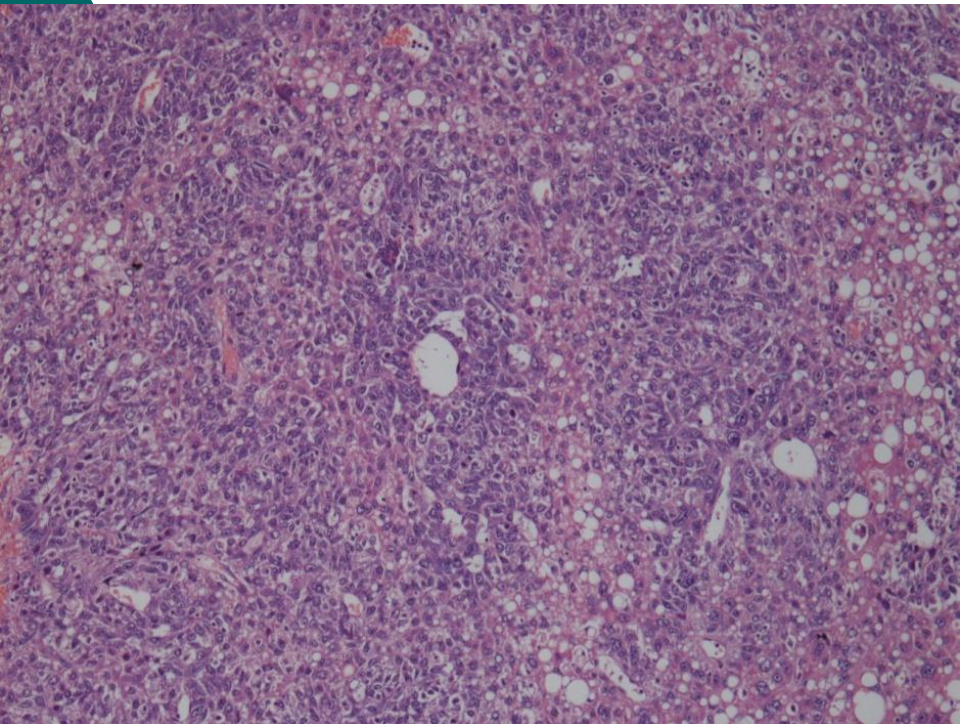
Cystic change with adjacent solid part of tumor

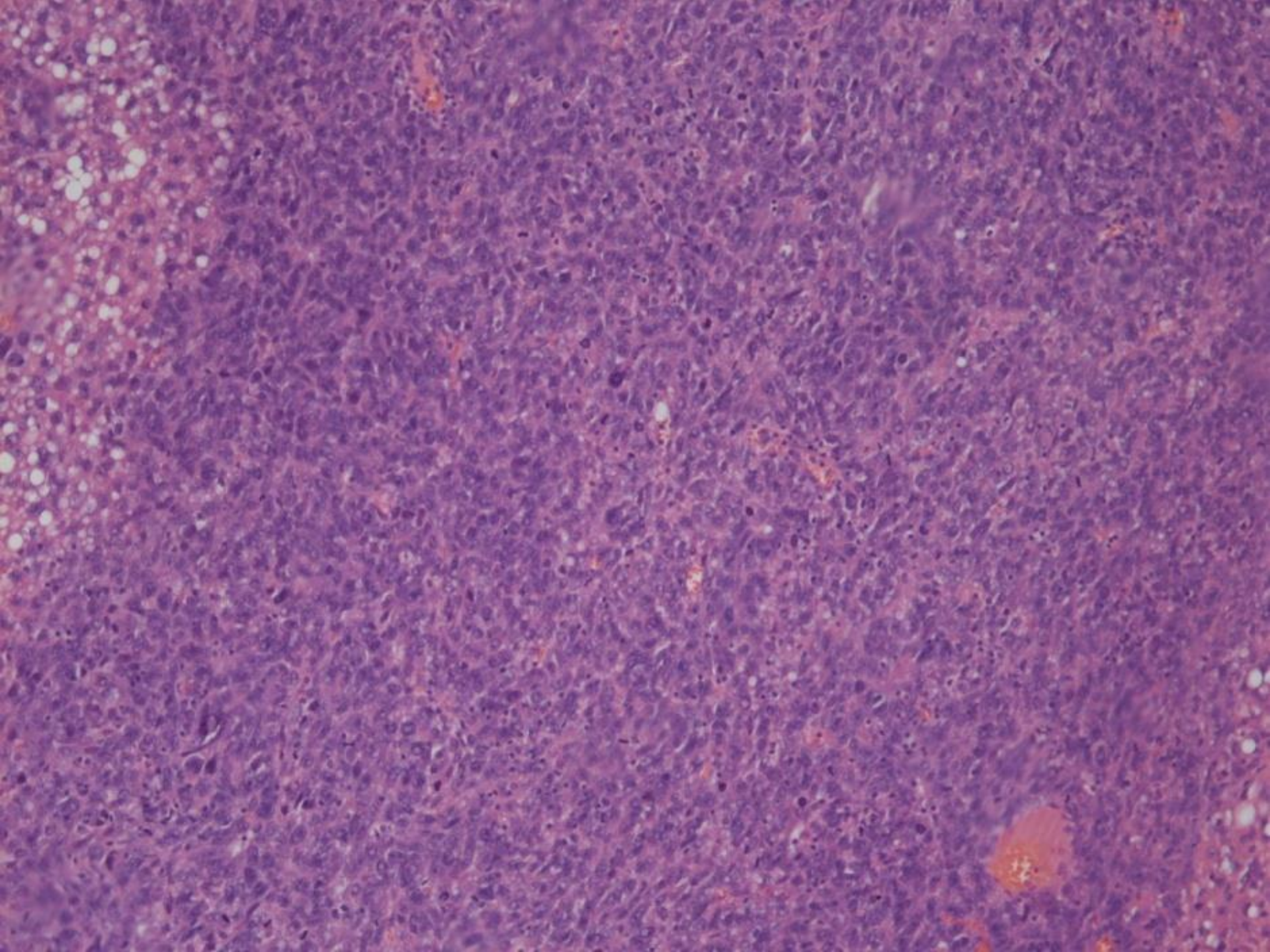


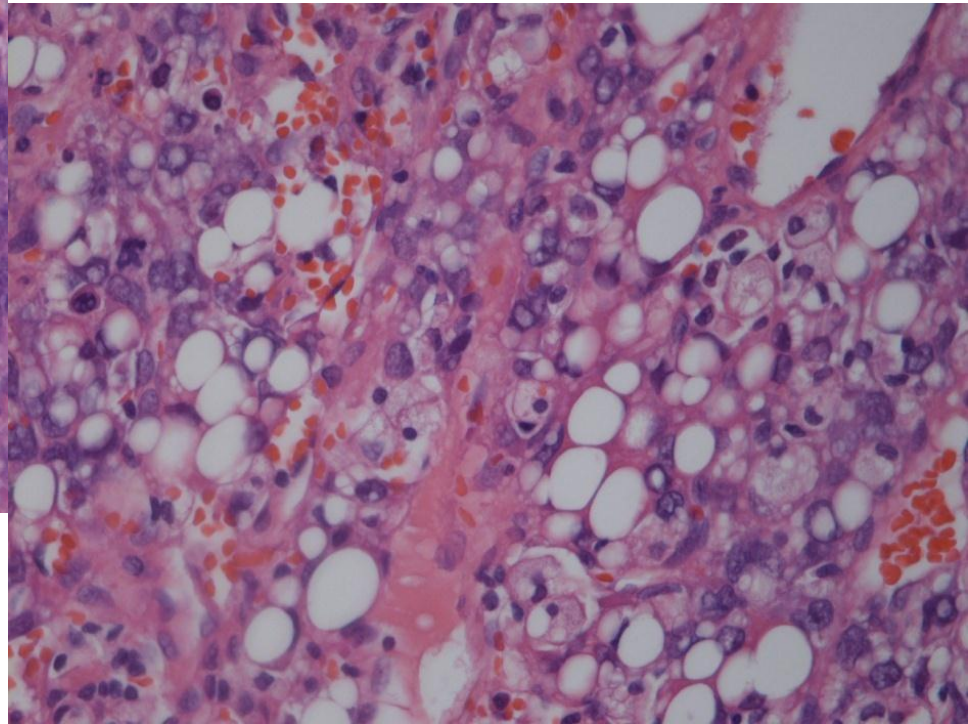
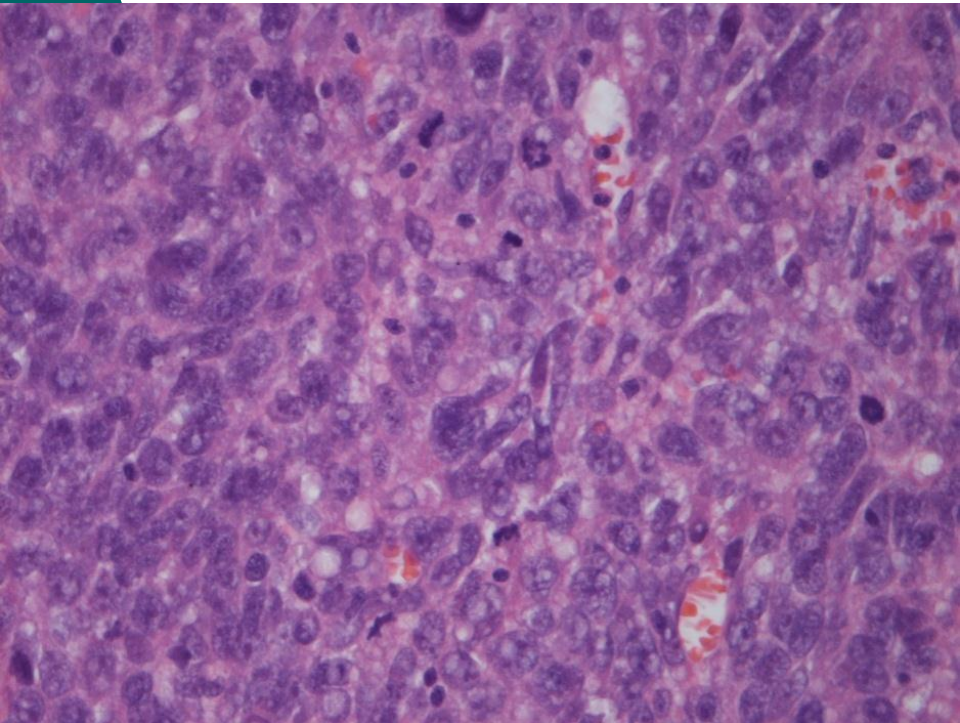


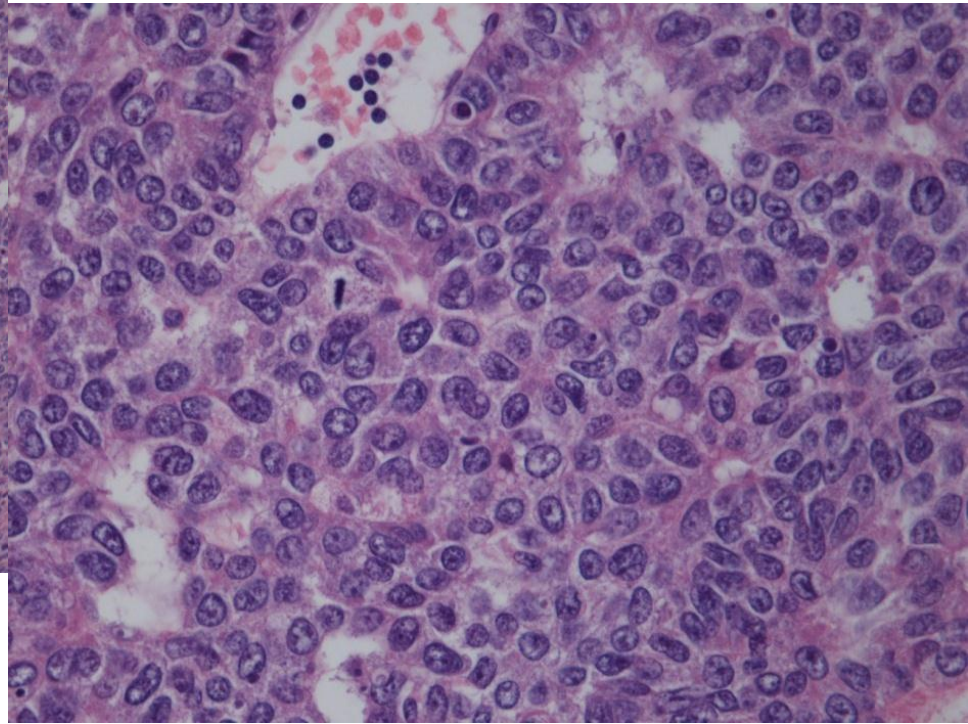
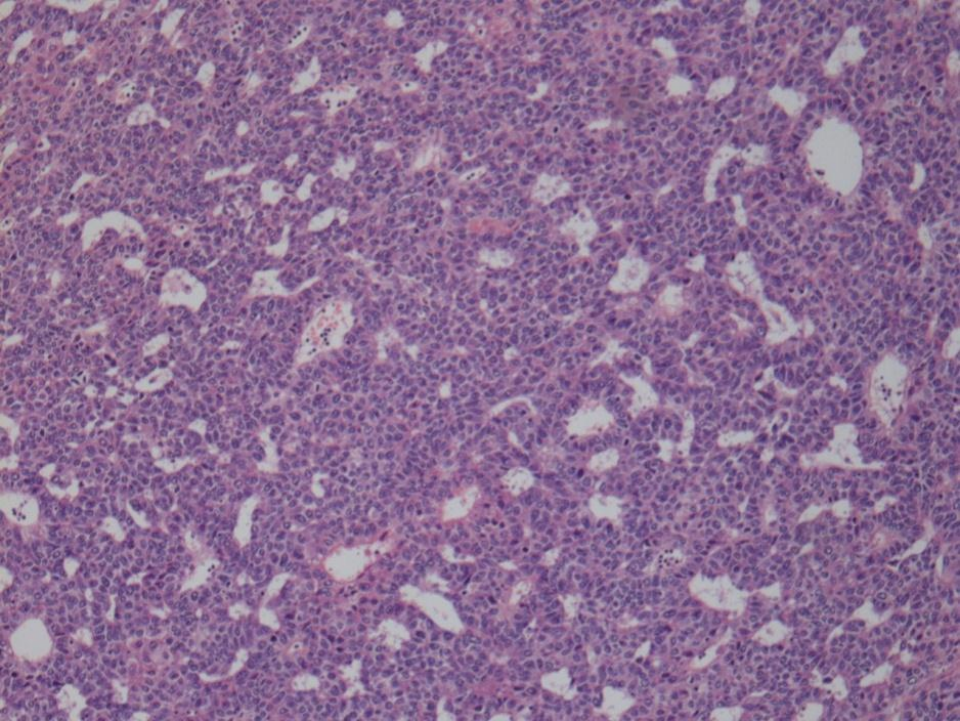


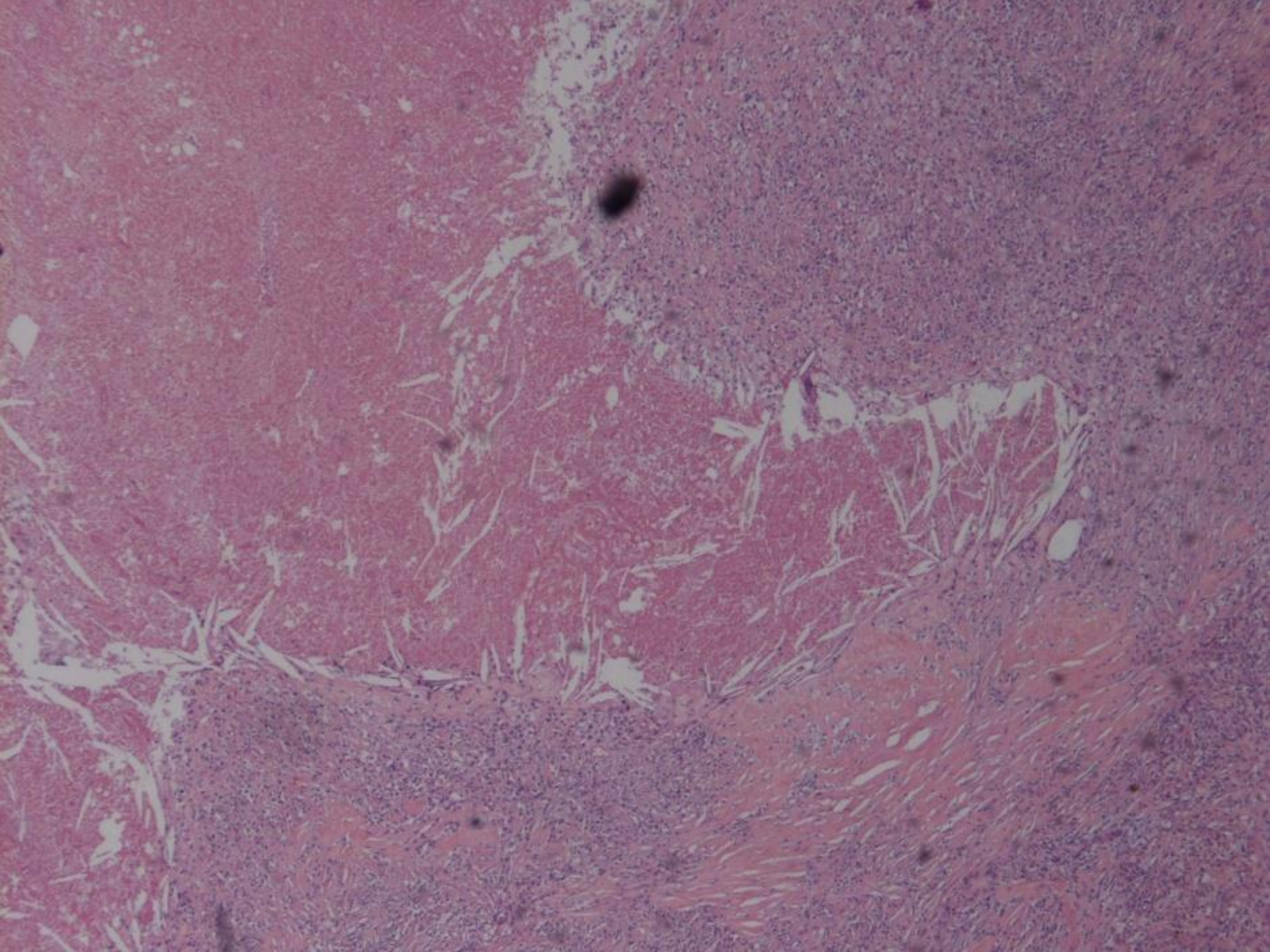


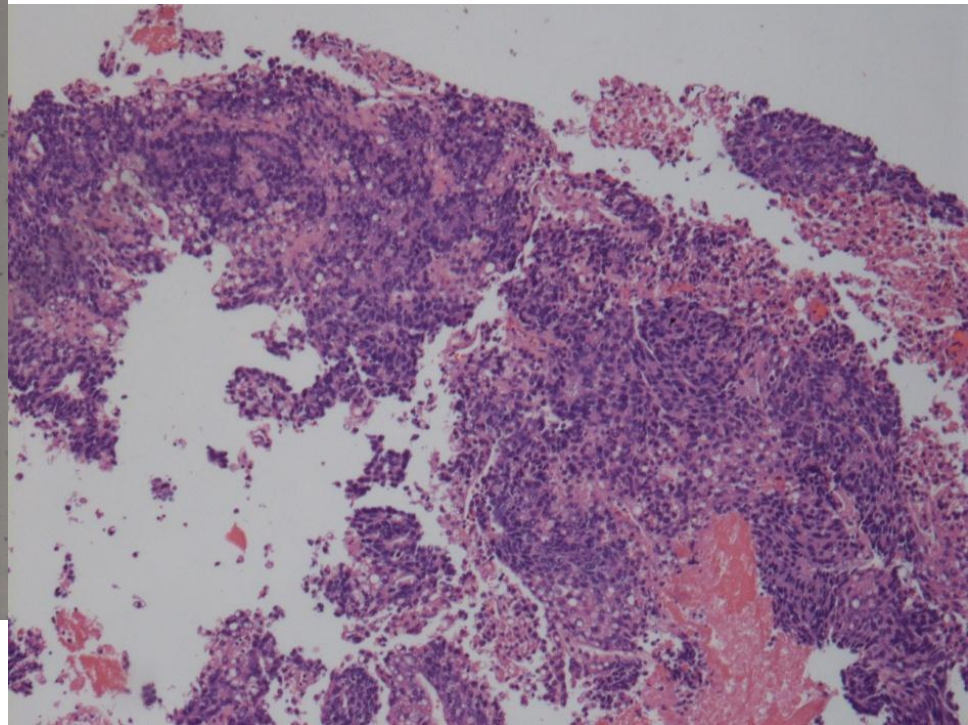
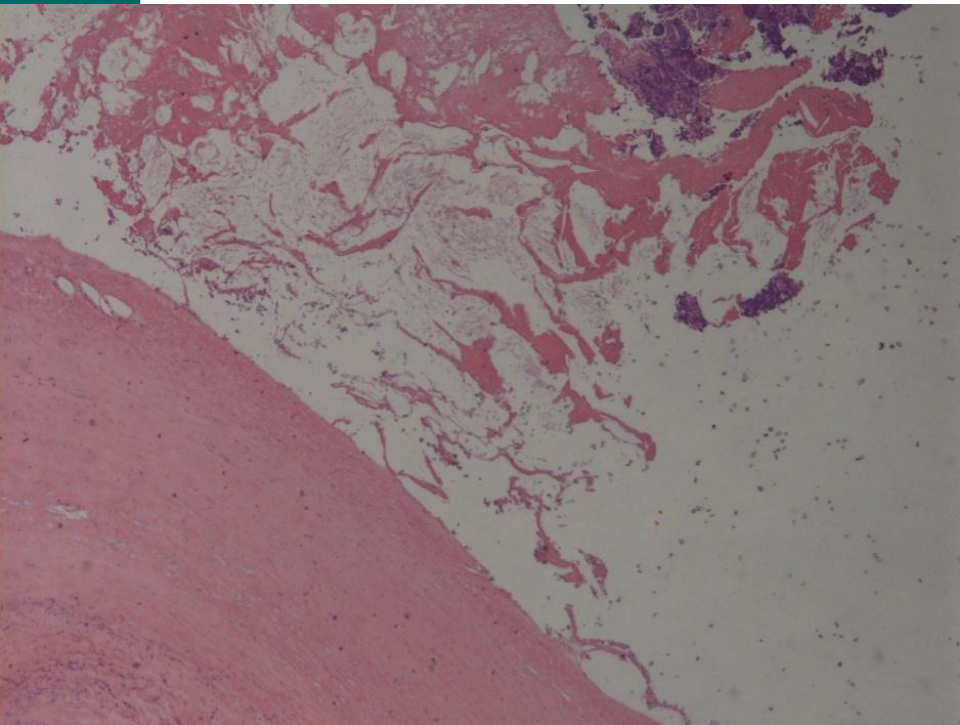




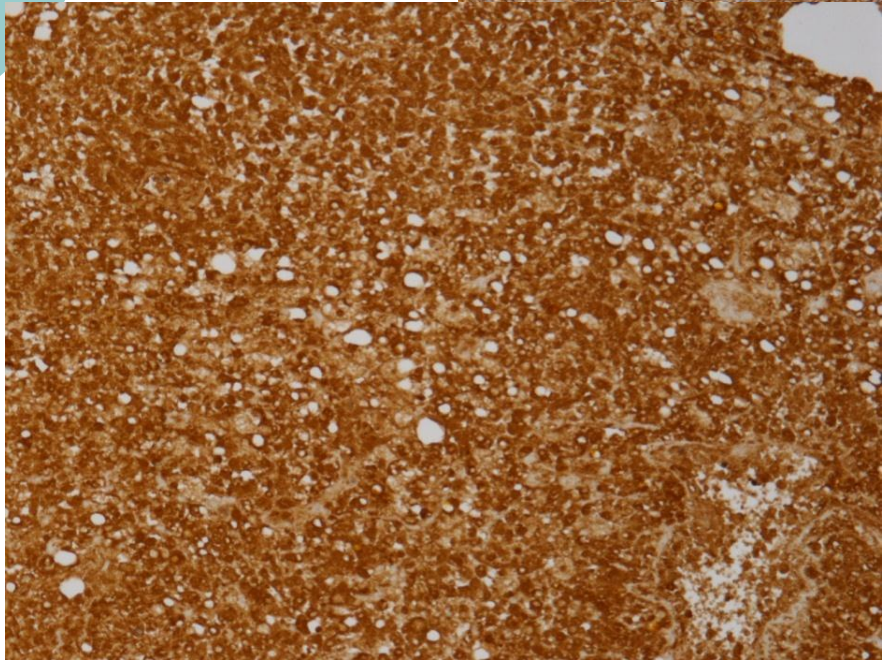
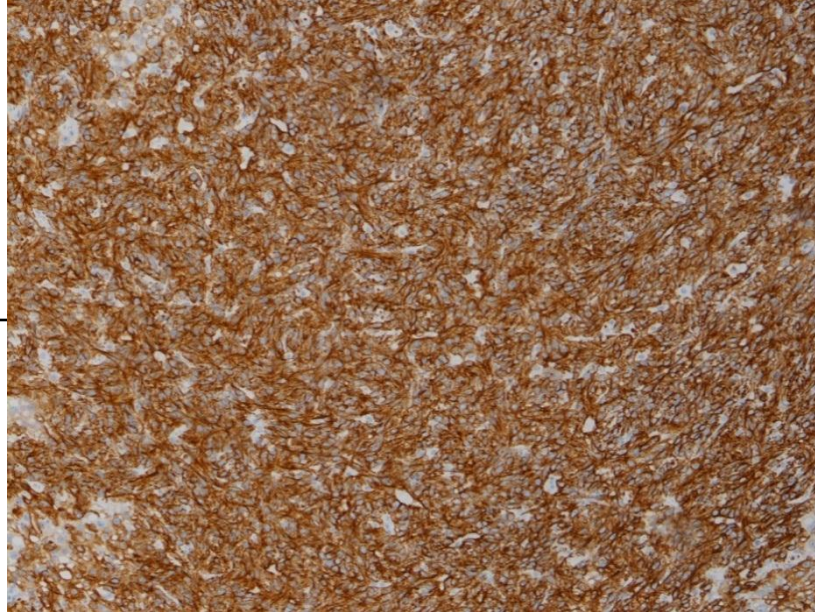




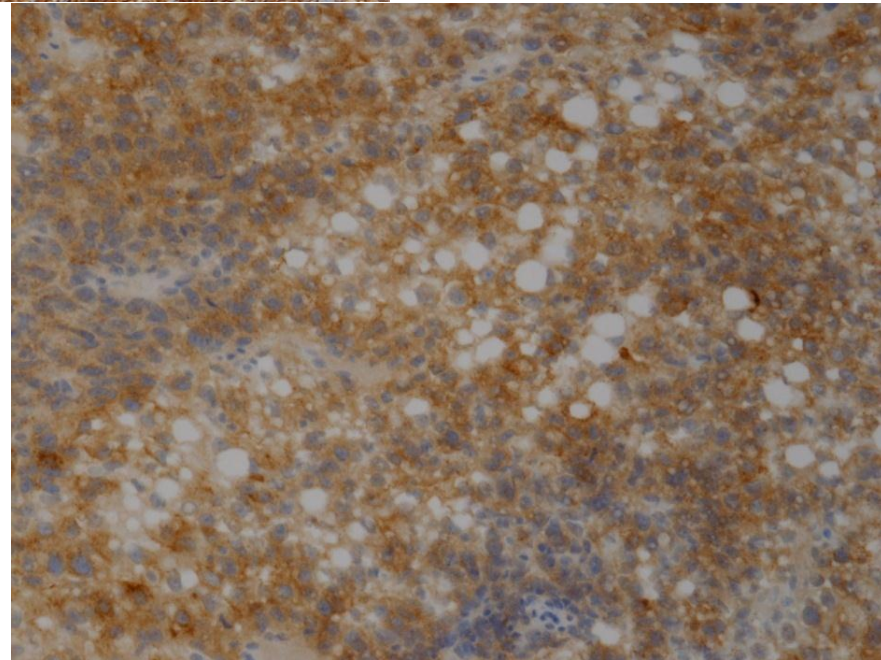




**CK**



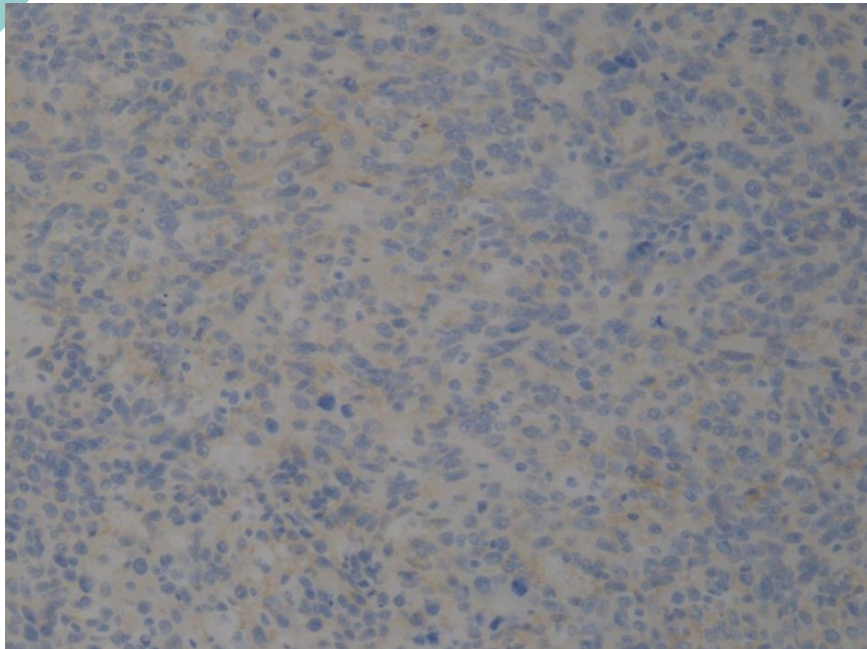
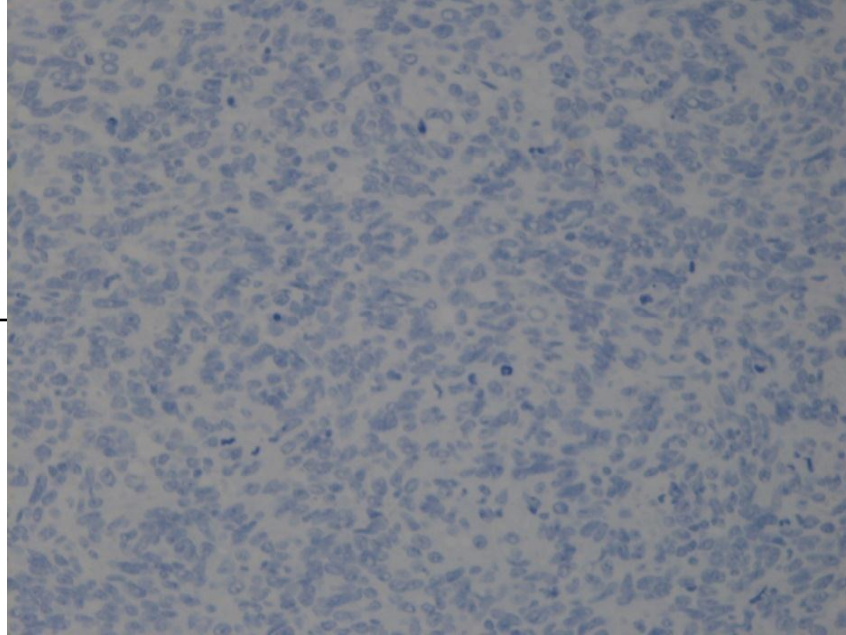
**AFP**



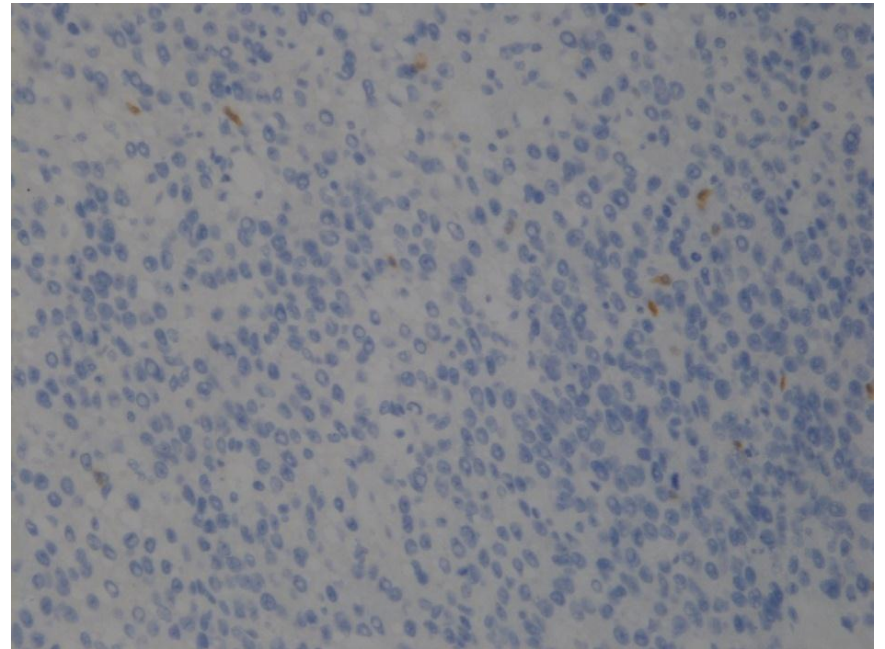
**Glypican-3**



**PLAP**



**CD117**



**CD30**

**TABLE 11-5 Immunophenotype of Mediastinal Germ Cell Tumors**

Antibody	Seminoma	Embryonal Carcinoma	Yolk Sac Tumor	Choriocarcinoma
CK	S	+	+	+
PLAP	+	N	N	N
Pouf5F1 (Oct-3/4)	+	+	N	NK
SALL4	+	+	+	+
c-Kit	+	+	+	NK
CD30	N	+	N	NK
Glypican-3	N	N	+	+
SOX2	N	+	NK	NK
SOX17	+	N	NK	NK
TCL1A	+	N	N	N
MAGEC2	+	N	NK	NK
AFP	N	N	+	N
D2-40/podoplanin	+	S	N	+
$\beta$ -hCG	N	N	N	+
Pax-8	NK	NK	S	NK
Pax-2	NK	NK	S	NK

+, Positive; S, sometimes positive; N, negative; NK, not known; AFP,  $\alpha$ -fetoprotein;  $\beta$ -hCG, beta-human chorionic gonadotropin; CK, cytokeratin; PLAP, placental alkaline phosphatase; MAGEC2, melanoma-associated gene C2.



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# PATHOLOGICAL DIAGNOSIS

Yolk sac tumor, partial response to chemotherapy

# Epidemiology

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- Most common non-seminomatous germ cell tumor in the mediastinum (20% of nonteratomatous tumor)
- Mediastinal YST present in 2 distinct age groups:
  1. infants and young children, female (F:M, 4:1)
  2. postpubertal in young adults, (3rd decade), male (exclusively)



# Clinical Features

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- Chest pain
- Dyspnoea
- Chills and fever
- Superior vena cava syndrome
- AFP elevated (>90%)



# Gross Pathologic Features

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- Size: variable, a few cm to >20 cm
- Solid, soft
- Cut surface shows pale grey or grey-white, gelatinous or mucoid
- Hemorrhage and necrosis



# Microscopic Pathology

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- Microcystic (reticular pattern): most common
- Macrocystic
- Glandular-alveolar
- Endodermal sinus (pseudopapillary)
- Myxomatous
- Hepatoid and enteric
- Polyvesicular vitelline
- Solid



# Differential Diagnosis

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- Embryonal carcinoma
- Metastatic carcinoma
- Sarcoma
- Mixed germ cell tumor



# Clinical staging of mediastinal germ cell tumor

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- Stage I: well circumscribed tumor and/or focal **adhesion** to pleura or pericardium and **without** microscopic evidence of **invasion** to adjacent structures
- Stage II: Tumor confined to mediastinum with macroscopic and/or microscopic evidence of **infiltration** into adjacent structures, such as pleura, pericardium, and great vessels
- Stage III: tumor metastasis
  - IIIa: with metastasis to **intrathoracic** organs (lymph nodes, lung, etc.)
  - IIIb: with **extrathoracic** metastases

# Prognosis

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- Mean survival: 6-24 months
- It is difficult to accurately predict the prognosis due to
  1. rarity of the lesions
  2. the variability in staging parameters utilized
  3. the variability in chemotherapy provided
- Prepubertal patients have a greater frequency of presentation at earlier stages
- While half of postpubertal mediastinal YST have metastasis at presentation