

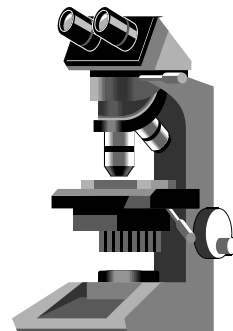


CALIFORNIA  
TUMOR TISSUE REGISTRY

*PULMONARY AND MEDIASTINUM PATHOLOGY*

Minutes – Subscription B

April 2012



**SUGGESTED READING (General Topics from Recent Literature):**

Pulmonary Eosinophilic Infiltrates. Rossi G; Tironi A, et al. *Pathologica* 2010; Dec;102(6): p537-46.

Pulmonary Vascular Disease Associated with Schistosomiasis. Kolosionek E; Crosby A, et al. *Expert Rev Anti Infect Ther* 2010; Dec;8(12): p1467-73.

A Transport Model For Nicotine in the Tracheobronchial and Pulmonary Region of the Lung. Gowadia N; Dunn-Rankin D. *Inhal Toxicol* 2010; Jan;22(1): p42-8.

Arteriovenous Malformation in the Anterior Mediastinum. Tennyson C; Routledge T, et al. *Ann Thorac Surg* 2010; Jul;90(1): pe9-10.

Primary Angiosarcomas of the Anterior Mediastinum: A Clinicopathologic and Immunohistochemical Study of 9 Cases. Weissferdt A; Kalhor N; Suster S; Moran CA. *Hum Pathol* 2010; Dec;41(12): p1711-7..

California Tumor Tissue Registry  
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## **FILE DIAGNOSES**

### **CTTR Subscription B**

**April 2012**

**Case 1:**

Adenocarcinoma, lung  
T-28200, M-81403

**Case 2:**

Undifferentiated malignant neoplasm, lung  
T-Y2100, M-88003

**Case 3:**

Multilocular thymic cyst, mediastinum  
T-98000, M-33406

**Case 4:**

Thymoma, type A  
T-Y2300, M-85800

**Case 5:**

Combined large cell carcinoma (5a) and small cell carcinoma (5b), lung  
T-28000, M-80413, M-80123

**Case 6:**

Undifferentiated giant cell carcinoma, likely metastatic from liver (r/o pulmonary primary), lung  
T-28000, M-80313

**Case 7:**

Adenocarcinoma with bronchioloalveolar pattern, lung  
T-28000, M-82503

**Case 8:**

Large cell carcinoma with rhabdoid features, lung  
T-28000, M-80123

**Case 9:**

Nodular sclerosing Hodgkin lymphoma, lung  
T-28000, M-96503

**Case 10:**

Fetal type adenocarcinoma with neuroendocrine features, lung  
T-28000, M-81403

Glendale - Large cell carcinoma  
Loma Linda - Squamous carcinoma, lung  
Newport Beach - Squamous cell carcinoma  
Orange (UCI Medical Center Residents) - Solid variant of adenocarcinoma  
Orinda (Kaiser Permanente) - Large cell carcinoma  
San Diego (Naval Medical Center) - Adenocarcinoma, lung primary, solid-type  
Alabama (Cunningham Pathology) - Adenocarcinoma  
Florida, Orlando - Adenocarcinoma, solid type  
Georgia, Atlanta - Poorly differentiated adenocarcinoma  
Kansas (Coffeyville Regional Medical Center) - Poorly differentiated adenocarcinoma  
Illinois (Heartland Regional Medical Center) - Adenocarcinoma  
Kansas (Peterson Laboratory Services) - Adenocarcinoma  
Maryland (University of Maryland) - Adenocarcinoma, solid type  
Michigan (Henry Ford Hospital) - Adenocarcinoma, lung  
New York (SUNY Downstate Medical Center) - Poorly differentiated adenocarcinoma  
North Carolina (Wake Forest University School of Medicine) - Solid adenocarcinoma  
Oregon (Oregon Health and Science University Residents) - Grade 2 neuroendocrine carcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Poorly differentiated adenocarcinoma  
Pennsylvania (Drexel University College of Medicine Residents) - Adenocarcinoma  
Pennsylvania (Wilkes-Barre General Hospital) - Poorly differentiated adenocarcinoma, predominantly solid subtype  
Tennessee, Knoxville - Adenocarcinoma  
Texas, Crystal Beach - Adenocarcinoma, acinar type, solid  
Texas, Lubbock - Adenocarcinoma of lung  
Wisconsin, Madison - Poorly differentiated adenocarcinoma  
Wisconsin, Medical Assessment and Consultation, S.C. - Primary lung carcinoma with glandular differentiation, favor adenocarcinoma would do p63 to exclude MEC  
Wisconsin (Medical College of Wisconsin) - Adenocarcinoma with squamous features  
Australia (Royal Prince Alfred Hospital) - Pulmonary adenocarcinoma, predominantly solid variant  
Canada (Pasqua Hospital) - Adenocarcinoma  
Ireland (Connolly Hospital) - Poorly differentiated adenocarcinoma  
Japan (Asahi General Hospital) - Adenocarcinoma, poorly differentiated (1); Adenocarcinoma, solid type (1)  
Japan (Setagaya-Ku) - Solid adenocarcinoma  
Puerto Rico (University of Puerto Rico) - Solid adenocarcinoma  
Saudi Arabia (King Khalid University Hospital) - Adenocarcinoma of the lung  
Singapore (Freelance Locum Practice) - Adenocarcinoma, solid type  
United Kingdom (Oxford University NHS Trust) - Solid growth pattern adenocarcinoma

**Case 1 - Diagnosis:**

Adenocarcinoma, lung  
T-28200, M-81403

**Case 1 - References:**

Prognostic significance of grading in lung adenocarcinoma. *Cancer* 2010; Feb 1;116(3): p659-69. Barletta JA; Yeap BY; Chirieac LR.  
Early detection of lung adenocarcinoma in sputum by a panel of microRNA markers. *Int J Cancer* 2010; Dec 15;127(12): p2870-8. Yu L; Todd NW, et al.  
Tumor histology affects the accuracy of clinical evaluative staging in primary lung cancer. *Lung Cancer* 2010; Nov;70(2): p195-9. Funakoshi Y; Maeda H, et al.  
Peripheral pulmonary papillary adenocarcinoma with prominent cilia: report of a rare case that was difficult to diagnose preoperatively. *Acta Cytol* 2010; Sep-Oct;54(5 Suppl): p949-57. Imai T; Suga M, et al.  
Relationships between lung adenocarcinoma and gender, age, smoking and occupational risk factors: A case-case study. *Lung Cancer* 2010; May;68(2): p146-5. Paris C; Clement-Duchene C, et al.

Glendale - Carcinoma

Loma Linda - Squamous carcinoma, lung

Newport Beach - Metastatic carcinoma, compatible with metastatic hepatocellular cholangiolated carcinoma

Orange (UCI Medical Center Residents) - Malignant neoplasm

Orinda (Kaiser Permanente) - Epithelioid hemangioendothelioma

San Diego (Naval Medical Center) - Large cell undifferentiated, lung

Alabama (Cunningham Pathology) - Hemangioendothelioma

Florida, Orlando - Epithelioid tumor

Georgia, Atlanta - Large cell carcinoma, rule out metastases

Kansas (Coffeyville Regional Medical Center) - Alveolar rhabdomyosarcoma

Illinois (Heartland Regional Medical Center) - Epithelioid malignant neoplasm, NOS, suspect sarcoma

Kansas (Peterson Laboratory Services) - Glomangioma

Maryland (University of Maryland) - Clear cell tumor

New York (SUNY Downstate Medical Center) - High grade neoplasm with rhabdoid feature

North Carolina (Wake Forest University School of Medicine) - Hepatocellular carcinoma

Oregon (Oregon Health and Science University Residents) - Hepatocellular carcinoma vs. renal cell carcinoma

Pennsylvania (Conemaugh Memorial Medical Center) - Non-small cell carcinoma, favor metastatic hepatic cell carcinoma

Pennsylvania (Drexel University College of Medicine Residents) - Alveolar soft part sarcoma

Pennsylvania (Wilkes-Barre General Hospital) - Malignant PEComa

Tennessee, Knoxville - PEComa vs. rhabdoid tumor vs. alveolar soft part sarcoma met

Texas, Crystal Beach - Large cell malignancy, possibly mesothelial origin

Texas, Lubbock - Adenosquamous carcinoma

Wisconsin, Madison - Epithelioid leiomyosarcoma

Wisconsin, Medical Assessment and Consultation, S.C. - High grade malignant neoplasm, favor sarcoma, rule out ASPS, do PAS staining

Wisconsin (Medical College of Wisconsin) - Clear cell “sugar” tumor (PEComa)

Australia (Royal Prince Alfred Hospital) - Epithelioid spindle neoplasm (broad differential diagnosis)

Canada (Pasqua Hospital) - Rhabdoid tumor

Ireland (Connolly Hospital) - Undifferentiated malignant tumor (sarcomatoid carcinoma)

Japan (Asahi General Hospital) - Solitary fibrous tumor (1); Sclerosing hemangioma

Japan (Setagaya-Ku) - Large cell carcinoma

Puerto Rico (University of Puerto Rico) - Differentiated malignant tumor/histiocytosis/rule out myxoid tumor

Saudi Arabia (King Khalid University Hospital) - Metastatic alveolar soft part sarcoma

United Kingdom (Oxford University NHS Trust) - Metastasis or epithelioid angiosarcoma (clinical-radiological correlation required)

## **Case 2 - Diagnosis:**

Undifferentiated malignant neoplasm, lung

T-Y2100, M-88003

Director’s note: The tumor is essentially negative for all immunohistochemistries. It has epithelioid characteristics. Our Ddx included epithelioid angiosarcoma, sarcomatoid carcinoma, and other entities including metastatic disease. (drc)

## **Case 2 - References:**

Diagnostic concordance of histologic lung cancer type between bronchial biopsy and cytology specimens taken during the same bronchoscopic procedure. *Arch Pathol Lab Med* 2010; Oct;134(10): p1504-12 Sackett MK; Salomao DR, et al.

Immunohistochemical markers in the differentiation of thymic and pulmonary neoplasms. *Histopathology* 2002; Feb;40(2): p152-8 Pomplun S; Wotherspoon AC, et al.

New aspects in clinicopathologic and oncogene studies of 23 pulmonary lymphoepithelioma-like carcinomas. *Am J Surg Pathol* 2002; Jun;26(6): p715-23. Chang YL; Wu CT; Shih JY; Lee YC.

100 years of lung cancer. *Respir Med* 2006; Dec;100(12): p2073-84 Pirozynski M.

Physical activity and lung cancer risk in the European Prospective Investigation into Cancer and Nutrition Cohort. *Int J Cancer* 2006; Nov 15;119(10): p2389-97 Steindorf K; Friedenreich C, et al.  
Lung cancer risk among US radiologic technologists, 1983-1998. *Int J Cancer* 2006; Nov 15;119(10): p2481-6 Rajaraman P; Sigurdson AJ, et al.

**Case No. 3, Accession No. 31318**

**April 2012**

Glendale - Multilocular thymic cyst  
Loma Linda - Cystic thymus  
Newport Beach - Polycystic brachial cleft tumor anomaly  
Orange (UCI Medical Center Residents) - Ruptured thymic cyst  
Orinda (Kaiser Permanente) - Thymoma, B1  
San Diego (Naval Medical Center) - Acquired multilocular thymic cyst  
Alabama (Cunningham Pathology) - Thymic cyst  
Florida, Orlando - Thymic cyst  
Georgia, Atlanta - Thymoma, B2 type (organoid pattern)  
Kansas (Coffeyville Regional Medical Center) - Thymic cysts  
Illinois (Heartland Regional Medical Center) - Thymic cyst  
Kansas (Peterson Laboratory Services) - Thymic cyst  
Maryland (University of Maryland) - Thymic cysts  
Michigan (Henry Ford Hospital) - Enteric cyst  
New York (SUNY Downstate Medical Center) - Multilocular thymic cyst  
North Carolina (Wake Forest University School of Medicine) - Multilocular thymus cyst  
Oregon (Oregon Health and Science University Residents) - Simple thymic cyst  
Pennsylvania (Conemaugh Memorial Medical Center) - Multilocular cysts of thymus  
Pennsylvania (Drexel University College of Medicine Residents) - Multilocular thymic cyst  
Pennsylvania (Wilkes-Barre General Hospital) - Benign thymic cyst  
Tennessee, Knoxville - Benign thymic cyst  
Texas, Crystal Beach - Thymic hyperplasia, multicystic  
Texas, Lubbock - Thymic cyst  
Wisconsin, Madison - Thymic cyst  
Wisconsin, Medical Assessment and Consultation, S.C. - Benign multilocular thymic cyst  
Wisconsin (Medical College of Wisconsin) - Multiloculated thymic cyst  
Australia (Royal Prince Alfred Hospital) - Multilocular thymic cyst  
Canada (Pasqua Hospital) - Multilocular thymic cyst  
Ireland (Connolly Hospital) - Multilocular thymic cyst  
Japan (Asahi General Hospital) - Thymic cyst (2)  
Japan (Setagaya-Ku) - Thymic cysts  
Puerto Rico (University of Puerto Rico) - Multilocular thymic cyst/lymphangiomas  
Saudi Arabia (King Khalid University Hospital) - Multilocular thymic cyst  
Singapore (Freelance Locum Practice) - Thymic cyst  
United Kingdom (Oxford University NHS Trust) - Multilocular thymic cyst

**Case 3 - Diagnosis:**

Multilocular thymic cyst, mediastinum  
T-98000, M-33406

**Outside Consultation:** Medical College Physicians, Milwaukee, WI; Saul Suster, M.D. "Benign Multilocular Thymic Cyst."

**Case 3 - References:**

Multilocular thymic cyst associated with follicular hyperplasia: clinicopathologic study of 4 resected cases. *Hum Pathol* 2005; Jul;36(7): p841-4. Izumi H; Nobukawa B, et al.  
Multilocular thymic cyst associated with mature mediastinal teratoma: a report of 2 cases. *Arch Pathol Lab Med* 2004; Feb;128(2): p227-8. Rakheja D; Weinberg AG.

Rhabdomyomatous multilocular thymic cyst. *Am J Clin Pathol* 2003; Jun;119(6): p816-21. Chetty R; Reddi A.  
 High-grade thymic carcinoma other than basaloid or mucoepidermoid type could be associated with multilocular thymic cyst: report of two cases. *Histopathology* 2003; Nov;43(5): p501-2. Hattori H.  
 Carcinomas arising in multilocular thymic cysts of the neck: a clinicopathological study of three cases. *Histopathology* 2004; Jan;44(1): p64-8. Moran CA; Suster S; El-Naggar A; Luna MA.

**Case No. 4, Accession No. 7859**

**April 2012**

Glendale - Thymoma with glands  
Loma Linda - Mediastinal paraganglioma  
Newport Beach - Paraganglioma  
Orange (UCI Medical Center Residents) - Thymoma  
Orinda (Kaiser Permanente) - Angiosarcoma  
San Diego (Naval Medical Center) - Solitary fibrous tumor  
Alabama (Cunningham Pathology) - Paraganglioma  
Florida, Orlando - Thymoma, type A  
Georgia, Atlanta - Thymoma, A type (medullary pattern)  
Kansas (Coffeyville Regional Medical Center) - Biphasic thymoma vs. biphasic mesothelioma  
Illinois (Heartland Regional Medical Center) - Thymoma, type A  
Kansas (Peterson Laboratory Services) - Synovial sarcoma  
Maryland (University of Maryland) - Thymoma, favor type A  
Michigan (Henry Ford Hospital) - Paraganglioma  
New York (SUNY Downstate Medical Center) - Paraganglioma  
North Carolina (Wake Forest University School of Medicine) - Thymoma, type A  
Oregon (Oregon Health and Science University Residents) - Type A, thymoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Hemangiopericytoma/thymoma  
Pennsylvania (Drexel University College of Medicine Residents) - Type A, thymoma  
Pennsylvania (Wilkes-Barre General Hospital) - PEComa vs. carotid body tumor  
Tennessee, Knoxville - Type A, thymoma  
Texas, Crystal Beach - Thymoma, malignant possible  
Texas, Lubbock - Thymoma  
Wisconsin, Madison - Paraganglioma  
Wisconsin, Medical Assessment and Consultation, S.C. - Solitary fibrous tumor (would do CD34)  
Wisconsin (Medical College of Wisconsin) - Thymoma  
Australia (Royal Prince Alfred Hospital) - Type A, thymoma  
Canada (Pasqua Hospital) - Thymoma  
Ireland (Connolly Hospital) - Biphasic mesothelioma  
Japan (Asahi General Hospital) - Angiosarcoma (1); Thymoma, type A (1)  
Japan (Setagaya-Ku) - Paraganglioma  
Puerto Rico (University of Puerto Rico) - Solitary fibrous tumor/hemangiopericytoma/type A, thymoma  
Saudi Arabia (King Khalid University Hospital) - Spindle cell (medullary) thymoma  
Singapore (Freelance Locum Practice) - Thymoma, type A  
United Kingdom (Oxford University NHS Trust) - Mediastinal paraganglioma/chemodectoma

**Case 4 - Diagnosis:**

Thymoma, type A  
 T-Y2300, M-85800  
Outside Consultation: Case reviewed by Dr. J. Myers, Mayo Clinic, Rochester, Minn: "Spindled thymoma. Mediastinum"

**Case 4 - References:**

Spindle cell thymomas (WHO Type A) with prominent papillary and pseudopapillary features: a clinicopathologic and immunohistochemical study of 10 cases. *Am J Surg Pathol* 2011; Mar;35(3): p372-7. Kalhor N; Suster S; Moran CA.

Invasive spindle cell thymomas (WHO Type A): a clinicopathologic correlation of 41 cases. *Am J Clin Pathol* 2010; Nov;134(5): p793-8. Moran CA; Kalhor N; Suster S.

Expression of p63 in thymomas and normal thymus. *Am J Clin Pathol* 2007; Mar;127(3): p415-20. Dotto J; Pelosi G; Rosai J.

Interobserver variation in the classification of thymic tumours--a multicentre study using the WHO classification system. *Histopathology* 2008; Aug;53(2): p218-23. Verghese ET; den Bakker MA, et al.

An institutional study on thymomas and thymic carcinomas: experience in 77 patients. *Thorac Cardiovasc Surg* 2008; Apr;56(3): p143-7. Rieker RJ; Muley T, et al.

## Case No. 5, Accession No. 12905 A&b

April 2012

Glendale - Poorly differentiated carcinoma/small cell carcinoma

Loma Linda - Anaplastic squamous carcinoma of lung

Newport Beach - (5a) Squamous cell carcinoma; (5b) Small cell carcinoma

Orange (UCI Medical Center Residents) - Squamous cell carcinoma and small cell carcinoma

Orinda (Kaiser Permanente) - Squamous cell carcinoma

San Diego (Naval Medical Center) - (5a) Squamous cell carcinoma; (5b) Metastatic neuroendocrine carcinoma

Alabama (Cunningham Pathology) - Squamous and small cell carcinoma

Florida, Orlando - (5a) Large cell carcinoma; (5b) Small cell carcinoma

Georgia, Atlanta - Mixed poorly differentiated squamous cell carcinoma/small cell carcinoma

Kansas (Coffeyville Regional Medical Center) - Poorly differentiated adenocarcinoma vs. large cell neuroendocrine carcinoma

Illinois (Heartland Regional Medical Center) - (5a) Poorly differentiated non-small cell carcinoma; (5b) Small cell anaplastic carcinoma

Kansas (Peterson Laboratory Services) - Squamous cell carcinoma and small cell neuroendocrine carcinoma

Maryland (University of Maryland) - Squamous cell carcinoma and small cell carcinoma

Michigan (Henry Ford Hospital) - Squamous cell carcinoma, lung

New York (SUNY Downstate Medical Center) - Squamous cell carcinoma and small cell carcinoma

North Carolina (Wake Forest University School of Medicine) - Small and large cell carcinoma

Oregon (Oregon Health and Science University Residents) - Poorly differentiated squamous cell carcinoma

Pennsylvania (Conemaugh Memorial Medical Center) - Poorly differentiated adenocarcinoma and small cell carcinoma

Pennsylvania (Drexel University College of Medicine Residents) - (5a) Adenosquamous carcinoma; (5b) Small cell carcinoma

Pennsylvania (Wilkes-Barre General Hospital) - Poorly differentiated squamous carcinoma, lung/neuroendocrine carcinoma, intermediate cell type, subcarina

Tennessee, Knoxville - (5a) Squamous cell carcinoma; (5b) Small cell carcinoma

Texas, Crystal Beach - Carcinoma lung, large and small cell type (neuroendocrine)

Texas, Lubbock - (5a) Clear cell carcinoma; (5b) Metastatic small cell carcinoma

Wisconsin, Madison - (5a) Poorly differentiated non-small cell carcinoma; (5b) Small cell carcinoma

Wisconsin, Medical Assessment and Consultation, S.C. - (5a) High grade non-small cell carcinoma, favor large cell carcinoma; do a mucin and IHC; (5b) Small cell neuroendocrine carcinoma (PDNEC-SCT)

Wisconsin (Medical College of Wisconsin) - High grade neuroendocrine carcinoma

Australia (Royal Prince Alfred Hospital) - Combined small cell and large cell carcinoma

Canada (Pasqua Hospital) - Small cell carcinoma and large cell carcinoma

Ireland (Connolly Hospital) - Mixed neuroendocrine and poorly differentiated squamous cell carcinoma

Japan (Asahi General Hospital) - Squamous cell carcinoma with neuroendocrine differentiation (1); Combined small and large cell carcinoma (1)

Japan (Setagaya-Ku) - Squamous cell carcinoma; malignant lymphoma

Puerto Rico (University of Puerto Rico) - (5a) Adenosquamous carcinoma; (5b) Neuroendocrine carcinoma, small cell type; rule out large cell type

Saudi Arabia (King Khalid University Hospital) - (5a) Poorly differentiated squamous cell carcinoma; (5b) Poorly differentiated small cell carcinoma

Singapore (Freelance Locum Practice) - Small cell carcinoma and non-small cell carcinoma

United Kingdom (Oxford University NHS Trust) - (5a) NSCLC/clear cell carcinoma; (5b) Small cell carcinoma

#### **Case 5 - Diagnosis:**

Combined large cell carcinoma (5a) and small cell carcinoma (5b), lung  
T-28000, M-80413, M-80123

#### **Case 5 - References:**

Curious case of combined small- and squamous cell carcinoma. *J Clin Oncol* 2011; Mar 10;29(8): pe186-7. Lee SY; Shim JJ; Kang KH; Shin BK  
Epidermal growth factor receptor mutation status and clinicopathological features of combined small cell carcinoma with adenocarcinoma of the lung. *Cancer Sci* 2007; Nov;98(11): p1714-9. Fukui T; Tsuta K, et al.  
Combined large cell neuroendocrine carcinoma and spindle cell carcinoma of the lung. *Jpn J Clin Oncol* 2011; Jun;41(6): p797-802. Goto T; Maeshima A; Kato R.  
Combined small cell carcinoma in the peripheral lung: importance of appropriate sampling. *Acta Cytol* 2005; Sep-Oct;49(5): p575-8. Fujiwara M; Horiguchi M, et al.  
Single primary lung cancer consisting of three cancer cell types (small cell carcinoma, adenocarcinoma, and squamous cell carcinoma) in which each had metastasized to different lymph nodes. *Jpn J Thorac Cardiovasc Surg* 2002; May;50(5): p216-9. Shikata H; Ueda Y, et al.

#### **Case No. 6, Accession No. 13592**

**April 2012**

Glendale - Giant cell carcinoma  
Loma Linda - Giant cell carcinoma of lung  
Newport Beach - Hepatocellular carcinoma  
Orange (UCI Medical Center Residents) - Anaplastic carcinoma  
Orinda (Kaiser Permanente) - Hepatocellular carcinoma  
San Diego (Naval Medical Center) - Hepatocellular carcinoma, metastatic  
Alabama (Cunningham Pathology) - Large/giant cell carcinoma  
Florida, Orlando - Malignant melanoma vs. hepatocellular carcinoma, IHC needed  
Georgia, Atlanta - High grade carcinoma, rule out metastatic hepatocellular carcinoma  
Kansas (Coffeyville Regional Medical Center) - Hepatocellular carcinoma  
Illinois (Heartland Regional Medical Center) - Poorly differentiated carcinoma consistent with giant cells consistent with hepatocellular carcinoma  
Kansas (Peterson Laboratory Services) - Giant cell hepatocellular carcinoma  
Maryland (University of Maryland) - Hepatocellular carcinoma, pleomorphic cell variant  
Michigan (Henry Ford Hospital) - Rhabdomyosarcoma  
New York (SUNY Downstate Medical Center) - Giant cell carcinoma  
North Carolina (Wake Forest University School of Medicine) - Pleomorphic malignant neoplasm  
Oregon (Oregon Health and Science University Residents) - Poorly differentiated hepatocellular carcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Anaplastic large cell carcinoma with giant cells  
Pennsylvania (Drexel University College of Medicine Residents) - Hepatocellular carcinoma  
Pennsylvania (Wilkes-Barre General Hospital) - Hepatocellular carcinoma metastatic to lung  
Tennessee, Knoxville - Metastatic hepatoma  
Texas, Crystal Beach - Malignant hepatoma, probable  
Texas, Lubbock - Poorly differentiated non-small cell carcinoma  
Wisconsin, Madison - Poorly differentiated carcinoma  
Wisconsin, Medical Assessment and Consultation, S.C. - High grade, non-small cell carcinoma/ consistent with metastatic HCC  
Wisconsin (Medical College of Wisconsin) - Hepatocellular carcinoma with pleomorphic features  
Australia (Royal Prince Alfred Hospital) - Favor hepatocellular carcinoma over giant cell carcinoma of lung and melanoma  
Canada (Pasqua Hospital) - Giant cell carcinoma  
Ireland (Connolly Hospital) - Metastatic hepatocellular carcinoma  
Japan (Asahi General Hospital) - Malignant mesothelioma (1); Metastatic hepatocellular carcinoma (1)



Japan (Setagaya-Ku) - Giant cell carcinoma

Puerto Rico (University of Puerto Rico) - Metastatic hepatocellular carcinoma, rule out giant cell carcinoma of lung

Saudi Arabia (King Khalid University Hospital) - Metastatic amelanotic malignant melanoma (epithelioid)

Singapore (Freelance Locum Practice) - Malignant pleomorphic tumor consistent with metastatic hepatocellular carcinoma

United Kingdom (Oxford University NHS Trust) - Metastatic (malignant) pheochromocytoma

#### **Case 6 - Diagnosis:**

Undifferentiated giant cell carcinoma, likely metastatic from liver (r/o pulmonary primary), lung  
T-28000, M-80313

#### **Case 6 - References:**

Giant cell carcinoma of the lung impact of diagnosis and review of cytological features. *Diagn Cytopathol* 2007; Sep;35(9): p555-9. Alasio TM; Sun W; Yang GC.

Pleomorphic carcinomas of the lung show a selective distribution of gene products involved in cell differentiation, cell cycle control, tumor growth, and tumor cell motility: a clinicopathologic and immunohistochemical study of 31 cases. *Am J Surg Pathol* 2003; Sep;27(9): p1203-15. Pelosi G; Fraggetta F, et al.

Pulmonary carcinomas with pleomorphic, sarcomatoid, or sarcomatous elements: a clinicopathologic and immunohistochemical study of 75 cases. *Am J Surg Pathol* 2003; Mar;27(3): p311-24. Rossi G; Cavazza A, et al.

Cytological characteristics of pulmonary pleomorphic and giant cell carcinomas. *Acta Cytol* 2011;;55(2): p173-9. Hiroshima K; Dosaka-Akita H, et al.

Giant-cell anaplastic carcinoma with osteoclastic giant cells of the chest cavity: a distinctive form of thymic carcinoma? *Int J Surg Pathol* 2010; Oct;18(5): p363-8. Zhou ZY; Sun RC, et al.

#### **Case No. 7, Accession No. 12408**

**April 2012**

Glendale - Adenocarcinoma

Loma Linda - Adenocarcinoma of lung

Newport Beach - Adenocarcinoma, bronchioalveolar type

Orange (UCI Medical Center Residents) - Well-differentiated adenocarcinoma

Orinda (Kaiser Permanente) - Sclerosing hemangioma

San Diego (Naval Medical Center) - Adenoma vs. lepidic predominant invasive adenocarcinoma

Alabama (Cunningham Pathology) - Bronchioloalveolar carcinoma

Florida, Orlando - Adenocarcinoma, acinar type

Georgia, Atlanta - Adenocarcinoma, acinar type

Kansas (Coffeyville Regional Medical Center) - Mucinous bronchioalveolar carcinoma

Illinois (Heartland Regional Medical Center) - Well-differentiated adenocarcinoma

Kansas (Peterson Laboratory Services) - Adenocarcinoma with lepidic pattern

Maryland (University of Maryland) - Adenocarcinoma, acinar

Michigan (Henry Ford Hospital) - Adenocarcinoma, goblet cell type

New York (SUNY Downstate Medical Center) - Well-differentiated, adenocarcinoma

North Carolina (Wake Forest University School of Medicine) - Adenocarcinoma, acinar type with in-situ component

Oregon (Oregon Health and Science University Residents) - Invasive adenocarcinoma

Pennsylvania (Conemaugh Memorial Medical Center) - Fetal type adenocarcinoma

Pennsylvania (Drexel University College of Medicine Residents) - Fetal adenocarcinoma

Pennsylvania (Wilkes-Barre General Hospital) - Invasive well-differentiated adenocarcinoma with pred. lepidic pattern and focal goblet cell pattern

Tennessee, Knoxville - Well-differentiated adenocarcinoma

Texas, Crystal Beach - Bronchioalveolar carcinoma

Texas, Lubbock - Bronchioalveolar carcinoma

Wisconsin, Madison - Adenocarcinoma

Wisconsin, Medical Assessment and Consultation, S.C. - Mucin secreting bronchioloalveolar carcinoma with signet ring cells

Wisconsin (Medical College of Wisconsin) - Signet ring adenocarcinoma

Australia (Royal Prince Alfred Hospital) - Primary lung adenocarcinoma- lepidic + papillary

Canada (Pasqua Hospital) - Adenocarcinoma  
Ireland (Connolly Hospital) - Adenocarcinoma with bronchioloalveolar pattern  
Japan (Asahi General Hospital) - Adenocarcinoma (2)  
Japan (Setagaya-Ku) - Adenocarcinoma  
Puerto Rico (University of Puerto Rico) - Invasive adenocarcinoma/rule out biphasic synovial sarcoma  
Saudi Arabia (King Khalid University Hospital) - Adenocarcinoma with bronchioalveolar features  
Singapore (Freelance Locum Practice) - Adenocarcinoma  
United Kingdom (Oxford University NHS Trust) - Mucinous (BAC) bronchioalveolar carcinoma vs. adenocarcinoma

**Case 7 - Diagnosis:**

Adenocarcinoma with bronchioloalveolar pattern, lung  
 T-28000, M-82503

**Case 7 - References:**

Bronchioloalveolar carcinoma and the significance of invasion: predicting biologic behavior. *Arch Pathol Lab Med* 2010; Oct;134(10): p1450-4. Schmidt L; Myers J.  
 Cytodiagnostic aspects of bronchioloalveolar carcinoma manifesting with small cell morphology on respiratory specimens: a case report. *Acta Cytol* 2010; Sep-Oct;54(5 Suppl): p1018-22. Siddaraju N; Yedlapati GK, et al.  
 Non-mucinous and mucinous subtypes of adenocarcinoma with bronchioloalveolar carcinoma features differ by biomarker expression and in the response to gefitinib. *Lung Cancer* 2010; May;68(2): p185-91. Wislez M; Antoine M, et al.  
 Mucinous and nonmucinous bronchioloalveolar carcinoma and smoking. *Am J Clin Pathol* 2010; Feb;133(2): p341-2. Garfield D.  
 Cytopathologic diagnosis of bronchioloalveolar carcinoma: does it correlate with the 1999 World Health Organization definition? *Am J Clin Pathol* 2004; Jul;122(1): p44-50. Ohori NP; Santa Maria EL.  
 Prognostic value of bronchioloalveolar carcinoma component in lung adenocarcinoma. *Histol Histopathol* 2006; Jun;21(6): p627-32. Lin DM; Ma Y; Zheng S, et al.

**Case No. 8, Accession No. 8677**

**April 2012**

Glendale - Thymic carcinoma  
Loma Linda - Giant and spindle cell carcinoma  
Newport Beach - Sarcoma, large cell, consider rhabdomyosarcoma  
Orange (UCI Medical Center Residents) - Anaplastic carcinoma  
Orinda (Kaiser Permanente) - Poorly differentiated carcinoma  
San Diego (Naval Medical Center) - Poorly differentiated carcinoma  
Alabama (Cunningham Pathology) - Anaplastic thyroid carcinoma  
Florida, Orlando - Sarcomatoid carcinoma  
Georgia, Atlanta - Thymic carcinoma, high grade  
Kansas (Coffeyville Regional Medical Center) - Large cell epithelioid thymoma  
Illinois (Heartland Regional Medical Center) - Large cell anaplastic carcinoma, possibly of thyroid origin  
Kansas (Peterson Laboratory Services) - Anaplastic carcinoma  
Maryland (University of Maryland) - Undifferentiated pleomorphic carcinoma  
Michigan (Henry Ford Hospital) - Embryonal carcinoma  
New York (SUNY Downstate Medical Center) - Poorly differentiated carcinoma with rhabdoid feature  
North Carolina (Wake Forest University School of Medicine) - Poorly differentiated carcinoma with rhabdoid features  
Oregon (Oregon Health and Science University Residents) - Anaplastic thyroid carcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Rhabdoid tumor  
Pennsylvania (Drexel University College of Medicine Residents) - Anaplastic thyroid carcinoma  
Pennsylvania (Wilkes-Barre General Hospital) - Pleomorphic/giant cell carcinoma  
Tennessee, Knoxville - Mesothelioma vs. anaplastic carcinoma  
Texas, Crystal Beach - Rhabdoid carcinoma  
Texas, Lubbock - Thymic carcinoma  
Wisconsin, Madison - Undifferentiated large cell carcinoma/adenocarcinoma

Wisconsin, Medical Assessment and Consultation, S.C. - Pleomorphic carcinoma with features of “rhabdoid carcinoma”  
Wisconsin (Medical College of Wisconsin) - Epithelioid sarcoma vs. rhabdoid thymic carcinoma  
Australia (Royal Prince Alfred Hospital) - Undifferentiated carcinoma  
Canada (Pasqua Hospital) - Giant cell carcinoma, thyroid  
Ireland (Connolly Hospital) - Giant cell carcinoma  
Japan (Asahi General Hospital) - Malignant mesothelioma (1); Giant cell carcinoma (1)  
Japan (Setagaya-Ku) - Giant cell carcinoma  
Puerto Rico (University of Puerto Rico) - Large cell carcinoma with rhabdoid features/metastatic carcinoma  
Saudi Arabia (King Khalid University Hospital) - Extrarenal malignant rhabdoid tumor (5); Anaplastic thyroid carcinoma (5)  
Singapore (Freelance Locum Practice) - Poorly differentiated carcinoma  
United Kingdom (Oxford University NHS Trust) - Mesothelioma

#### **Case 8 - Diagnosis:**

Large cell carcinoma with rhabdoid features, lung  
T-28000, M-80123

Director’s note: Cannot exclude thyroid origin, i.e. anaplastic thyroid carcinoma. (drc)

#### **Case 8 - References:**

Large cell carcinoma of the lung with a rhabdoid phenotype. *Pathol Int* 2002; Oct;52(10): p643-7. Kaneko T; Honda T, et al.  
Carcinoma of lung with rhabdoid features. *Hum Pathol* 2004; Jan;35(1): p8-13. Tamboli P; Toprani TH; Amin MB; Ro JS; Ordonez NG; Ayala AG; Ro JY.  
Intrathoracic rhabdoid carcinoma: a clinicopathological, immunohistochemical, and ultrastructural study of 6 cases. *Ann Diagn Pathol* 2005; Oct;9(5): p279-83. Falconieri G; Moran CA, et al.  
Pulmonary large cell carcinoma with rhabdoid phenotype. *Ultrastruct Pathol* 2003; Jan-Feb;27(1): p55-9. Hiroshima K; Shibuya K, et al.  
Pulmonary large cell carcinoma with rhabdoid phenotype. *Ann Diagn Pathol* 2005; Aug;9(4): p223-6. Yilmazbayhan D; Ates LE, et al.

#### **Case No. 9, Accession No. 12914**

**April 2012**

Glendale - Hodgkin’s disease  
Loma Linda - Metastatic carcinoma, likely breast  
Newport Beach - Hodgkin’s sarcoma  
Orange (UCI Medical Center Residents) - Nodular sclerosing Hodgkin’s lymphoma  
Orinda (Kaiser Permanente) - Hodgkin lymphoma  
San Diego (Naval Medical Center) - Nodular sclerosing Hodgkin’s lymphoma  
Alabama (Cunningham Pathology) - Nodular sclerosing Hodgkin’s disease  
Florida, Orlando - Hodgkin lymphoma  
Georgia, Atlanta - Hodgkin lymphoma, nodular sclerosis type  
Kansas (Coffeyville Regional Medical Center) - Hodgkin’s lymphoma  
Illinois (Heartland Regional Medical Center) - Hodgkin’s lymphoma, nodular sclerosis  
Kansas (Peterson Laboratory Services) - Classical nodular sclerosing Hodgkin lymphoma  
Maryland (University of Maryland) - Hodgkin’s  
Michigan (Henry Ford Hospital) - Hodgkin’s lymphoma, nodular sclerosis  
New York (SUNY Downstate Medical Center) - Nodular sclerosing Hodgkin’s lymphoma  
North Carolina (Wake Forest University School of Medicine) - Classical Hodgkin lymphoma  
Oregon (Oregon Health and Science University Residents) - Classical Hodgkin lymphoma, nodular sclerosing subtype  
Pennsylvania (Conemaugh Memorial Medical Center) - Hodgkin’s lymphoma  
Pennsylvania (Drexel University College of Medicine Residents) - Hodgkin’s lymphoma  
Pennsylvania (Wilkes-Barre General Hospital) - Classic Hodgkin disease, nodular sclerosis subtype  
Tennessee, Knoxville - Classical Hodgkin lymphoma, nodular sclerosis subtype

Texas, Crystal Beach - Anaplastic large cell lymphoma  
Texas, Lubbock - Hodgkin lymphoma  
Wisconsin, Madison - Hodgkin's lymphoma  
Wisconsin, Medical Assessment and Consultation, S.C. - Syncytial variant of NS Hodgkin lymphoma  
Wisconsin (Medical College of Wisconsin) - Classical Hodgkin lymphoma, nodular sclerosis type  
Australia (Royal Prince Alfred Hospital) - Hodgkin lymphoma, nodular sclerosing variant  
Canada (Pasqua Hospital) - Hodgkin's lymphoma  
Ireland (Connolly Hospital) - Hodgkin's lymphoma  
Japan (Asahi General Hospital) - Hodgkin's lymphoma (2)  
Japan (Setagaya-Ku) - Lymphoepithelioma-like carcinoma  
Puerto Rico (University of Puerto Rico) - Classical Hodgkin's lymphoma, nodular sclerosing subtype  
Saudi Arabia (King Khalid University Hospital) - Hodgkin's lymphoma of nodular sclerosis subtype  
Singapore (Freelance Locum Practice) - Hodgkin lymphoma, nodular sclerosis  
United Kingdom (Oxford University NHS Trust) - Nodular sclerosing Hodgkin's lymphoma/Hodgkin's lymphoma

#### **Case 9 - Diagnosis:**

Nodular sclerosing Hodgkin lymphoma, lung  
 T-28000, M-96503

#### **Case 9 - References:**

Diagnosis of Hodgkin's disease: an update on histopathological and immunophenotypical features. *Histol Histopathol* 2007; Aug;22(8): p923-35. Fraga M; Forteza J.  
 Hodgkin lymphoma involving extranodal and nodal head and neck sites: characteristics and outcomes. *Cancer* 2010; Aug 15;116(16): p3825-9. Iyengar P; Mazloom A, et al.  
 Inflammation and tissue repair markers distinguish the nodular sclerosis and mixed cellularity subtypes of classical Hodgkin's lymphoma. *Br J Cancer* 2009; Oct 20;101(8): p1393-401. Birgersdotter A; Baumforth KR, et al.  
 Connective tissue growth factor is expressed in malignant cells of Hodgkin lymphoma but not in other mature B-cell lymphomas. *Am J Clin Pathol* 2010; Feb;133(2): p271-80. Birgersdotter A; Baumforth KR, et al.  
 Syncytial variant of nodular sclerosis Hodgkin's lymphoma assessed by fine needle aspiration cytology. *Cytopathology* 2008; Dec;19(6): p394-7. Park IS; Kim L, et al.

#### **Case No. 10, Accession No. 13136**

**April 2012**

Glendale - Fetal-type adenocarcinoma  
Loma Linda - Malignant carcinoid  
Newport Beach - Carcinoid  
Orange (UCI Medical Center Residents) - Neuroendocrine carcinoma  
Orinda (Kaiser Permanente) - Papillary adenoma  
San Diego (Naval Medical Center) - Atypical carcinoid  
Alabama (Cunningham Pathology) - Carcinoid  
Florida, Orlando - Moderately differentiated neuroendocrine carcinoma, atypical carcinoid  
Georgia, Atlanta - Fetal type well-differentiated adenocarcinoma  
Kansas (Coffeyville Regional Medical Center) - Bronchial adenoma  
Illinois (Heartland Regional Medical Center) - Well-differentiated fetal adenocarcinoma  
Kansas (Peterson Laboratory Services) - Neuroendocrine carcinoma, high grade  
Maryland (University of Maryland) - Fetal adenocarcinoma  
Michigan (Henry Ford Hospital) - Carcinoid tumor  
New York (SUNY Downstate Medical Center) - Pulmonary blastoma  
North Carolina (Wake Forest University School of Medicine) - Atypical carcinoid tumor vs. PNET  
Oregon (Oregon Health and Science University Residents) - Well-differentiated fetal type adenocarcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Atypical carcinoid  
Pennsylvania (Drexel University College of Medicine Residents) - Pulmonary blastoma  
Pennsylvania (Wilkes-Barre General Hospital) - Atypical carcinoid tumor  
Tennessee, Knoxville - Atypical carcinoid  
Texas, Crystal Beach - Carcinoid tumor

Texas, Lubbock - Adenocarcinoid

Wisconsin, Madison - Pulmonary blastoma

Wisconsin, Medical Assessment and Consultation, S.C. - Grade I, neuroendocrine carcinoma (“atypical carcinoid”)

Wisconsin (Medical College of Wisconsin) - Well-differentiated fetal adenocarcinoma (pulmonary blastoma)

Australia (Royal Prince Alfred Hospital) - Fetal adenocarcinoma

Canada (Pasqua Hospital) - Fetal adenocarcinoma

Ireland (Connolly Hospital) - Fetal adenocarcinoma

Japan (Asahi General Hospital) - Carcinoid tumor (2)

Japan (Setagaya-Ku) - Fetal adenocarcinoma

Puerto Rico (University of Puerto Rico) - Atypical carcinoid tumor

Saudi Arabia (King Khalid University Hospital) - Pneumocytoma (papillary variant)

Singapore (Freelance Locum Practice) - Adenocarcinoma, fetal type

United Kingdom (Oxford University NHS Trust) - Fetal adenocarcinoma

#### **Case 10 - Diagnosis:**

Fetal type adenocarcinoma with neuroendocrine features, lung

T-28000, M-81403

#### **Case 10 - References:**

Well-differentiated fetal adenocarcinoma of the lung: cytomorphologic features on fine-needle aspiration with emphasis on use of beta-catenin as a useful diagnostic marker. *Diagn Cytopathol* 2007; Jan;35(1): p39-42. Proctor L; Folpe AL; Esper A; Wolfenden LL; Force S; Logani S.

Aspiration cytomorphology of fetal adenocarcinoma of the lung. *Am J Clin Pathol* 2010; Dec;134(6): p894-902. Geisinger KR; Travis WD; Perkins LA; Zakowski MF.

Bronchial brushing cytology of a pulmonary fetal adenocarcinoma with a poorly differentiated component. *Cytopathol* 2010; Oct;21(5): p349-51. AU - Kadota K; Haba R; Katsuki N; Chujo K; Okada S; Nakamura H; Hayashi T; Miyai Y; Bando K; Shibuya S; Kushida Y.

Adenocarcinoma of the fetal lung-type metastatic to the ovary. CM - Comment On: RefSource: *Int J Gynecol Pathol*. 2009; Jan; 28(1):59-62. *Int J Gynecol Pathol* 2010; Jul;29(4): p339-40. Huysentruyt CJ; Vandevijver NM; Jan van Suylen R; Van de Vijver KK.

[Well-differentiated fetal adenocarcinoma of lung: a case report with 14 cases literature review]. *Zhongguo Fei Ai Za Zhi* 2010; Aug;13(8): p838-40. Zhang T; Qin N; Li B.

Well differentiated fetal adenocarcinoma of the lung in a 29 year old woman. *J Clin Pathol* 2003; Jun;56(6): p478-9. Sheehan KM; Curran J; Kay EW; Broe P; Grace A

Lung adenocarcinoma with a micropapillary pattern: a clinicopathological study of 25 cases. *APMIS* 2006; May;114(5): p381-5. Kuroda N; Hamaguchi N; Takeuchi E; Ohara M; Hirouchi T; Mizuno K.

Pulmonary well-differentiated fetal adenocarcinoma diagnosed by bronchial brush and immunocytochemistry. *Diagn Cytopathol* 2006; Apr;34(4): p308-10. Odashiro DN; Nguyen GK.