

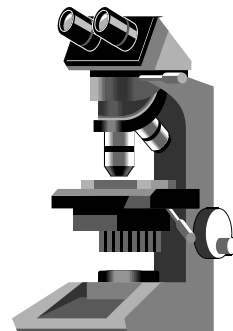


CALIFORNIA  
TUMOR TISSUE REGISTRY

## *ENDOCRINE PATHOLOGY*

Minutes – Subscription A

September 2010



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

Neuroendocrine carcinoma of unknown primary site. Spigel DR; Hainsworth JD; Greco FA. *Semin Oncol* 2009 Feb;36(1): p52-9.

Update on pancreatic endocrine tumors. Frankel WL. *Arch Pathol Lab Med* 2006 Jul;130(7): p963-6.

Breast endocrine cancer. Amiraslanov A; Muradov H; Velieva H. *Georgian Med News* 2009 Feb;(167): p36-9.

Cystic pancreatic endocrine tumor: a variant commonly confused with cystic adenocarcinoma. Deshpande V; Lauwers GY. *Cancer* 2007 Feb 25;111(1): p47-53.

Medullary thyroid carcinoma metastatic to the pituitary gland: an unusual site of metastasis. Williams MD; Asa SL; Fuller GN. *Ann Diagn Pathol* 2008 Jun;12(3): p199-203.

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

**CTTR Subscription A**

**September 2010**

**Case 1:**

Pancreatic endocrine neoplasm  
T-59000, D-2380

**Case 2:**

Mucoepidermoid carcinoma, thyroid  
T-96000, M-84303

**Case 3:**

Medullary carcinoma, oncocytic variant, thyroid  
T-96000, M-82903

**Case 4:**

Papillary thyroid carcinoma, spindle cell variant  
T-96000, M-80323

**Case 5:**

Dyshormonogenetic goiter, thyroid  
T-96000, D-2205

**Case 6:**

Insular carcinoma, thyroid  
T-96000, M-80103

**Case 7:**

Ganglioneuroma, adrenal gland  
T-93000, M-94900

**Case 8:**

Ganglioneuroblastoma, adrenal  
T-93000, M-94903

**Case 9:**

Neuroendocrine carcinoma, adrenal  
T-93000, M-80103

**Case 10:**

Pheochromocytoma, adrenal  
T-93000, M-87000

Baldwin Park (Kaiser Permanente) - Pancreatic neuroendocrine neoplasm, low grade (1); Well-differentiated (2)  
Fontana (Kaiser Permanente) - Pancreatic endocrine tumor  
Glendale - Pancreatic endocrine tumor  
Hayward (St. Rose Hospital) - Pancreatic endocrine neoplasm, low grade  
Long Beach - Neuroendocrine carcinoma, well-differentiated (2)  
Oakland (Alameda County Medical Center) - Pancreatic endocrine tumor  
Orinda (Kaiser Permanente) - Pancreatic endocrine neoplasm  
Oxnard (St. John's Regional Medical Center) - Islet cell neoplasm (neuroendocrine) (1); Endocrine carcinoma (1); Pancreatic endocrine neoplasm (1)  
Sacramento (UC Davis Medical Center) - Pancreatic endocrine neoplasm  
San Diego (Naval Medical Center) - Pancreatic endocrine neoplasm  
Santa Barbara (Miramonte Laboratories) - Pancreatic endocrine tumor  
Woodland Hills (Kaiser Permanente) - Well-differentiated endocrine tumor  
Arkansas (Associated Pathologists Laboratory) - Pancreatic endocrine neoplasm  
Florida (Gastroenterology Associates of Ocala) - Pancreatic endocrine tumor  
Florida (Global Pathology Lab Services, Inc) - Islet cell tumor (2)  
Florida (Naples Pathology Associates) - Well-differentiated endocrine tumor  
Florida, Tallahassee - Neuroendocrine tumor  
Georgia, Atlanta - Pancreatic endocrine neoplasm tumor  
Illinois, Chicago - Islet cell tumor  
Illinois (Heartland Regional Medical Center) - Pancreatic endocrine neoplasm (islet cell tumor), well-differentiated  
Illinois, Orland Park - Islet cell tumor  
Indiana (Ball Memorial Hospital Pathology Residents) - Well-differentiated pancreatic endocrine neoplasm  
Maryland (University of Maryland) - Favor well-differentiated pancreatic endocrine neoplasm (see comment #1)  
Massachusetts (BWH Pathology) - Well-differentiated endocrine neoplasm (glucagonoma)  
Massachusetts, Peabody - Endocrine tumor, pancreas  
Massachusetts (Tufts Medical Center) - Pancreatic endocrine tumor  
Massachusetts (University of Massachusetts Residents) - Pancreatic neuroendocrine tumor  
Michigan (Pathology Consultants of Port Huron, PC) - Carcinoid tumor (islet cell tumor)  
Minnesota (Fairview Ridges Hospital) - Pancreatic endocrine tumor  
Missouri (Missouri Delta Medical Center) - Pancreatic endocrine tumor (1); Carcinoid (1)  
Missouri (St. Luke's Hospital) - Islet cell tumor (1); Pancreatic endocrine neoplasm (1); Well-differentiated pancreatic endocrine neoplasm (1)  
Nebraska (Creighton University Medical Center) - Pancreatic endocrine neoplasm, well-differentiated  
New York (Albany Medical Center) - Pancreatic endocrine neoplasm  
New York (Erie County Medical Center) - Well-differentiated pancreatic endocrine tumor of uncertain behavior  
New York (North Shore Long Island Jewish Health System) - Pancreatic endocrine neoplasm (2)  
New York (Staten Island University Hospital) - Acinar cell carcinoma  
North Carolina (North Carolina Baptist) - Acinar cell carcinoma  
New York (SUNY Stony Brook University) - Pancreatic endocrine neoplasm  
New York (Westchester Medical Center) - Pancreatic neuroendocrine tumor  
Ohio, Columbus - Well-differentiated neuroendocrine carcinoma  
Ohio (The Cleveland Clinic Pathology Residents) - Pancreatic endocrine neoplasm of uncertain potential  
Ohio (The Ohio State University) - Well-differentiated neuroendocrine carcinoma  
Ohio, Union Town - Pancreatic endocrine neoplasm  
Pennsylvania (Conemaugh Memorial Medical Center) - Pancreatic neuroendocrine neoplasm  
Pennsylvania (Drexel University College of Medicine) - Pancreatic endocrine neoplasm  
Pennsylvania (Magee Women's Hospital) - Pancreatic endocrine tumor  
Puerto Rico (University of Puerto Rico School of Medicine) - Pancreatic neuroendocrine neoplasia (7); Solid pseudopapillary neoplasia (3)  
Texas (Carl R. Darnall Army Medical Center) - Pancreatic endocrine neoplasm  
Texas, Crystal Beach - Solid pseudopapillary tumor  
Texas, Houston - Pancreatic endocrine neoplasm  
Texas, Lubbock - Islet cell tumor  
Texas (Scott & White Hospital) - Pancreatic neuroendocrine tumor

Virginia (Dominon Pathology Associates) - Pancreatic endocrine neoplasm  
Washington (Seattle VAMC) - Endocrine epithelial neoplasm consistent with invasive growth pattern  
West Virginia (Greenbrier Valley Medical Center) - Acinar cell carcinoma  
Australia (Flinders Medical Center) - Well-differentiated neuroendocrine tumor “insulinoma”  
Australia (Royal Hobart Hospital) - Well-differentiated pancreatic endocrine neoplasm  
Australia (Royal Prince Alfred Hospital) - Pancreatic endocrine neoplasm ? islet cell tumor (insulinoma)  
Canada (University of Sherbrooke) - Pancreatic endocrine neoplasm  
Canada, Quebec - Well-differentiated endocrine neoplasm  
Ireland (Kerry General Hospital) - Pancreatic endocrine neoplasm  
Japan (Asahi General Hospital) - Well-differentiated endocrine tumor  
Japan (Lions Mansion Nijyo Ekimae) - Well-differentiated endocrine tumor, pancreas  
Japan, Shizuoka Tokushu-Kai Hospital) - Well-differentiated endocrine tumor  
Japan, Tokyo - Pancreatic endocrine neoplasm  
Oman (Khoulia Hospital) - Well differentiated endocrine tumor  
Singapore (Freeland/Locum Practice) - Pancreatic endocrine neoplasm  
Singapore (Singapore General Hospital) - Well-differentiated endocrine tumor of uncertain behavior, pancreas  
Japan (University of Yamashiro) - Islet cell tumor  
Saudi Arabia (King Khalid University Hospital) - Islet cell neoplasm (well-differentiated pancreatic endocrine tumor)

#### **Case 1 - Diagnosis:**

Pancreatic endocrine neoplasm  
 T-59000, D-2380

#### **Case 1 - References:**

Chromosomal alterations detected by comparative genomic hybridization in nonfunctioning endocrine pancreatic tumors. Floridia G; Grilli G, et al. *Cancer Genet Cytogenet* 2005 Jan 1;156(1): p23-30.  
  
 Recapitulation of pancreatic neuroendocrine tumors in human multiple endocrine neoplasia type I syndrome via Pdx1-directed inactivation of Men1. Shen HC; He M, et al. *Cancer Res* 2009 Mar 1;69(5): p1858-66.  
  
 Update on pancreatic endocrine tumors. Frankel WL. *Arch Pathol Lab Med* 2006 Jul;130(7): p963-6.  
  
 Pancreatic endocrine neoplasms: epidemiology and prognosis of pancreatic endocrine tumors. Halldanarson TR; Rubin J, et al. *Endocr Relat Cancer* 2008 Jun;15(2): p409-27.  
  
 Endocrine tumors of the pancreas. Simon P; Spilcke-Liss E; Wallaschofski H. *Endocrinol Metab Clin North Am* 2006 Jun;35(2): p431-47, xii.

#### **Case No. 2, Accession No. 31243**

**September 2010**

Baldwin Park (Kaiser Permanente) - Mucoepidermoid carcinoma (4)  
Fontana (Kaiser Permanente) - Mucoepidermoid carcinoma  
Glendale - Sclerosing Hashimoto's thyroiditis  
Hayward (St. Rose Hospital) - Florid squamous metaplasia of the thyroid  
Long Beach - Sclerosing mucoepidermoid carcinoma (2)  
Oakland (Alameda County Medical Center) - Sclerosing mucoepidermoid carcinoma  
Orinda (Kaiser Permanente) - Fibrous variant of chronic lymphocytic thyroiditis  
Oxnard (St. John's Regional Medical Center) - Mucoepidermoid carcinoma (3)  
Sacramento (UC Davis Medical Center) - Mucoepidermoid carcinoma  
San Diego (Naval Medical Center) - Sclerosing mucoepidermoid carcinoma  
Santa Barbara (Miramonte Laboratories) - Squamous metaplasia in chronic thyroiditis  
Woodland Hills (Kaiser Permanente) - Mucoepidermoid carcinoma  
Arkansas (Associated Pathologists Laboratory) - Fibrosing (Riedel's) thyroiditis  
Florida (Gastroenterology Associates of Ocala) - Autoimmune thyroiditis, fibrous variant

Florida (Global Pathology Lab Services, Inc) - Fibrosing Hashimoto thyroiditis (2)  
Florida (Naples Pathology Associates) - Hashimoto's thyroiditis, fibrous variant  
Florida, Tallahassee - Developmental rest with thymic elements  
Georgia, Atlanta - Sclerosing mucoepidermoid carcinoma  
Illinois, Chicago - Hashimoto's disease  
Illinois (Heartland Regional Medical Center) - Hashimoto's thyroiditis, fibrous variant  
Illinois, Orland Park - Hashimoto's disease  
Indiana (Ball Memorial Hospital Pathology Residents) - Hashimoto's thyroiditis, fibrous variant  
Maryland (University of Maryland) - Sclerosing mucoepidermoid carcinoma  
Massachusetts (BWH Pathology) - Mucoepidermoid carcinoma of thyroid gland  
Massachusetts, Peabody - Fibrosing thyroiditis  
Massachusetts (Tufts Medical Center) - Sclerosing mucoepidermoid carcinoma  
Massachusetts (University of Massachusetts Residents) - Fibrous (fibrosing) variant of Hashimoto's thyroiditis  
Michigan (Pathology Consultants of Port Huron, PC) - Mucoepidermoid carcinoma  
Minnesota (Fairview Ridges Hospital) - Adenosquamous carcinoma/low grade mucoepidermoid carcinoma  
Missouri (Missouri Delta Medical Center) - Mucoepidermoid carcinoma (2)  
Missouri (St. Luke's Hospital) - Hashimoto's (1); Sclerosing mucoepidermoid carcinoma, arising in a background of thyroiditis (1); Carcinoma with thymus-like element (1)  
Nebraska (Creighton University Medical Center) - Mucoepidermoid carcinoma  
New York (Albany Medical Center) - Hashimoto's thyroiditis  
New York (Erie County Medical Center) - Sclerosing mucoepidermoid carcinoma  
New York (North Shore Long Island Jewish Health System) - Consistent with IgG4-related sclerosing disease (1); Sclerosing mucoepidermoid carcinoma of the thyroid (1)  
New York (Staten Island University Hospital) - Hashimoto's thyroiditis, fibrous variant  
North Carolina (North Carolina Baptist) - Metastatic mucoepidermoid carcinoma  
New York (SUNY Stony Brook University) - Nodular Hashimoto's thyroiditis mimicking SMECE  
New York (Westchester Medical Center) - Mucoepidermoid carcinoma of the thyroid  
Ohio, Columbus - Fibrosing variant of lymphocytic thyroiditis  
Ohio (The Cleveland Clinic Pathology Residents) - Sclerosing thyroiditis with squamous hyperplasia  
Ohio (The Ohio State University) - Lymphocytic thyroiditis, fibrous variant  
Ohio, Union Town - Metastatic adenocarcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Thyroid mucoepidermoid carcinoma  
Pennsylvania (Drexel University College of Medicine) - Mucoepidermoid carcinoma  
Pennsylvania (Magee Women's Hospital) - Nodular tumor-like squamous metaplasia in Hashimoto thyroiditis  
Puerto Rico (University of Puerto Rico School of Medicine) - Mucoepidermoid carcinoma vs. squamous metaplasia  
Texas (Carl R. Darnall Army Medical Center) - Lymphocytic thyroiditis, fibrous variant  
Texas, Crystal Beach - Extranodal marginal zone B-cell lymphoma in Hashimoto thyroiditis  
Texas, Houston - Hashimoto's thyroiditis  
Texas, Lubbock - Mucoepidermoid carcinoma  
Texas (Scott & White Hospital) - Mucoepidermoid carcinoma  
Virginia (Dominon Pathology Associates) - Mucoepidermoid carcinoma consistent with sclerosis  
Washington (Seattle VAMC) - Autoimmune thyroiditis, Hashimoto's  
West Virginia (Greenbrier Valley Medical Center) - Fibrosing (Riedel) thyroiditis  
Australia (Flinders Medical Center) - Sclerosing variant of Hashimoto's thyroiditis  
Australia (Royal Hobart Hospital) - Mucoepidermoid carcinoma, thyroid  
Australia (Royal Prince Alfred Hospital) - Fibrous variant of Hashimoto's thyroiditis  
Canada (University of Sherbrooke) - Mucoepidermoid carcinoma  
Canada, Quebec - Mucoepidermoid carcinoma  
Ireland (Kerry General Hospital) - Undifferentiated (squamous) carcinoma  
Japan (Asahi General Hospital) - Fibrous variant of Hashimoto's thyroiditis  
Japan (Lions Mansion Nijyo Ekimae) - Mucoepidermoid carcinoma, thyroid  
Japan, Shizuoka Tokushu-Kai Hospital) - Hashimoto thyroiditis (2)  
Japan, Tokyo - Mucoepidermoid carcinoma  
Oman (Khoula Hospital) - Mucoepidermoid carcinoma  
Singapore (Freeland/Locum Practice) - Sclerosing mucoepidermoid carcinoma  
Singapore (Singapore General Hospital) - Mucoepidermoid carcinoma of thyroid, to exclude metastasis  
Japan (University of Yamanshi) - Mucoepidermoid carcinoma

Saudi Arabia (King Khalid University Hospital) - Advance Hashimoto's thyroiditis with fibrous and squamous metaplasia (4); Castle tumor of thyroid gland (4)

**Case 2 - Diagnosis:**

Mucoepidermoid carcinoma, thyroid  
T-96000, M-84303

**Case 2 - References:**

Sclerosing mucoepidermoid carcinoma with eosinophilia of the thyroid. Das S; Kalyani R. *Indian J Pathol Microbiol* 2008 Jan-Mar;51(1): p34-6.

Mucoepidermoid carcinoma of the thyroid and the parotid glands. Karakoc D; Ozdemir A, et al. *Am Surg* 2009 Jun;75(6): p519-20.

A rare case of mucoepidermoid carcinoma of the thyroid. Bhandarkar ND; Chan J; Strome M. *Am J Otolaryngol* 2005 Mar-Apr;26(2): p138-41.

Mucoepidermoid carcinoma of the head and neck: clinical analysis of 43 patients. Ozawa H; Tomita T, et al. *Jpn J Clin Oncol* 2008 Jun;38(6): p414-8.

Oncocytic mucoepidermoid carcinoma: clinicopathologic description in a series of 12 cases. Weinreb I; Seethala RR, et al. *Am J Surg Pathol* 2009 Mar;33(3): p409-16.

**Case No. 3, Accession No. 30662**

**September 2010**

Baldwin Park (Kaiser Permanente) - Medullary carcinoma (4)

Fontana (Kaiser Permanente) - Medullary carcinoma

Glendale - Medullary carcinoma

Hayward (St. Rose Hospital) - Medullary carcinoma with amyloid stroma

Long Beach - Medullary carcinoma (2)

Oakland (Alameda County Medical Center) - Medullary myxoid carcinoma

Orinda (Kaiser Permanente) - Medullary thyroid carcinoma

Oxnard (St. John's Regional Medical Center) - Medullary carcinoma (3)

Sacramento (UC Davis Medical Center) - Medullary carcinoma

San Diego (Naval Medical Center) - Medullary thyroid carcinoma

Santa Barbara (Miramonte Laboratories) - Medullary carcinoma

Woodland Hills (Kaiser Permanente) - Medullary carcinoma

Arkansas (Associated Pathologists Laboratory) - Medullary carcinoma

Florida (Gastroenterology Associates of Ocala) - Medullary carcinoma

Florida (Global Pathology Lab Services, Inc) - Medullary carcinoma (2)

Florida (Naples Pathology Associates) - Medullary thyroid carcinoma

Florida, Tallahassee - Medullary carcinoma

Georgia, Atlanta - Medullary carcinoma

Illinois, Chicago - Medullary carcinoma

Illinois (Heartland Regional Medical Center) - Medullary carcinoma

Illinois, Orland Park - Medullary carcinoma

Indiana (Ball Memorial Hospital Pathology Residents) - Medullary carcinoma

Maryland (University of Maryland) - Thyroid medullary carcinoma

Massachusetts (BWH Pathology) - Medullary carcinoma of thyroid gland

Massachusetts, Peabody - Medullary carcinoma, thyroid

Massachusetts (Tufts Medical Center) - Medullary carcinoma

Massachusetts (University of Massachusetts Residents) - Medullary thyroid carcinoma

Michigan (Pathology Consultants of Port Huron, PC) - Medullary carcinoma

Minnesota (Fairview Ridges Hospital) - Medullary carcinoma of the thyroid

Missouri (Missouri Delta Medical Center) - Medullary carcinoma (2)

Missouri (St. Luke's Hospital) - Medullary carcinoma (3)  
Nebraska (Creighton University Medical Center) - Medullary carcinoma (3)  
New York (Albany Medical Center) - Medullary carcinoma  
New York (Erie County Medical Center) - Medullary carcinoma  
New York (North Shore Long Island Jewish Health System) - Medullary carcinoma (2)  
New York (Staten Island University Hospital) - Medullary carcinoma, oncocyctic variant  
North Carolina (North Carolina Baptist) - Medullary thyroid carcinoma  
New York (SUNY Stony Brook University) - Medullary thyroid carcinoma  
New York (Westchester Medical Center) - Medullary carcinoma of the thyroid  
Ohio, Columbus - Medullary carcinoma  
Ohio (The Cleveland Clinic Pathology Residents) - Medullary carcinoma  
Ohio (The Ohio State University) - Medullary carcinoma  
Ohio, Union Town - Medullary carcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Thyroid medullary carcinoma  
Pennsylvania (Drexel University College of Medicine) - Medullary carcinoma  
Pennsylvania (Magee Women's Hospital) - Medullary carcinoma  
Puerto Rico (University of Puerto Rico School of Medicine) - Medullary thyroid carcinoma  
Texas (Carl R. Darnall Army Medical Center) - Medullary thyroid carcinoma  
Texas, Crystal Beach - Medullary carcinoma  
Texas, Houston - Medullary carcinoma  
Texas, Lubbock - Medullary carcinoma  
Texas (Scott & White Hospital) - Medullary carcinoma  
Virginia (Dominon Pathology Associates) - Medullary carcinoma  
Washington (Seattle VAMC) - Medullary carcinoma  
West Virginia (Greenbrier Valley Medical Center) - Oncocyctic carcinoma  
Australia (Flinders Medical Center) - Medullary carcinoma  
Australia (Royal Hobart Hospital) - Medullary carcinoma, thyroid  
Australia (Royal Prince Alfred Hospital) - Medullary carcinoma  
Canada (University of Sherbrooke) - Medullary carcinoma  
Canada, Quebec - Medullary carcinoma  
Ireland (Kerry General Hospital) - Medullary carcinoma  
Japan (Asahi General Hospital) - Medullary thyroid carcinoma  
Japan (Lions Mansion Nijyo Ekimae) - Medullary carcinoma, thyroid  
Japan, Shizuoka Tokushu-Kai Hospital) - Medullary carcinoma  
Japan, Tokyo - Medullary carcinoma  
Oman (Khoula Hospital) - Medullary carcinoma  
Singapore (Freeland/Locum Practice) - Medullary thyroid carcinoma  
Singapore (Singapore General Hospital) - Medullary thyroid carcinoma  
Japan (University of Yamanshi) - Medullary carcinoma  
Saudi Arabia (King Khalid University Hospital) - Medullary carcinoma of thyroid

### **Case 3 - Diagnosis:**

Medullary carcinoma, oncocyctic variant, thyroid  
 T-96000, M-82903

### **Case 3 - References:**

The thyroid Hurthle (oncocyctic) cell and its associated pathologic conditions: a surgical pathology and cytopathology review. Montone KT; Baloch ZW; Li Volsi VA. *Arch Pathol Lab Med* 2008 Aug;132(8): p1241-50.

Oncocyctic, focally anaplastic, thyroid cancer responding to erlotinib. Hogan T; Jing Jie Yu, et al. *J Oncol Pharm Pract* 2009 Jun;15(2): p111-7.

New variants of epithelial-myoepithelial carcinoma: oncocyctic-sebaceous and apocrine. Seethala RR; Richmond JA, et al. *Arch Pathol Lab Med* 2009 Jun;133(6): p950-9.

Follicular histotypes of oncocyctic thyroid carcinomas do not carry mutations of the BRAF hot-spot. Musholt PB; Musholt TJ, et al. *World J Surg* 2008 May;32(5): p722-8.

Sporadic and familial medullary thyroid carcinoma: state of the art. Moo-Young TA; Traugott AL; Moley JF. *Surg Clin North Am* 2009 Oct;89(5): p1193-204.

Oncocytic carcinoma: review of the literature. Pusiol T; Franceschetti I; Pisciole I. *J Oral Maxillofac Surg* 2009 Sep;67(9): p2035-7; author reply 2037.

#### Case No. 4, Accession No. 31026

September 2010

Baldwin Park (Kaiser Permanente) - Papillary carcinoma (with spindle cell features) (4)  
Fontana (Kaiser Permanente) - Hyalinizing trabecular tumor  
Glendale - Follicular carcinoma  
Hayward (St. Rose Hospital) - Undifferentiated (anaplastic) thyroid carcinoma  
Long Beach - Favor follicular variant of a papillary carcinoma (2)  
Oakland (Alameda County Medical Center) - Poorly differentiated thyroid carcinoma  
Orinda (Kaiser Permanente) - Hyalinizing trabecular adenoma  
Oxnard (St. John's Regional Medical Center) - High grade follicular carcinoma (1); Follicular carcinoma vs. undifferentiated (1); Undifferentiated carcinoma (spindle cell), high grade follicular carcinoma (1)  
Sacramento (UC Davis Medical Center) - Papillary carcinoma  
San Diego (Naval Medical Center) - Hyalinizing trabecular tumor vs. papillary thyroid carcinoma  
Santa Barbara (Miramonte Laboratories) - Medullary carcinoma  
Woodland Hills (Kaiser Permanente) - Hyalinizing trabecular tumor  
Arkansas (Associated Pathologists Laboratory) - Hyalinizing trabecular adenoma  
Florida (Gastroenterology Associates of Ocala) - Follicular carcinoma  
Florida (Global Pathology Lab Services, Inc) - Follicular carcinoma (2)  
Florida (Naples Pathology Associates) - Follicular adenoma  
Florida, Tallahassee - Hyalinizing trabecular tumor  
Georgia, Atlanta - Follicular adenoma/carcinoma  
Illinois, Chicago - Papillary carcinoma  
Illinois (Heartland Regional Medical Center) - Papillary carcinoma, solid variant  
Illinois, Orland Park - Papillary carcinoma  
Indiana (Ball Memorial Hospital Pathology Residents) - Hyalinizing trabecular tumor  
Maryland (University of Maryland) - Hyalizing trabecular tumor  
Massachusetts (BWH Pathology) - Follicular carcinoma of thyroid gland  
Massachusetts, Peabody - Spindle carcinoma, thyroid  
Massachusetts (Tufts Medical Center) - Hyalinizing trabecular carcinoma  
Massachusetts (University of Massachusetts Residents) - Papillary thyroid carcinoma  
Michigan (Pathology Consultants of Port Huron, PC) - Poorly differentiated (insular) carcinoma  
Minnesota (Fairview Ridges Hospital) - Papillary thyroid carcinoma, spindle cell  
Missouri (Missouri Delta Medical Center) - Medullary carcinoma (1); Medullary thyroid cancer spindle cell variant (1)  
Missouri (St. Luke's Hospital) - Papillary carcinoma (2); Hyalinizing trabecular neoplasm (1)  
Nebraska (Creighton University Medical Center) - Papillary carcinoma solid vs. hyalinizing tri adenoma (3)  
New York (Albany Medical Center) - Follicular adenoma  
New York (Erie County Medical Center) - Follicular carcinoma minimally invasive  
New York (North Shore Long Island Jewish Health System) - Papillary carcinoma (1); Anaplastic thyroid carcinoma (1)  
New York (Staten Island University Hospital) - Hyalinizing trabecular tumor  
North Carolina (North Carolina Baptist) - Anaplastic carcinoma  
New York (SUNY Stony Brook University) - Thyroid tumor (NOS)  
New York (Westchester Medical Center) - Solid variant of papillary/poorly differentiated thyroid carcinoma  
Ohio, Columbus - Follicular carcinoma  
Ohio (The Cleveland Clinic Pathology Residents) - Papillary thyroid carcinoma, solid variant  
Ohio (The Ohio State University) - Follicular carcinoma  
Ohio, Union Town - Papillary carcinoma, solid variant  
Pennsylvania (Conemaugh Memorial Medical Center) - Hurthle cell neoplasm



Pennsylvania (Drexel University College of Medicine) - Papillary carcinoma  
Pennsylvania (Magee Women's Hospital) - Hyalinizing trabecular follicular adenoma  
Puerto Rico (University of Puerto Rico School of Medicine) - Hyalinizing trabecular adenoma/thyroid carcinoma  
Texas (Carl R. Darnall Army Medical Center) - Poorly differentiated thyroid carcinoma  
Texas, Crystal Beach - Follicular variant papillary carcinoma  
Texas, Houston - Follicular carcinoma  
Texas, Lubbock - Anaplastic carcinoma  
Texas (Scott & White Hospital) - Hyalinizing trabecular adenoma  
Virginia (Dominon Pathology Associates) - Hyalinizing trabecular adenoma/neoplasm  
Washington (Seattle VAMC) - Follicular adenomas  
West Virginia (Greenbrier Valley Medical Center) - Follicular carcinoma  
Australia (Flinders Medical Center) - Poorly differentiated carcinoma, insular  
Australia (Royal Hobart Hospital) - Hyalinizing trabecular tumor, thyroid  
Australia (Royal Prince Alfred Hospital) - Paraganglioma  
Canada, Quebec - Papillary carcinoma  
Ireland (Kerry General Hospital) - Insular carcinoma  
Japan (Asahi General Hospital) - Follicular adenoma  
Japan (Lions Mansion Nijyo Ekimae) - Poorly differentiated carcinoma, thyroid  
Japan, Shizuoka Tokushu-Kai Hospital) - Parathyroid adenoma  
Japan, Tokyo - Papillary carcinoma  
Oman (Khoula Hospital) - Undifferentiated carcinoma  
Singapore (Freeland/Locum Practice) - Poorly differentiated to anaplastic thyroid carcinoma  
Singapore (Singapore General Hospital) - Hyalinizing trabecular adenoma (neoplasm) of thyroid  
Japan (University of Yamanshi) - Papillary carcinoma  
Saudi Arabia (King Khalid University Hospital) - Papillary carcinoma of thyroid

#### **Case 4 - Diagnosis:**

Papillary thyroid carcinoma, spindle cell variant  
 T-96000, M-80323

Outside Consultation: Stanford Medical Center: "Papillary thyroid carcinoma, spindle cell variant"

#### **Case 4 - References:**

Histologic variants of papillary and follicular carcinomas associated with anaplastic spindle and giant cell carcinomas of the thyroid: an analysis of rhabdoid and thyroglobulin inclusions. Albores-Saavedra J; Hernandez M, et al. *Am J Surg Pathol* 2007 May;31(5): p729-36.

Primary spindle cell lesions of the thyroid gland; an overview. Papi G; Corrado S; Li Volsi VA. *Am J Clin Pathol* 2006 Jun;125 Suppl:S95-123.

### **Case No. 5, Accession No. 31198**

**September 2010**

Baldwin Park (Kaiser Permanente) - Papillary hyperplasia (with treatment effect) (2); Papillary carcinoma with spindle cell features (2)  
Fontana (Kaiser Permanente) - Dyshormonogenetic goiter  
Glendale - Benign thyroid  
Hayward (St. Rose Hospital) - Dyshormonogenetic goiter (atypical)  
Long Beach - Thyroid, dishormonogenetic goiter (2)  
Oakland (Alameda County Medical Center) - Dyshormonogenetic goiter  
Orinda (Kaiser Permanente) - Dyshormonogenetic goiter  
Oxnard (St. John's Regional Medical Center) - Atrophic thyroid (3)  
Sacramento (UC Davis Medical Center) - Normal thyroid  
San Diego (Naval Medical Center) - Dyshormonogenetic goiter  
Santa Barbara (Miramonte Laboratories) - Dyshormonogenesis

Woodland Hills (Kaiser Permanente) - Dyshormonogenetic goiter  
Arkansas (Associated Pathologists Laboratory) - Follicular carcinoma  
Florida (Gastroenterology Associates of Ocala) - Fibrosing thyroiditis, Hashimoto variant  
Florida (Global Pathology Lab Services, Inc) - Nodular goiter  
Florida (Naples Pathology Associates) - Dyshormonogenetic goiter  
Florida, Tallahassee - Nodular hyperplasia, treatment effect  
Georgia, Atlanta - Dyshormonogenetic goiter  
Illinois, Chicago - Dyshormonogenetic goiter  
Illinois (Heartland Regional Medical Center) - Dyshormonogenesis goiter  
Illinois, Orland Park - Dyshormonogenetic goiter  
Indiana (Ball Memorial Hospital Pathology Residents) - Dyshormonogenetic goiter  
Maryland (University of Maryland) - Dyshormonogenetic goiter  
Massachusetts (BWH Pathology) - Papillary carcinoma, follicular variant of thyroid  
Massachusetts, Peabody - Sporadic goiter  
Massachusetts (Tufts Medical Center) - Dyshormonogenesis goiter  
Massachusetts (University of Massachusetts Residents) - Dyshormonogenetic goiter  
Michigan (Pathology Consultants of Port Huron, PC) - Adenomatous goiter  
Minnesota (Fairview Ridges Hospital) - Dyshormonogenetic goiter  
Missouri (Missouri Delta Medical Center) - Atrophy (1); Atrophy and involution (1)  
Missouri (St. Luke's Hospital) - Dyshormonogenetic goiter (3)  
Nebraska (Creighton University Medical Center) - Multinodular goiter (dyshormonogenetic) (3)  
New York (Albany Medical Center) - Dyshormonogenetic goiter  
New York (Erie County Medical Center) - Dyshormonogenetic goiter  
New York (North Shore Long Island Jewish Health System) - Dyshormonogenetic goiter (2)  
New York (Staten Island University Hospital) - Follicular adenoma  
North Carolina (North Carolina Baptist) - Dyshormonogenic goiter  
New York (SUNY Stony Brook University) - Treatment related atypia  
New York (Westchester Medical Center) - Dyshormonogenetic goiter  
Ohio, Columbus - Follicular hyperplasia  
Ohio (The Cleveland Clinic Pathology Residents) - Poorly differentiated (insular) carcinoma  
Ohio (The Ohio State University) - Follicular hyperplasia  
Ohio, Union Town - Dyshormonogenetic goiter  
Pennsylvania (Conemaugh Memorial Medical Center) - Treated-related change, dyshormonogenetic goiter  
Pennsylvania (Drexel University College of Medicine) - Follicular adenoma  
Pennsylvania (Magee Women's Hospital) - Dyshormonogenetic goiter  
Puerto Rico (University of Puerto Rico School of Medicine) - Follicular adenoma arising in a dyshormonogenetic goiter  
Texas (Carl R. Darnall Army Medical Center) - Follicular and focal papillary hyperplasia  
Texas, Crystal Beach - Thyroid atrophy  
Texas, Houston - Hurthle cell adenoma  
Texas, Lubbock - Multinodular goiter with treatment effect and adenomatous nodule  
Texas (Scott & White Hospital) - Papillary microcarcinoma of thyroid  
Virginia (Dominon Pathology Associates) - Goiter, dyshormonogenetic  
Washington (Seattle VAMC) - Hyperplasia, goiter  
West Virginia (Greenbrier Valley Medical Center) - Dyshormonogenetic goiter  
Australia (Flinders Medical Center) - Dyshormonogenetic goiter  
Australia (Royal Hobart Hospital) - Dyshormonogenetic goiter  
Australia (Royal Prince Alfred Hospital) - Dyshormonogenetic goiter  
Canada (University of Sherbrooke) - Multinodular goiter with follicular adenoma  
Canada, Quebec - Dyshormonogenetic goiter  
Ireland (Kerry General Hospital) - Dyshormonogenetic goiter  
Japan (Asahi General Hospital) - Dyshormonogenetic goiter  
Lions Mansion Nijyo Ekimae - Dyshormonogenetic goiter  
Japan, Tokyo - Dyshormonogenetic goiter  
Oman (Khoula Hospital) - Dyshormonogenetic goiter  
Singapore (Freeland/Locum Practice) - Nodular goitre  
Singapore (Singapore General Hospital) - Dyshormonogenetic goiter

Japan (University of Yamanshi) - Dyshormonogenetic goiter  
Saudi Arabia (King Khalid University Hospital) - Dyshormonogenetic goiter

**Case 5 - Diagnosis:**

Dyshormonogenetic goiter, thyroid  
T-96000, D-2205

Contributor, Lester Thompson, M.D. "Dyshormonogenetic goiter, thyroid"

**Case 5 - References:**

Dyshormonogenetic goiter of the thyroid gland. Thompson L. *Ear Nose Throat J* 2005 Apr;84(4): p200.

[Dyshormonogenetic goiter: clinicopathologic study of four cases] *Zhonghua Bing Li Xue Za Zhi* 2007 Jan;36(1): p39-42.

Cytological features of dyshormonogenetic goiter: case report and review of the literature. Deshpande AH; Bobhate SK  
*Diagn Cytopathol* 2005 Oct;33(4): p252-4.

Papillary carcinoma of the thyroid developed in congenital dyshormonogenetic hypothyroidism without goiter: Diagnosis by FNAB. Drut R; Moreno A. *Diagn Cytopathol* 2009 Oct;37(10): p707-9.

**Case No. 6, Accession No. 29998**

**September 2010**

Baldwin Park (Kaiser Permanente) - Papillary carcinoma (1); Follicular carcinoma (3)

Fontana (Kaiser Permanente) - Papillary carcinoma

Glendale - Follicular carcinoma

Hayward (St. Rose Hospital) - Insular carcinoma

Long Beach - Follicular carcinoma. thyroid (2)

Oakland (Alameda County Medical Center) - Follicular carcinoma

Orinda (Kaiser Permanente) - Follicular carcinoma

Oxnard (St. John's Regional Medical Center) - Follicular carcinoma (1); Follicular variant papillary carcinoma (1);  
Follicular carcinoma with marked vascular invasion (1)

Sacramento (UC Davis Medical Center) - Insular carcinoma

San Diego (Naval Medical Center) - Papillary thyroid carcinoma

Santa Barbara (Miramonte Laboratories) - Malignant carcinoid

Woodland Hills (Kaiser Permanente) - Papillary carcinoma

Arkansas (Associated Pathologists Laboratory) - Poorly differentiated (insular) carcinoma

Florida (Gastroenterology Associates of Ocala) - Insular carcinoma

Florida (Global Pathology Lab Services, Inc) - Follicular carcinoma (2)

Florida (Naples Pathology Associates) - Follicular carcinoma

Florida, Tallahassee - Follicular carcinoma with vascular invasion

Georgia, Atlanta - Poorly differentiated thyroid carcinoma with focal insular growth pattern

Illinois, Chicago - Papillary carcinoma

Illinois (Heartland Regional Medical Center) - Follicular carcinoma, poorly differentiated

Illinois, Orland Park - Papillary carcinoma

Indiana (Ball Memorial Hospital Pathology Residents) - Insular carcinoma

Maryland (University of Maryland) - Poorly differentiated (insular) thyroid carcinoma

Massachusetts (BWH Pathology) - Columnar cell variant of papillary carcinoma of thyroid gland

Massachusetts, Peabody - Medullary carcinoma, thyroid

Massachusetts (Tufts Medical Center) - Follicular carcinoma

Massachusetts (University of Massachusetts Residents) - Insular carcinoma

Michigan (Pathology Consultants of Port Huron, PC) - Follicular carcinoma

Minnesota (Fairview Ridges Hospital) - Poorly differentiated (insular) thyroid carcinoma

Missouri (Missouri Delta Medical Center) - Poorly differentiated follicular carcinoma (2)

Missouri (St. Luke's Hospital) - Insular carcinoma (1); Poorly differentiated (insular) carcinoma (1); Follicular neoplasm (1)

Nebraska (Creighton University Medical Center) - Insular carcinoma (3)  
New York (Albany Medical Center) - Poorly differentiated carcinoma  
New York (Erie County Medical Center) - Insular carcinoma  
New York (North Shore Long Island Jewish Health System) - Insular carcinoma (1); Follicular carcinoma (1)  
New York (Staten Island University Hospital) - Insular carcinoma  
North Carolina (North Carolina Baptist) - Poorly differentiated carcinoma  
New York (SUNY Stony Brook University) - Insular carcinoma  
New York (Westchester Medical Center) - Insular carcinoma of the thyroid  
Ohio, Columbus - Follicular carcinoma  
Ohio (The Cleveland Clinic Pathology Residents) - Poorly differentiated (insular) carcinoma  
Ohio (The Ohio State University) - Follicular carcinoma  
Ohio, Union Town - Follicular carcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Thyroid papillary carcinoma  
Pennsylvania (Drexel University College of Medicine) - Follicular carcinoma  
Pennsylvania (Magee Women's Hospital) - Follicular variant papillary thyroid carcinoma  
Puerto Rico (University of Puerto Rico School of Medicine) - Thyroid carcinoma, follicular vs. papillary variant  
Texas (Carl R. Darnall Army Medical Center) - Follicular carcinoma, widely invasive  
Texas, Crystal Beach - Follicular variant papillary carcinoma  
Texas, Houston - Follicular carcinoma  
Texas, Lubbock - Follicular carcinoma  
Texas (Scott & White Hospital) - Insular carcinoma  
Virginia (Dominon Pathology Associates) - Insular carcinoma of thyroid  
Washington (Seattle VAMC) - Thyroid carcinoma, follicular type  
West Virginia (Greenbrier Valley Medical Center) - Medullary thyroid carcinoma  
Australia (Flinders Medical Center) - Follicular carcinoma  
Australia (Royal Hobart Hospital) - Poorly differentiated (insular) carcinoma, thyroid  
Australia (Royal Prince Alfred Hospital) - Insular carcinoma  
Canada (University of Sherbrooke) - Papillary carcinoma (follicular variant)  
Canada, Quebec - Papillary carcinoma  
Ireland (Kerry General Hospital) - Widely invasive follicular carcinoma  
Japan (Asahi General Hospital) - Follicular carcinoma  
Japan (Lions Mansion Nijyo Ekimae) - Poorly differentiated carcinoma, thyroid  
Japan, Tokyo - Follicular carcinoma  
Oman (Khoulia Hospital) - Poorly differentiated carcinoma  
Singapore (Freeland/Locum Practice) - Poorly differentiated thyroid carcinoma with follicular variant of papillary thyroid carcinoma  
Singapore (Singapore General Hospital) - Poorly differentiated carcinoma of thyroid  
Japan (University of Yamanshi) - Poorly differentiated carcinoma  
Saudi Arabia (King Khalid University Hospital) - Poorly differentiated carcinoma of thyroid (insular carcinoma)

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

Insular carcinoma, thyroid  
 T-96000, M-80103

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

Cytologic features of insular carcinoma of the thyroid: a case report. Oertel YC; Miyahara-Felipe L. *Diagn Cytopathol* 2006 Aug;34(8): p572-5.

Insular thyroid carcinoma: collective analysis of clinicohistologic prognostic factors and treatment effect with radioiodine or radiation therapy. Lai HW; Lee CH, et al. *J Am Coll Surg* 2006 Nov;203(5): p715-22.

Insular carcinoma of the thyroid with uncommon cytologic features: anisokaryotic cells and microfollicles containing dense colloid. Erkilic S; Kocer NE. *Pathol Res Pract* 2006;202(5): p389-93.

Significance of an insular component in follicular thyroid carcinoma with distant metastasis at initial presentation. Yamashita H; Noguchi Y, et al. *Endocr Pathol* 2005 Spring;16(1): p41-8.

Insular carcinomas of the thyroid exhibit poor prognosis and long-term survival in comparison to follicular and papillary T4 carcinomas. Agha A; Glockzin G, et al. *Langenbecks Arch Surg* 2007 Nov;392(6): p671-7.

**Case No. 7, Accession No. 31173**

**September 2010**

Baldwin Park (Kaiser Permanente) - Ganglioneuroma (4)  
Fontana (Kaiser Permanente) - Ganglioneuroma  
Glendale - Ganglioneuroma  
Hayward (St. Rose Hospital) - Ganglioneuroma  
Long Beach - Ganglioneuroma (2)  
Oakland (Alameda County Medical Center) - Ganglioneuroma  
Orinda (Kaiser Permanente) - Ganglioneuroma  
Oxnard (St. John's Regional Medical Center) - Ganglioneuroma (3)  
Sacramento (UC Davis Medical Center) - Ganglioneuroma  
San Diego (Naval Medical Center) - Ganglioneuroma  
Santa Barbara (Miramonte Laboratories) - Ganglioneuroma  
Woodland Hills (Kaiser Permanente) - Ganglioneuroma  
Arkansas (Associated Pathologists Laboratory) - Ganglioneuroma  
Florida (Gastroenterology Associates of Ocala) - Ganglioneuroma  
Florida (Global Pathology Lab Services, Inc) - Ganglioneuroma (2)  
Florida (Naples Pathology Associates) - Ganglioneuroma  
Florida, Tallahassee - Ganglioneuroma  
Georgia, Atlanta - Ganglioneuroma  
Illinois, Chicago - Ganglioneuroblastoma  
Illinois (Heartland Regional Medical Center) - Ganglioneuroma  
Illinois, Orland Park - Ganglioneuroblastoma  
Indiana (Ball Memorial Hospital Pathology Residents) - Ganglioneuroma  
Maryland (University of Maryland) - Ganglioneuroma  
Massachusetts (BWH Pathology) - Ganglioneuroma of adrenal gland  
Massachusetts, Peabody - Ganglioneuroma, adrenal  
Massachusetts (Tufts Medical Center) - Ganglioneuroma  
Massachusetts (University of Massachusetts Residents) - Ganglioneuroma  
Michigan (Pathology Consultants of Port Huron, PC) - Ganglioneuroma  
Minnesota (Fairview Ridges Hospital) - Ganglioneuroma  
Missouri (Missouri Delta Medical Center) - Ganglioneuroma (2)  
Missouri (St. Luke's Hospital) - Ganglioneuroma (3)  
Nebraska (Creighton University Medical Center) - Ganglioneuroma (3)  
New York (Albany Medical Center) - Ganglioneuroma  
New York (Erie County Medical Center) - Ganglioneuroma  
New York (North Shore Long Island Jewish Health System) - Ganglioneuroma (2)  
New York (Staten Island University Hospital) - Ganglioneuroma  
North Carolina (North Carolina Baptist) - Ganglioneuroma  
New York (SUNY Stony Brook University) - Ganglioneuroma  
New York (Westchester Medical Center) - Ganglioneuroma  
Ohio, Columbus - Ganglioneuroma  
Ohio (The Cleveland Clinic Pathology Residents) - Ganglioneuroma  
Ohio (The Ohio State University) - Ganglioneuroma  
Ohio, Union Town - Ganglioneuroma  
Pennsylvania (Conemaugh Memorial Medical Center) - Maturing to ganglioneuroma  
Pennsylvania (Drexel University College of Medicine) - Ganglioneuroma  
Pennsylvania (Magee Women's Hospital) - Ganglioneuroma  
Puerto Rico (University of Puerto Rico School of Medicine) - Ganglioneuroma  
Texas (Carl R. Darnall Army Medical Center) - Ganglioneuroma  
Texas, Crystal Beach - Ganglioneuroma  
Texas, Houston - Ganglioneuroma

Texas, Lubbock - Ganglioneuroma  
Texas (Scott & White Hospital) - Ganglioneuroma  
Virginia (Dominion Pathology Associates) - Ganglioneuroma  
Washington (Seattle VAMC) - Ganglioneuroma  
West Virginia (Greenbrier Valley Medical Center) - Ganglioneuroma  
Australia (Flinders Medical Center) - Ganglioneuroma  
Australia (Royal Hobart Hospital) - Ganglioneuroma, adrenal  
Australia (Royal Prince Alfred Hospital) - Ganglioneuroma  
Canada (University of Sherbrooke) - Ganglioneuroma  
Canada, Quebec - Ganglioneuroma  
Ireland (Kerry General Hospital) - Ganglioneuroma  
Japan (Asahi General Hospital) - Ganglioneuroma  
Japan (Lions Mansion Nijo Ekimae) - Ganglioneuroma, adrenal gland  
Japan, Shizuoka Tokushu-Kai Hospital) - Ganglioneuroma  
Japan, Tokyo - Ganglioneuroma  
Oman (Khoulia Hospital) - Ganglioneuroma  
Singapore (Freeland/Locum Practice) - Ganglioneuroma  
Singapore (Singapore General Hospital) - Ganglioneuroma (INPC mature subtype)  
Japan (University of Yamashiro) - Ganglioneuroma  
Saudi Arabia (King Khalid University Hospital) - Ganglioneuroma (examination of several sections is mandatory to exclude ganglioneuroblastoma)

**Case 7 - Diagnosis:**

Ganglioneuroma, adrenal gland  
 T-93000, M-94900

**Case 7 - References:**

Ganglioneuroma of the adrenal gland. Allende DS; Hansel DE; MacLennan GT. *J Urol* 2009 Aug;182(2): p714-5.

Adrenal ganglioneuroma accompanying catecholamine-producing adrenocortical cells. Goto J; Otsuka F; Omori M; Makino H. *J Endocrinol Invest* 2009 Feb;32(2): p192.

Adrenal ganglioneuroma. Mawuja S; Materne R, et al. *Am J Surg* 2007 Nov;194(5): p683-4.

Ganglioneuroma of the adrenal gland: a rare case. Gupta R; Dinda AK. *Indian J Pathol Microbiol* 2007 Oct;50(4): p782-4.

**Case No. 8, Accession No. 12346**

**September 2010**

Baldwin Park (Kaiser Permanente) - Neuroblastoma (4)  
Fontana (Kaiser Permanente) - Neuroblastoma  
Glendale - Neuroblastoma  
Hayward (St. Rose Hospital) - Neuroblastoma, grade 3  
Long Beach - Neuroblastoma (2)  
Oakland (Alameda County Medical Center) - Neuroblastoma  
Orinda (Kaiser Permanente) - Neuroblastoma  
Oxnard (St. John's Regional Medical Center) - Neuroblastoma (3)  
Sacramento (UC Davis Medical Center) - Neuroblastoma  
San Diego (Naval Medical Center) - Neuroblastoma  
Santa Barbara (Miramonte Laboratories) - Neuroblastoma  
Woodland Hills (Kaiser Permanente) - Neuroblastoma  
Arkansas (Associated Pathologists Laboratory) - Ganglioneuroblastoma  
Florida (Gastroenterology Associates of Ocala) - Neuroblastoma, undifferentiated/rule out EWS/PNET, etc  
Florida (Global Pathology Lab Services, Inc) - Neuroblastoma (2)  
Florida (Naples Pathology Associates) - Ganglioneuroblastoma

Florida, Tallahassee - Wilms tumor and ganglioneuroma  
Georgia, Atlanta - Adrenal cortical carcinoma  
Illinois, Chicago - Neuroblastoma  
Illinois (Heartland Regional Medical Center) - Neuroblastoma  
Illinois, Orland Park - Neuroblastoma  
Indiana (Ball Memorial Hospital Pathology Residents) - Neuroblastoma  
Maryland (University of Maryland) - Neuroblastoma  
Massachusetts (BWH Pathology) - Ganglioneuroblastoma, intermixed  
Massachusetts, Peabody - Carcinoma, adrenal  
Massachusetts (Tufts Medical Center) - Neuroblastoma  
Massachusetts (University of Massachusetts Residents) - Neuroblastoma  
Michigan (Pathology Consultants of Port Huron, PC) - Neuroblastoma  
Minnesota (Fairview Ridges Hospital) - Neuroblastoma  
Missouri (Missouri Delta Medical Center) - Neuroblastoma (2)  
Missouri (St. Luke's Hospital) - Ganglioneuroblastoma (3)  
Nebraska (Creighton University Medical Center) - Neuroblastoma (3)  
New York (Albany Medical Center) - Neuroblastoma  
New York (Erie County Medical Center) - Neuroblastoma, poorly differentiated  
New York (North Shore Long Island Jewish Health System) - Neuroblastoma (2)  
New York (Staten Island University Hospital) - Malignant pheochromocytoma  
North Carolina (North Carolina Baptist) - Small round blue cell tumor, possibly lymphoma  
New York (SUNY Stony Brook University) - Neuroblastoma  
New York (Westchester Medical Center) - Neuroblastoma  
Ohio, Columbus - Neuroblastoma  
Ohio (The Cleveland Clinic Pathology Residents) - Neuroblastoma  
Ohio (The Ohio State University) - Ganglioneuroblastoma  
Ohio, Union Town - Neuroblastoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Neuroblastoma  
Pennsylvania (Drexel University College of Medicine) - Neuroblastoma  
Pennsylvania (Magee Women's Hospital) - Neuroblastoma  
Puerto Rico (University of Puerto Rico School of Medicine) - Ganglioneuroblastoma  
Texas (Carl R. Darnall Army Medical Center) - Neuroblastoma  
Texas, Crystal Beach - Neuroblastoma  
Texas, Houston - Neuroblastoma  
Texas, Lubbock - Neuroblastoma  
Texas (Scott & White Hospital) - Ganglioneuroblastoma  
Virginia (Dominion Pathology Associates) - Neuroblastoma  
Washington (Seattle VAMC) - Neuroblastoma  
West Virginia (Greenbrier Valley Medical Center) - Neuroblastoma  
Australia (Flinders Medical Center) - Neuroblastoma  
Australia (Royal Hobart Hospital) - Neuroblastoma  
Australia (Royal Prince Alfred Hospital) - Neuroblastoma, /ganglioneuroblastoma  
Canada (University of Sherbrooke) - Ganglioneuroblastoma  
Canada, Quebec - Neuroblastoma  
Ireland (Kerry General Hospital) - Ganglioneuroblastoma  
Japan (Asahi General Hospital) - Neuroblastoma  
Japan (Lions Mansion Nijyo Ekimae) - Ganglioneuroblastoma, adrenal gland  
Japan, Shizuoka Tokushu-Kai Hospital) - Neuroblastoma  
Japan, Tokyo - Ganglioneuroblastoma  
Oman (Khoula Hospital) - Ganglioneuroblastoma  
Singapore (Freeland/Locum Practice) - Neuroblastoma, poorly differentiated  
Singapore (Singapore General Hospital) - Neuroblastoma (undifferentiated, Schwannian stroma-poor)  
Japan (University of Yamanshi) - Neuroblastoma  
Saudi Arabia (King Khalid University Hospital) - Neuroblastoma, undifferentiated

**Case 8 - Diagnosis:**

Ganglioneuroblastoma, adrenal  
T-93000, M-94903

Director's note: Some of the slides showed only ganglioneuroma, without the malignant component.

**Case 8 - References:**

Ganglioneuroblastoma in a patient with crossed testicular ectopia. Jeong HJ. *Urology* 2009 Nov;74(5): p1126-8.

Thymoma with ganglioneuroblastomatous component: case report. Kashiwabara K; Ikota H, et al. *Virchows Arch* 2008 Mar;452(3): p319-24.

Retroperitoneal ganglioneuroblastoma resected 8 years after mass screening: a case report. Nakaoka T; Uemura S, et al. *J Pediatr Surg* 2007 Nov;42(11): pE29-32.

Ganglioneuroblastoma of the cerebellum: neuroimaging and pathological features of a case. Gasparetto EL; Rosemberg S, et al. *Arq Neuropsiquiatr* 2007 Jun;65(2A): p338-40.

A rare ganglioneuroblastoma secreting dopamine and the value of its measurement in diagnosis and prognosis. Sargazi M; Smith ML, et al. *Ann Clin Biochem* 2006 Jan;43(Pt 1): p73-6.

Metastatic ganglioneuroblastoma in head and neck diagnosed by fine needle aspiration: a case report. Daneshbod Y; Khojasteh HN, et al. *Acta Cytol* 2007 May-Jun;51(3): p429-33.

**Case No. 9, Accession No. 17230****September 2010**

Baldwin Park (Kaiser Permanente) - Neuroblastoma (4)

Fontana (Kaiser Permanente) - Neuroblastoma

Glendale - Neuroblastoma

Hayward (St. Rose Hospital) - Neuroblastoma, large cell variant

Long Beach - Neuroblastoma (2)

Oakland (Alameda County Medical Center) - Neuroblastoma

Orinda (Kaiser Permanente) - Neuroblastoma

Oxnard (St. John's Regional Medical Center) - Neuroblastoma (3)

Sacramento (UC Davis Medical Center) - Neuroblastoma

San Diego (Naval Medical Center) - Adrenal cortical carcinoma

Santa Barbara (Miramonte Laboratories) - Neuroblastoma

Woodland Hills (Kaiser Permanente) - Undifferentiated neuroblastoma

Arkansas (Associated Pathologists Laboratory) - Adrenal cortical carcinoma

Florida (Gastroenterology Associates of Ocala) - Pheochromocytoma, uncertain biological potential

Florida (Global Pathology Lab Services, Inc) - Neuroblastoma

Florida (Naples Pathology Associates) - Neuroblastoma

Florida, Tallahassee - Adrenal cortical carcinoma

Georgia, Atlanta - Adrenal cortical carcinoma

Illinois, Chicago - Neuroblastoma

Illinois (Heartland Regional Medical Center) - Neuroblastoma

Illinois, Orland Park - Neuroblastoma

Indiana (Ball Memorial Hospital Pathology Residents) - Neuroblastoma, undifferentiated pleomorphic subtype

Maryland (University of Maryland) - Combined adrenal cortical carcinoma/neuroblastoma

Massachusetts (BWH Pathology) - Adrenal cortical carcinoma

Massachusetts, Peabody - Pheochromocytoma, adrenal

Massachusetts (Tufts Medical Center) - Neuroblastoma

Massachusetts (University of Massachusetts Residents) - Neuroblastoma

Michigan (Pathology Consultants of Port Huron, PC) - Adrenal cortical carcinoma



Minnesota (Fairview Ridges Hospital) - Neuroblastoma  
Missouri (Missouri Delta Medical Center) - Neuroendocrine tumor, high grade (1); Malignant PNET (1)  
Missouri (St. Luke's Hospital) - Adrenal cortical carcinoma (2); Pheochromocytoma (1)  
Nebraska (Creighton University Medical Center) - Small round blue cell tumor (e.g. neuroblastoma) (3)  
New York (Albany Medical Center) - Neuroblastoma  
New York (Erie County Medical Center) - ES/PNET  
New York (North Shore Long Island Jewish Health System) - Neuroblastoma (2)  
New York (Staten Island University Hospital) - Adrenocortical carcinoma  
North Carolina (North Carolina Baptist) - Undifferentiated neuroblastoma  
New York (SUNY Stony Brook University) - Adrenal cortical carcinoma  
New York (Westchester Medical Center) - Neuroblastoma  
Ohio, Columbus - Poorly differentiated neuroendocrine carcinoma  
Ohio (The Cleveland Clinic Pathology Residents) - Neuroblastoma  
Ohio (The Ohio State University) - Poorly differentiated neuroendocrine carcinoma  
Ohio, Union Town - Adrenocortical carcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Paraganglioma/pheochromocytoma  
Pennsylvania (Drexel University College of Medicine) - Malignant pheochromocytoma  
Pennsylvania (Magee Women's Hospital) - PNET  
Puerto Rico (University of Puerto Rico School of Medicine) - Anaplastic neuroblastoma with rhabdoid features  
Texas (Carl R. Darnall Army Medical Center) - Malignant pheochromocytoma  
Texas, Crystal Beach - Paraganglioma  
Texas, Houston - Neuroendocrine carcinoma  
Texas, Lubbock - Adrenal cortical carcinoma  
Texas (Scott & White Hospital) - Neuroblastoma  
Virginia (Dominion Pathology Associates) - Neuroblastoma  
Washington (Seattle VAMC) - Primitive neuroectodermal malignant neoplasm  
West Virginia (Greenbrier Valley Medical Center) - Adrenal cortical carcinoma  
Australia (Flinders Medical Center) - Neuroblastoma  
Australia (Royal Hobart Hospital) - Neuroblastoma with undifferentiated component  
Australia (Royal Prince Alfred Hospital) - Malignant pheochromocytoma  
Canada (University of Sherbrooke) - Neuroblastoma  
Canada, Quebec - Adrenocortical carcinoma  
Ireland (Kerry General Hospital) - Adrenocortical carcinoma  
Japan (Asahi General Hospital) - Neuroblastoma  
Japan (Lions Mansion Nijyo Ekimae) - Malignant small round cell tumor consistent with malignant pheochromocytoma  
Japan, Shizuoka Tokushu-Kai Hospital) - Neuroblastoma  
Japan, Tokyo - Adrenal cortical carcinoma  
Oman (Khoulia Hospital) - Anaplastic neuroblastoma  
Singapore (Freeland/Locum Practice) - Neuroblastoma, differentiating  
Singapore (Singapore General Hospital) - Adrenal pheochromocytoma, malignant  
Japan (University of Yamanshi) - Neuroblastoma  
Saudi Arabia (King Khalid University Hospital) - Undifferentiated neuroblastoma/adrenal cortical carcinoma

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

Neuroendocrine carcinoma, adrenal  
 T-93000, M-80103

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

Neuroendocrine carcinoma of unknown primary site. Spigel DR; Hainsworth JD; Greco FA. *Semin Oncol* 2009 Feb;36(1): p52-9.

Composite adrenal anaplastic neuroblastoma and virilizing adrenocortical tumor with germline TP53 R248W mutation. Rossbach HC; Baschinsky D, et al. *Pediatr Blood Cancer* 2008 Mar;50(3): p681-3.

[A neuroendocrine tumor in the adrenal gland] Braham E; Mrad K, et al. *Ann Pathol* 2008 Dec;28(6): p529-30.

Neuroendocrine carcinomas arising in solid-organ transplant recipients: rare but aggressive malignancies. Fiebiger W; Kaserer K, et al. *Oncology* 2009;77(5): p314-7.

**Case No. 10, Accession No. 15771**

**September 2010**

Baldwin Park (Kaiser Permanente) - Pheochromocytoma (4)  
Fontana (Kaiser Permanente) - Pheochromocytoma  
Glendale - Pheochromocytoma  
Hayward (St. Rose Hospital) - Pheochromocytoma  
Long Beach - Pheochromocytoma (2)  
Oakland (Alameda County Medical Center) - Pheochromocytoma  
Orinda (Kaiser Permanente) - Pheochromocytoma  
Oxnard (St. John's Regional Medical Center) - Pheochromocytoma (3)  
Sacramento (UC Davis Medical Center) - Pheochromocytoma  
San Diego (Naval Medical Center) - Pheochromocytoma  
Santa Barbara (Miramonte Laboratories) - Pheochromocytoma  
Woodland Hills (Kaiser Permanente) - Pheochromocytoma  
Arkansas (Associated Pathologists Laboratory) - Pheochromocytoma  
Florida (Gastroenterology Associates of Ocala) - Pheochromocytoma  
Florida (Global Pathology Lab Services, Inc) - Pheochromocytoma (2)  
Florida (Naples Pathology Associates) - Pheochromocytoma  
Florida, Tallahassee - Pheochromocytoma  
Georgia, Atlanta - Pheochromocytoma  
Illinois, Chicago - Pheochromocytoma  
Illinois (Heartland Regional Medical Center) - Pheochromocytoma  
Illinois, Orland Park - Pheochromocytoma  
Indiana (Ball Memorial Hospital Pathology Residents) - Pheochromocytoma  
Maryland (University of Maryland) - Pheochromocytoma  
Massachusetts (BWH Pathology) - Pheochromocytoma  
Massachusetts, Peabody - Pheochromocytoma  
Massachusetts (Tufts Medical Center) - Pheochromocytoma  
Massachusetts (University of Massachusetts Residents) - Pheochromocytoma  
Michigan (Pathology Consultants of Port Huron, PC) - Pheochromocytoma  
Minnesota (Fairview Ridges Hospital) - Pheochromocytoma  
Missouri (Missouri Delta Medical Center) - Pheochromocytoma (2)  
Missouri (St. Luke's Hospital) - Pheochromocytoma (3)  
Nebraska (Creighton University Medical Center) - Pheochromocytoma (3)  
New York (Albany Medical Center) - Pheochromocytoma  
New York (Erie County Medical Center) - Pheochromocytoma  
New York (North Shore Long Island Jewish Health System) - Pheochromocytoma (2)  
New York (Staten Island University Hospital) - Pheochromocytoma  
North Carolina (North Carolina Baptist) - Pheochromocytoma  
New York (SUNY Stony Brook University) - Pheochromocytoma  
New York (Westchester Medical Center) - Pheochromocytoma  
Ohio, Columbus - Pheochromocytoma  
Ohio (The Cleveland Clinic Pathology Residents) - Pheochromocytoma  
Ohio (The Ohio State University) - Pheochromocytoma  
Ohio, Union Town - Pheochromocytoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Pheochromocytoma  
Pennsylvania (Drexel University College of Medicine) - Pheochromocytoma  
Pennsylvania (Magee Women's Hospital) - Pheochromocytoma  
Puerto Rico (University of Puerto Rico School of Medicine) - Pheochromocytoma  
Texas (Carl R. Darnall Army Medical Center) - Pheochromocytoma  
Texas, Crystal Beach - Pheochromocytoma

Texas, Houston - Pheochromocytoma  
Texas, Lubbock - Pheochromocytoma  
Texas (Scott & White Hospital) - Pheochromocytoma  
Virginia (Dominion Pathology Associates) - Pheochromocytoma  
Washington (Seattle VAMC) - Pheochromocytoma  
West Virginia (Greenbrier Valley Medical Center) - Pheochromocytoma  
Australia (Flinders Medical Center) - Pheochromocytoma  
Australia (Royal Hobart Hospital) - Pheochromocytoma  
Australia (Royal Prince Alfred Hospital) - Pheochromocytoma  
Canada (University of Sherbrooke) - Pheochromocytoma  
Canada, Quebec - Pheochromocytoma  
Ireland (Kerry General Hospital) - Pheochromocytoma  
Japan (Asahi General Hospital) - Pheochromocytoma  
Japan (Lions Mansion Nijo Ekimae) - Pheochromocytoma  
Japan, Shizuoka Tokushu-Kai Hospital) - Pheochromocytoma  
Japan, Tokyo - Pheochromocytoma  
Oman (Khoulal Hospital) - Pheochromocytoma  
Singapore (Freeland/Locum Practice) - Pheochromocytoma  
Singapore (Singapore General Hospital) - Adrenal pheochromocytoma, benign  
Japan (University of Yamashiro) - Pheochromocytoma  
Saudi Arabia (King Khalid University Hospital) - Pheochromocytoma

**Case 10 - Diagnosis:**

Pheochromocytoma, adrenal  
 T-93000, M-87000

**Case 10 - References:**

- Biopsy of pheochromocytomas and paragangliomas: potential for disaster. Vanderveen KA; Thompson SM, et al. *Surgery* 2009 Dec;146(6): p1158-66.
- Clinical spectrum of pheochromocytoma. Guerrero MA; Schreinemakers JM, et al. *J Am Coll Surg* 2009 Dec;209(6): p727-32.
- Composite pheochromocytoma: a clinicopathologic and molecular comparison with ordinary pheochromocytoma and neuroblastoma. Comstock JM; Willmore-Payne C, et al. *Am J Clin Pathol* 2009 Jul;132(1): p69-73.
- Diagnosis and treatment of pheochromocytoma in an academic hospital from 1997 to 2007. Yu R; Nissen NN, et al. *Am J Med* 2009 Jan;122(1): p85-95.
- Prognostic indicators of malignancy in adrenal pheochromocytomas: clinical, histopathologic, and cell cycle/apoptosis gene expression analysis. Strong VE; Kennedy T, et al. *Surgery* 2008 Jun;143(6): p759-68.