



CALIFORNIA
TUMOR TISSUE REGISTRY

“NEUROENDOCRINE PATHOLOGY”

Minutes – Subscription B

February, 2003



SUGGESTED READING (General Topics from Recent Literature):

On Behalf of the Chernobyl Pathologist Group. Guest Editorial: Two Proposals Regarding the Terminology of Thyroid Tumors. Williams ED. *Int J Surg Pathol*, 2000; 8:181-83.

What's New in General Surgery: Gastrointestinal Conditions. Bass BL. *J Am Coll Surg*, 2002 Dec; 195(6):835-54.

Molecular Pathogenesis of Pulmonary Carcinosarcoma As Determined by Microdissection-Based Allelotyping. Dacic S, Finkelstein SD, Sasatomi E, et al. *Am J Surg Pathol*, 2002 Apr; 26(4):510-16.

Multifocal Breast Cancer: Sum of the Parts Equal the Whole. Andea AA, et al. *Cancer*, 2003; 94:1383-1390.

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FILE DIAGNOSES

CTTR Subscription B

February, 2003

Case 1:

**Ganglioneuroblastoma, retroperitoneum
TY4600, M94903**

Case 2:

**Congenital neuroblastoma, adrenal
T93000, M95003**

Case 3:

**Paraganglioma ("extra-adrenal pheochromocytoma"), retroperitoneum
TY4600, M86801**

Case 4:

**Carcinoid tumor, stomach
T63000, M82401**

Case 5:

**Carcinoid tumor, ovary
T87000, M82401**

Case 6:

**Poorly-differentiated adenocarcinoma with neuroendocrine ("small cell") features, prostate
T77100, M81403**

Case 7:

**Metastatic Merkel cell carcinoma (neuroendocrine carcinoma), axilla
TY8100, M80416**

Case 8:

**Desmoplastic medulloblastoma, cerebellum
TX6000, M94703**

Case 9:

**Paraganglioma, carotid body ("carotid body tumor")
T94000, M86801**

Case 10:

**Medullary carcinoma, thyroid
T96000, M85103**

Escondido - Ganglioneuroblastoma
Glendale (Glendale Pathology Association) - Ganglioneuroblastoma
Modesto (Yosemite Pathology Medical Group) - Ganglioneuroblastoma
Orange (UCI Medical Center Residents) - Ganglioneuroblastoma
Sacramento (UC Davis Medical Center) - Neuroblastoma
San Diego (Naval Medical Center) - Ganglioneuroblastoma
Alabama (Cunningham Pathology) - Extra-adrenal paraganglioma
Arizona (Phoenix Memorial Hospital) - Ganglioneuroblastoma, intermixed type
Arkansas (Little Rock) - Ganglioneuroblastoma
Colorado (UNIPATH) - Peripheral neuroectodermal tumor
Florida (Winter Haven Hospital) - Neuroblastoma, Ganglioneuroblastoma
Florida, Ocala - Ganglioneuroblastoma
Georgia, Decatur - Ganglioneuroblastoma
Illinois (Heartland Regional Medical Center) - Ganglioneuroblastoma
Indiana, Fort Wayne - Stroma-rich ganglioneuroblastoma
Kansas (Coffeyville Regional Medical Center) - Ganglioneuroblastoma
Maryland (University of Maryland) - Ganglioneuroblastoma
Massachusetts (Brigham & Women's Hospital, Residents/Fellow) - Ganglioneuroblastoma
Michigan, Grand Rapids - Ganglioneuroma
Minnesota (North Memorial Health Care) - Ganglioneuroblastoma
Nebraska (Good Samaritan Hospital) - Neuroblastoma, differentiating type
Nevada, Las Vegas - Ganglioneuroblastoma
New Mexico (University of New Mexico) - Ganglioneuroblastoma
New York (Westchester Medical Center) - Ganglioneuroblastoma
Ohio (MCO Pathology) - Ganglioneuroblastoma
Ohio, Columbus - Ganglioneuroblastoma
Pennsylvania (Memorial Medical Center) - Ganglioneuroblastoma
Pennsylvania (Magee Women's Hospital) - Ganglioneuroblastoma, imperfect type
Pennsylvania, Pittsburgh - Ganglioneuroblastoma
Pennsylvania, Swoyersville - Ganglioneuroblastoma
Texas (Scott & White Hospital) - Ganglioneuroblastoma
Texas, Houston - Ganglioneuroblastoma
Texas, Lubbock - Ganglioneuroblastoma
Texas, San Antonio - Neuroblastoma
Utah (St. Mark's Hospital) - Ganglioneuroblastoma
Washington, D.C. - Ganglioneuroblastoma
Canada (CUSI, Site Fleurimont) - Ganglioneuroblastoma
Canada (University of Calgary, Foothills Hospital) - Ganglioneuroblastoma
China (Sir Run Run Shaw Hospital) - Neuroblastoma, differentiating
Japan (Hamamatsu University School of Medicine) - Ganglioneuroblastoma
Japan (Shimada City Hospital) - Ganglioneuroblastoma
Japan (Gunma University Hospital) - Ganglioneuroblastoma
Japan (Shiga University of Medical Science) - Neuroblastoma, differentiating subtype
Japan, Chiba - Ganglioneuroblastoma
Qatar, Doha - Ganglioneuroblastoma
Spain (Povisa) - Ganglioneuroblastoma
The Netherlands, Amstelveen - Ganglioneuroblastoma

Case 1 - Diagnosis:

Ganglioneuroblastoma, retroperitoneum
TY4600, M94903

Case 1 - References:

- Joshi VV, Cantor AB, Altshuler G, et al: Recommendations For Modification of Terminology of Neuroblastic Tumors and Prognostic Significance of Shimada Classification: A Clinicopathologic Study of 213 Cases From the Pediatric Oncology Group. *Cancer*, 1992 Apr 15; 69(8):2183-96.
 Malik M, Connors R, Schwarz KB, O'Dorisio TM: Hormone-Producing Ganglioneuroblastoma Simulating Intestinal Pseudo-Obstruction. *J Pediatr*, 1990 Mar; 116(3):406-8.
 Aoyama C, Qualman SJ, Regan M, Shimada H: Histopathologic Features of Composite Ganglioneuroblastoma: Immunohistochemical Distinction of the Stromal Component is Related to Prognosis. *Cancer*, 1990 Jan 15; 65(2):255-64.

Shimada H, Umehara S, Monobe Y, Hachitanda Y: International Neuroblastoma Pathology Classification For Prognostic Evaluation of Patients with Peripheral Neuroblastic Tumors: A Report From the Children's Cancer Group. *Cancer*, 2001 Nov 1; 92(9):2451-61.

Case No. 2, Accession No. 27648

February, 2003

Escondido - Neuroblastoma
Glendale (Glendale Pathology Association) - Neuroblastoma
Modesto (Yosemite Pathology Medical Group) - Neuroblastoma, adrenal
Orange (UCI Medical Center Residents) - Congenital neuroblastoma
Sacramento (UC Davis Medical Center) - Cystic neuroblastoma
San Diego (Naval Medical Center) - Neuroblastoma, favor in-situ
Alabama (Cunningham Pathology) - Congenital cystic neuroblastoma
Arizona (Phoenix Memorial Hospital) - Neuroblastoma
Arkansas (Little Rock) - Neuroblastoma
Colorado (UNIPATH) - Neuroendocrine carcinoma
Florida (Winter Haven Hospital) - Neuroblastoma
Florida, Ocala - Neuroblastoma
Georgia, Decatur - Neuroblastoma
Illinois (Heartland Regional Medical Center) - Neuroblastoma
Indiana, Fort Wayne - Cystic in-situ neuroblastoma
Kansas (Coffeyville Regional Medical Center) - Neuroblastoma
Maryland (University of Maryland) - Neuroblastoma
Massachusetts (Brigham & Women's Hospital, Residents/Fellow) - (Congenital) neuroblastoma
Michigan, Grand Rapids - Neuroblastoma
Minnesota (North Memorial Health Care) - Cystic neuroblastoma
Nebraska (Good Samaritan Hospital) - Neuroblastoma, congenital cystic type
Nevada, Las Vegas - Neuroblastoma
New Mexico (University of New Mexico) - Neuroblastoma
New York (Westchester Medical Center) - Neuroblastoma
Ohio (MCO Pathology) - Congenital cystic neuroblastoma
Ohio, Columbus - Neuroblastoma
Pennsylvania (Memorial Medical Center) - Neuroblastoma/adrenal cyst
Pennsylvania (Magee Women's Hospital) - Neuroblastoma
Pennsylvania, Pittsburgh - Neuroblastoma
Pennsylvania, Swyersville - Neuroblastoma
Texas (Scott & White Hospital) - Neuroblastoma
Texas, Houston - Neuroblastoma
Texas, Lubbock - Neuroblastoma
Texas, San Antonio - Neuroblastoma, cystic
Utah (St. Mark's Hospital) - Neuroblastoma
Washington, D.C. - Neuroblastoma
Canada (CUSI, Site Fleurimont) - Neuroblastoma
Canada (University of Calgary, Foothills Hospital) - Neuroblastoma
China (Sir Run Run Shaw Hospital) - Neuroblastoma, poorly-differentiated
Japan (Hamamatsu University School of Medicine) - Neuroblastoma
Japan (Shimada City Hospital) - Neuroblastoma
Japan (Gunma University Hospital) - Neuroblastoma
Japan (Shiga University of Medical Science) - Neuroblastic nodule
Japan, Chiba - Neuroblastoma
Qatar, Doha - Neuroblastoma
Spain (Povisa) - Congenital cystic neuroblastoma
The Netherlands, Amstelveen - Neuroblastoma

Case 2 - Diagnosis:

**Congenital neuroblastoma, adrenal
T93000, M95003**

Case 2 - References:

- De Marco RT, Casale AJ, Davis MM, Yerkes EB: Congenital Neuroblastoma: A Cystic Retroperitoneal Mass in a 34-Week Fetus. *J Urol*, 2001 Dec; 166(6):2375.
- Shimada H, Umehara S, Monobe Y, et al: International Neuroblastoma Pathology Classification for Prognostic Evaluation Of Patients with Peripheral Neuroblastic Tumors: A Report From the Children's Cancer Group. *Cancer*, 2001 Nov 1; 92(9):2451-61.
- Shimada H, Ambros IM, Dehner LP, et al: The International Neuroblastoma Pathology Classification (the Shimada System). *Cancer*, 1999 Jul 15; 86(2):364-72.

Case No. 3, Accession No. 8103

February, 2003

Escondido - Paranglioma
Glendale (Glendale Pathology Association) - Pheochromocytoma
Modesto (Yosemite Pathology Medical Group) - Pheochromocytoma
Orange (UCI Medical Center Residents) - Paranglioma
Sacramento (UC Davis Medical Center) - Paranglioma
San Diego (Naval Medical Center) - Paranglioma
Alabama (Cunningham Pathology) - Extra-adrenal paraganglioma
Arizona (Phoenix Memorial Hospital) - Paranglioma (extra-adrenal pheochromocytoma)
Arkansas (Little Rock) - Extra-adrenal paraganglioma
Colorado (UNIPATH) - Pheochromocytoma
Florida (Winter Haven Hospital) - Extra-adrenal paraganglioma
Florida, Ocala - Pheochromocytoma
Georgia, Decatur - Paranglioma
Illinois (Heartland Regional Medical Center) - Extra-adrenal pheochromocytoma
Indiana, Fort Wayne - Paranglioma (extra-adrenal pheochromocytoma)
Kansas (Coffeyville Regional Medical Center) - Extra-adrenal paraganglioma (pheochromocytoma)
Maryland (University of Maryland) - Paranglioma
Massachusetts (Brigham & Women's Hospital, Residents/Fellow) - Paranglioma
Michigan, Grand Rapids - Paranglioma
Minnesota (North Memorial Health Care) - Extra-adrenal paraganglioma
Nebraska (Good Samaritan Hospital) - Extra-adrenal intra-abdominal paraganglioma
Nevada, Las Vegas - Paranglioma
New Mexico (University of New Mexico) - Paranglioma
New York (Westchester Medical Center) - Extra-adrenal pheochromocytoma
Ohio (MCO Pathology) - Extra-adrenal pheochromocytoma
Ohio, Columbus - Extra-adrenal pheochromocytoma
Pennsylvania (Memorial Medical Center) - Paranglioma
Pennsylvania (Magee Women's Hospital) - Paranglioma
Pennsylvania, Pittsburgh - Paranglioma
Pennsylvania, Swoyersville - Paranglioma
Texas (Scott & White Hospital) - Paranglioma
Texas, Houston - Ganglioneuroblastoma
Texas, Lubbock - Pheochromocytoma
Texas, San Antonio - Pheochromocytoma
Utah (St. Mark's Hospital) - Paranglioma
Washington, D.C. - Pheochromocytoma, extra-adrenal
Canada (CUSI, Site Fleurimont) - Pheochromocytoma
Canada (University of Calgary, Foothills Hospital) - Paranglioma
China (Sir Run Run Shaw Hospital) - Retroperitoneal paraganglioma
Japan (Hamamatsu University School of Medicine) - Pheochromocytoma
Japan (Shimada City Hospital) - Pheochromocytoma
Japan (Gunma University Hospital) - Pheochromocytoma
Japan (Shiga University of Medical Science) - Pheochromocytoma, extra-adrenal
Japan, Chiba - Paranglioma
Qatar, Doha - Extra-adrenal paraganglioma
Spain (Povisa) - Extra-adrenal pheochromocytoma
The Netherlands, Amstelveen - Extra-adrenal abdominal paraganglioma

CASE 3 - Diagnosis:

**Paraganglioma ("extra-adrenal pheochromocytoma"), retroperitoneum
TY4600, M86801**

Case 3 - References:

- Vargas MP, Zhuang Z, Wang C, et al: Loss of Heterozygosity on the Short Arm of Chromosomes 1 and 3 in Sporadic Pheochromocytoma and Extra-Adrenal Paraganglioma. *Hum Pathol*, 1997 Apr; 28(4):411-5.
- Chetty R, Pillay P, Jaichand V: Cytokeratin Expression in Adrenal Pheochromocytomas and Extra-Adrenal Paragangliomas. *J Clin Pathol*, 1998 Jun; 51(6):477-8.
- Dannenbergh H, Speel EJ, Zhao J, et al: Losses of Chromosomes 1p and 3q Are Early Genetic Events in the Development of Sporadic Pheochromocytomas. *Am J Pathol*, 2000 Aug; 157(2):353-9.
- Whalen RK, Althausen AF, Daniels GH: Extra-Adrenal Pheochromocytoma. *J Urol*, 1992 Jan; 147(1):1-10.
- Pang LC, Tsao KC: Flow Cytometric DNA Analysis for the Determination of Malignant Potential in Adrenal and Extra-Adrenal Pheochromocytomas or Paragangliomas. *Arch Pathol Lab Med*, 1993 Nov; 117(11):1142-7.

Case No. 4, Accession No. 27776

February, 2003

Escondido - Carcinoid

Glendale (Glendale Pathology Association) - Carcinoid

Modesto (Yosemite Pathology Medical Group) - Carcinoid

Orange (UCI Medical Center Residents) - Carcinoid tumor

Sacramento (UC Davis Medical Center) - Carcinoid tumor

San Diego (Naval Medical Center) - Gastric carcinoid tumor

Alabama (Cunningham Pathology) - Malignant carcinoid tumor

Arizona (Phoenix Memorial Hospital) - Carcinoid tumor (low grade neuroendocrine carcinoma)

Arkansas (Little Rock) - Gastric endocrine (ECL-cell) tumor, well-differentiated, sporadic type

Colorado (UNIPATH) - Carcinoid tumor

Florida (Winter Haven Hospital) - Endocrine carcinoma, rule/out pancreatic islet cell carcinoma; Neuroendocrine carcinoma

Florida, Ocala - Carcinoid tumor

Georgia, Decatur - Carcinoid of stomach

Illinois (Heartland Regional Medical Center) - Carcinoid tumor

Indiana, Fort Wayne - Neuroendocrine carcinoma, stomach

Kansas (Coffeyville Regional Medical Center) - Gastric carcinoid tumor

Maryland (University of Maryland) - Carcinoid

Massachusetts (Brigham & Women's Hospital, Residents/Fellow) - Carcinoid tumor

Michigan, Grand Rapids - Carcinoid

Minnesota (North Memorial Health Care) - Carcinoid tumor

Nebraska (Good Samaritan Hospital) - Invasive carcinoid

Nevada, Las Vegas - Carcinoid tumor

New Mexico (University of New Mexico) - Carcinoid tumor

New York (Westchester Medical Center) - Stomach - carcinoid

Ohio (MCO Pathology) - Well-differentiated malignant carcinoid, gastric

Ohio, Columbus - Carcinoid

Pennsylvania (Memorial Medical Center) - Carcinoid tumor

Pennsylvania (Magee Women's Hospital) - Carcinoid

Pennsylvania, Pittsburgh - Carcinoid tumor

Pennsylvania, Swoyersville - Carcinoid, stomach

Texas (Scott & White Hospital) - Carcinoid

Texas, Houston - Carcinoid tumor

Texas, Lubbock - Carcinoid tumor

Texas, San Antonio - Carcinoid

Utah (St. Mark's Hospital) - Gastric carcinoid (low grade neuroendocrine carcinoma)

Washington, D.C. - Neuroendocrine tumor

Canada (CUSI, Site Fleurimont) - Carcinoid tumor

Canada (University of Calgary, Foothills Hospital) - Carcinoid tumor

China (Sir Run Run Shaw Hospital) - Neuroendocrine tumor (carcinoid)

Japan (Hamamatsu University School of Medicine) - Carcinoid tumor

Japan (Shimada City Hospital) - Carcinoid tumor

Japan (Gunma University Hospital) - Carcinoid tumor

Japan (Shiga University of Medical Science) - Carcinoid tumor

Japan, Chiba - Carcinoid tumor
Qatar, Doha - Carcinoid
Spain (Povisa) - Carcinoid tumor
The Netherlands, Amstelveen - Neuroendocrine carcinoma

Case 4 - Diagnosis:

**Carcinoid tumor, stomach
T63000, M82401**

Case 4 - References:

Yu JY, Wang LP, Meng YH, et al: Classification of Gastric Neuroendocrine Tumors and Its Clinicopathologic Significance. *World J Gastroenterol*, 1998 Apr; 4(2):158-161.
Soga J: Gastric Carcinoids: A Statistical Evaluation of 1,094 Cases Collected From the Literature. *Surg Today*, 1997; 27(10):892-901.
Gilligan CJ, Lawton GP, Tang LH, et al: Gastric Carcinoid Tumors: The Biology and Therapy of An Enigmatic And Controversial Lesion. *Am J Gastroenterol*, 1995 Mar; 90(3):338-52.
Thomas RM, Baybick JH, Elsayed AM, Sobin LH: Gastric Carcinoids: An Immunohistochemical and Clinico-Pathologic Study of 104 Patients. Comment In: *Cancer*, 1994 Nov 1; 74(9):2600-1. Article Source: *Cancer*, 1994 Apr 15; 73(8):2053-8.
Modlin IM, Sandor A, Tang LH et al: A 40-Year Analysis of 265 Gastric Carcinoids. *Am J Gastroenterol*, 1997 Apr; 92(4):633-8.

Case No. 5, Accession No. 27580

February, 2003

Escondido - Carcinoid
Glendale (Glendale Pathology Association) - Struma carcinoid
Modesto (Yosemite Pathology Medical Group) - Strumal carcinoid
Orange (UCI Medical Center Residents) - Stromal carcinoid
Sacramento (UC Davis Medical Center) - Neuroendocrine carcinoma
San Diego (Naval Medical Center) - Strumal carcinoid
Alabama (Cunningham Pathology) - Ovarian carcinoid
Arizona (Phoenix Memorial Hospital) - Strumal carcinoid
Arkansas (Little Rock) - Strumal carcinoid
Colorado (UNIPATH) - Carcinoid tumor
Florida (Winter Haven Hospital) - Insular carcinoid; Ovarian carcinoid
Florida, Ocala - Carcinoid tumor
Georgia, Decatur - Carcinoid of ovary
Illinois (Heartland Regional Medical Center) - Strumal carcinoid
Indiana, Fort Wayne - Strumal carcinoid, ovary
Kansas (Coffeyville Regional Medical Center) - Strumal carcinoid tumor
Maryland (University of Maryland) - Carcinoid/struma carcinoid
Massachusetts (Brigham & Women's Hospital, Residents/Fellow) - Strumal carcinoid tumor
Michigan, Grand Rapids - Ovarian carcinoid tumor
Minnesota (North Memorial Health Care) - Strumal carcinoid
Nebraska (Good Samaritan Hospital) - Strumal carcinoid
Nevada, Las Vegas - Carcinoid tumor
New Mexico (University of New Mexico) - Strumal carcinoid
New York (Westchester Medical Center) - Ovary - struma carcinoid
Ohio (MCO Pathology) - Strumal carcinoid
Ohio, Columbus - Strumal carcinoid
Pennsylvania (Memorial Medical Center) - Strumal carcinoid tumor
Pennsylvania (Magee Women's Hospital) - Strumal carcinoid
Pennsylvania, Pittsburgh - Carcinoid/strumal carcinoid ovary
Pennsylvania, Swoyersville - Carcinoid, ovary
Texas (Scott & White Hospital) - Struma carcinoid
Texas, Houston - Struma carcinoid
Texas, Lubbock - Struma carcinoid
Texas, San Antonio - Carcinoid vs. strumal carcinoid
Utah (St. Mark's Hospital) - Carcinoid tumor
Washington, D.C. - Strumal carcinoid
Canada (CUSI, Site Fleurimont) - Carcinoid tumor
Canada (University of Calgary, Foothills Hospital) - Ovarian carcinoid tumor

China (Sir Run Run Shaw Hospital) - Carcinoid of ovary
Japan (Hamamatsu University School of Medicine) - Strumal carcinoid
Japan (Shimada City Hospital) - Carcinoid tumor
Japan (Gunma University Hospital) - Strumal carcinoid
Japan (Shiga University of Medical Science) - Strumal carcinoid
Japan, Chiba - Strumal carcinoid
Qatar, Doha - Carcinoid of ovary
Spain (Povisa) - Carcinoid
The Netherlands, Amstelveen - Neuroendocrine carcinoma

Case 5 - Diagnosis:

Carcinoid tumor, ovary ("strumal carcinoid")
T87000, M82401

Case 5 - References:

Stagno PA, Petras RE, Hart WR: Strumal Carcinoids of the Ovary: An Immunohistologic and Ultrastructural Study. *Arch Pathol Lab Med*, 1987 May; 111(5):440-6.
 Davis KP, Hartmann LK, Keeney GL, Shapiro H: Primary Ovarian Carcinoid Tumors. *Gynecol Oncol*, 1996 May; 61(2):259-65. Review.
 Kimura N, Sasano N, Namiki T: Evidence of Hybrid Cell of Thyroid Follicular Cell and Carcinoid Cell in Strumal Carcinoid. *Int J Gynecol Pathol*, 1986; 5(3):269-77.
 Morgan K, Wells M, Scott JS: Ovarian Strumal Carcinoid Tumor With Amyloid-Stroma: Report of a Case With 20-Year Follow-Up. *Gynecol Oncol*, 1985 Sept; 22(1):121-8.
 Baker PM, Oliva E, Young RH, et al: Ovarian Mucinous Carcinoids Including Some With A Carcinomatous Component: A Report of 17 Cases. *Am J Surg Pathol*, 2001 May; 25(5):557-68.

Case No. 6, Accession No. 27714

February, 2003

Escondido - Poorly differentiated prostatic carcinoma with neuroendocrine differentiation
Glendale (Glendale Pathology Association) - Poorly-differentiated carcinoma
Modesto (Yosemite Pathology Medical Group) - Invasive, poorly-differentiated transitional cell carcinoma
Orange (UCI Medical Center Residents) - Neuroendocrine tumor
Sacramento (UC Davis Medical Center) - Mixed small cell carcinoma and poorly-differentiated carcinoma
San Diego (Naval Medical Center) - Poorly-differentiated malignant neoplasm, NOS
Alabama (Cunningham Pathology) - Neuroendocrine carcinoma
Arizona (Phoenix Memorial Hospital) - Small cell undifferentiated carcinoma (high grade neuroendocrine carcinoma)
Arkansas (Little Rock) - Small cell carcinoma complicating poorly-differentiated adenocarcinoma, prostate
Colorado (UNIPATH) - Neuroendocrine carcinoma
Florida (Winter Haven Hospital) - Neuroendocrine carcinoma; Undifferentiated carcinoma
Florida, Ocala - High grade prostatic carcinoma with probable neuroendocrine differentiation
Georgia, Decatur - Poorly-differentiated neuroendocrine carcinoma
Illinois (Heartland Regional Medical Center) - Poorly-differentiated carcinoma
Indiana, Fort Wayne - Poorly-differentiated neuroendocrine carcinoma of prostate gland (Gleason 10)
Kansas (Coffeyville Regional Medical Center) - Poorly-differentiated prostatic adenocarcinoma (vs. small cell carcinoma)
Maryland (University of Maryland) - Undifferentiated carcinoma
Massachusetts (Brigham & Women's Hospital, Residents/Fellow) - Poorly-differentiated carcinoma with neuroendocrine features
Michigan, Grand Rapids - Prostatic adenocarcinoma with neuroendocrine granules
Minnesota (North Memorial Health Care) - Melanoma
Nebraska (Good Samaritan Hospital) - Small cell undifferentiated carcinoma
New Mexico (University of New Mexico) - Prostatic carcinoma
New York (Westchester Medical Center) - Prostate - high grade neuroendocrine carcinoma
Ohio (MCO Pathology) - Poorly-differentiated carcinoma vs. large cell neuroendocrine carcinoma
Ohio, Columbus - Neuroendocrine carcinoma
Pennsylvania (Memorial Medical Center) - Poorly-differentiated adenocarcinoma with neuroendocrine features/metaplastic ca.
Pennsylvania (Magee Women's Hospital) - Large cell neuroendocrine carcinoma
Pennsylvania, Pittsburgh - Poorly-differentiated prostatic adenocarcinoma with focal neuroendocrine features
Pennsylvania, Swyersville - Carcinoma, poorly-differentiated
Texas (Scott & White Hospital) - Poorly-differentiated adenocarcinoma with focal small cell features
Texas, Houston - Small cell carcinoma
Texas, Lubbock - Adenocarcinoma, signet-ring cell type

Texas, San Antonio - Poorly-differentiated neuroendocrine carcinoma
Utah (St. Mark's Hospital) - Adenocarcinoma 5+5 vs. undifferentiated small cell carcinoma
Washington, D.C. - Neuroendocrine tumor, poorly-differentiated
Canada (CUSI, Site Fleurimont) - Neuroendocrine carcinoma
Canada (University of Calgary, Foothills Hospital) - Large cell neuroendocrine carcinoma of prostate
China (Sir Run Run Shaw Hospital) - Poorly-differentiated adenocarcinoma, with neuroendocrine features
Japan (Hamamatsu University School of Medicine) - Neuroendocrine carcinoma
Japan (Shimada City Hospital) - Transitional cell carcinoma
Japan (Gunma University Hospital) - Undifferentiated carcinoma
Japan (Shiga University of Medical Science) - Poorly-differentiated adenocarcinoma with neuroendocrine differentiation
Japan, Chiba - Poorly-differentiated transitional cell carcinoma
Qatar, Doha - Neuroendocrine carcinoma
Spain (Povisa) - Neuroendocrine carcinoma
The Netherlands, Amstelveen - Poorly-differentiated carcinoma with neuroendocrine differentiation

Case 6 - Diagnosis:

**Poorly-differentiated adenocarcinoma with neuroendocrine ("small cell") features, prostate
 T77100, M81403**

Case 6 - References:

Xue Y, Verhofstad A, Lange W, et al: Prostatic Neuroendocrine Cells Have A Unique Keratin Expression Pattern and Do Not Express Bcl-2: Cell Kinetic Features of Neuroendocrine Cells in the Human Prostate. *Am J Pathol*, 1997 Dec; 151(6):1759-65.
 Berruti A, Dogliotti L, Mosca A, et al: Circulating Neuroendocrine Markers in Patients With Prostate Carcinoma. *Cancer*, 2000 Jun 1; 88(11):2590-7.
 di Saint'Agnese PA: Neuroendocrine Cells of the Prostate and Neuroendocrine Differentiation in Prostatic Carcinoma: A Review of Morphologic Aspects. *Urology*, 1998 May; 51(5A Suppl):121-4.
 di Saint'Agnese PA: Divergent Neuroendocrine Differentiation in Prostatic Carcinoma. *Semin Diagn Pathol*, 2000 May; 17(2):149-61.
 Sarker FH, Sakr W, Li YW, et al: Analysis of Retinoblastoma (RB) Gene Deletion in Human Prostatic Carcinomas. *Prostate*, 1992; 21(2):145-52.

Case No. 7, Accession No. 29335

February, 2003

Escondido - Merkel cell carcinoma
Glendale (Glendale Pathology Association) - Merkel cell carcinoma
Modesto (Yosemite Pathology Medical Group) - Small cell neuroendocrine carcinoma
Orange (UCI Medical Center Residents) - Merkel cell carcinoma
Sacramento (UC Davis Medical Center) - Merkel cell carcinoma
San Diego (Naval Medical Center) - Merkel cell carcinoma
Alabama (Cunningham Pathology) - Merkel cell carcinoma
Arizona (Phoenix Memorial Hospital) - Merkel cell carcinoma
Arkansas (Little Rock) - Merkel cell carcinoma
Colorado (UNIPATH) - Merkel cell tumor
Florida (Winter Haven Hospital) - Merkel cell carcinoma
Florida, Ocala - Merkel cell carcinoma
Georgia, Decatur - Poorly-differentiated neuroendocrine carcinoma (Merkel cell carcinoma)
Illinois (Heartland Regional Medical Center) - Poorly-differentiated neuroendocrine carcinoma, favor Merkel cell carcinoma
Indiana, Fort Wayne - Merkel cell carcinoma
Kansas (Coffeyville Regional Medical Center) - Small cell carcinoma (? Merkel's tumor)
Maryland (University of Maryland) - Merkel cell carcinoma
Massachusetts (Brigham & Women's Hospital, Residents/Fellow) - Merkel cell carcinoma
Michigan, Grand Rapids - Small cell carcinoma
Minnesota (North Memorial Health Care) - Merkel cell tumor
Nebraska (Good Samaritan Hospital) - Neuroendocrine carcinoma, favor Merkel cell carcinoma
Nevada, Las Vegas - Merkel cell carcinoma
New Mexico (University of New Mexico) - Merkel cell carcinoma
New York (Westchester Medical Center) - Merkel cell carcinoma
Ohio (MCO Pathology) - Metastatic Merkel cell carcinoma
Ohio, Columbus - Merkel cell tumor
Pennsylvania (Memorial Medical Center) - Small cell carcinoma
Pennsylvania (Magee Women's Hospital) - Merkel cell carcinoma

Pennsylvania, Pittsburgh - Merkel cell carcinoma
Pennsylvania, Swoyersville - Merkel cell carcinoma
Texas (Scott & White Hospital) - Consistent with Merkel cell carcinoma
Texas, Houston - Merkel cell carcinoma
Texas, Lubbock - Merkel cell tumor
Texas, San Antonio - Merkel cell carcinoma
Utah (St. Mark's Hospital) - Merkel cell carcinoma
Washington, D.C. - Merkel cell carcinoma
Canada (CUSI, Site Fleurimont) - Merkel cell tumor
Canada (University of Calgary, Foothills Hospital) - Merkel cell tumor
China (Sir Run Run Shaw Hospital) - Neuroendocrine carcinoma
Japan (Hamamatsu University School of Medicine) - Merkel cell carcinoma
Japan (Shimada City Hospital) - Merkel cell tumor
Japan (Gunma University Hospital) - Metastatic neuroendocrine carcinoma, high grade (small cell lung cancer?)
Japan (Shiga University of Medical Science) - Merkel cell carcinoma
Japan, Chiba - Neuroendocrine carcinoma of skin
Qatar, Doha - Merkel cell carcinoma
Spain (Povisa) - Merkel cell carcinoma
The Netherlands, Amstelveen - Merkel cell tumor

Case 7 - Diagnosis:

Metastatic Merkel cell carcinoma (neuroendocrine carcinoma), axilla
TY8100, M80416

Outside Consultation: University of Michigan Medical School: "Metastatic Neuroendocrine Carcinoma, consistent with Merkel Cell Carcinoma."

Case 7 - References:

Sibley RK, Dehner LP, Rosai J: Primary Neuroendocrine (Merkel Cell ?) Carcinoma of the Skin: A Clinicopathologic and Ultrastructural Study of 43 Cases. *Am J Surg Pathol*, 1985 Feb; 9(2):95-108.
 Sibley RK, Dahl D: Primary Neuroendocrine (Merkel Cell ?) Carcinoma of the Skin: An Immunocytochemical Study of 21 Cases. *Am J Surg Pathol*, 1985 Feb; 9(2):109-116.
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Case No. 8, Accession No. 29388

February, 2003

Escondido - Medulloblastoma
Glendale (Glendale Pathology Association) - Medulloblastoma
Modesto (Yosemite Pathology Medical Group) - Anaplastic astrocytoma
Orange (UCI Medical Center Residents) - Oligodendroglioma
Sacramento (UC Davis Medical Center) - Medulloblastoma
San Diego (Naval Medical Center) - PNET
Alabama (Cunningham Pathology) - Medulloblastoma
Arizona (Phoenix Memorial Hospital) - Medulloblastoma
Arkansas (Little Rock) - Nodular neuroblastic tumor of the cerebellum ("cerebellar neuroblastoma")
Colorado (UNIPATH) - High grade glioma
Florida (Winter Haven Hospital) - Oligodendroglioma, rule/out hemangioblastoma
Florida, Ocala - Medulloblastoma
Georgia, Decatur - Medulloblastoma
Illinois (Heartland Regional Medical Center) - Medulloblastoma
Indiana, Fort Wayne - PNET/medulloblastoma, cerebellum
Kansas (Coffeyville Regional Medical Center) - Medulloblastoma
Maryland (University of Maryland) - Medulloblastoma
Massachusetts (Brigham & Women's Hospital, Residents/Fellow) - Medulloblastoma

Michigan, Grand Rapids - Medulloblastoma
Minnesota (North Memorial Health Care) - Atypical teratoid/rhabdoid tumor
Nebraska (Good Samaritan Hospital) - Medulloblastoma
Nevada, Las Vegas - Medulloblastoma
New Mexico (University of New Mexico) - Medulloblastoma
New York (Westchester Medical Center) - Medulloblastoma
Ohio (MCO Pathology) - Medulloblastoma
Ohio, Columbus - Medulloblastoma
Pennsylvania (Memorial Medical Center) - Medulloblastoma
Pennsylvania (Magee Women's Hospital) - Medulloblastoma
Pennsylvania, Pittsburgh - Medulloblastoma (? Desmoplastic type)
Pennsylvania, Swoyersville - Neuroendocrine carcinoma
Texas (Scott & White Hospital) - Medulloblastoma
Texas, Houston - Medulloblastoma
Texas, Lubbock - Medulloblastoma
Texas, San Antonio - Medulloblastoma
Utah (St. Mark's Hospital) - Medulloblastoma
Washington, D.C. - Medulloblastoma
Canada (CUSI, Site Fleurimont) - Metastatic neuroendocrine carcinoma
Canada (University of Calgary, Foothills Hospital) - Medulloblastoma
China (Sir Run Run Shaw Hospital) - Medulloblastoma with glial differentiation
Japan (Hamamatsu University School of Medicine) - Medulloblastoma
Japan (Shimada City Hospital) - Medulloblastoma
Japan (Gunma University Hospital) - Medulloblastoma
Japan (Shiga University of Medical Science) - Medulloblastoma
Japan, Chiba - Medulloblastoma
Qatar, Doha - Central neurocytoma
Spain (Povisa) - Medulloblastoma (PNET)
The Netherlands, Amstelveen - Neurocytoma ?

Case 8 - Diagnosis:

Desmoplastic medulloblastoma, cerebellum
TX6000, M94703

Outside Consultation: Mayo Clinic: "Desmoplastic Medulloblastoma."

Case 8 - References:

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Case No. 9, Accession No. 13013

February, 2003

Escondido - Paraganglioma
Glendale (Glendale Pathology Association) - Paraganglioma
Modesto (Yosemite Pathology Medical Group) - Paraganglioma
Orange (UCI Medical Center Residents) - Paraganglioma
Sacramento (UC Davis Medical Center) - Carotid body paraganglioma
San Diego (Naval Medical Center) - Paraganglioma (Carotid body tumor)
Alabama (Cunningham Pathology) - Carotid body paraganglioma
Arizona (Phoenix Memorial Hospital) - Carotid body paraganglioma
Arkansas (Little Rock) - Carotid body paraganglioma
Colorado (UNIPATH) - Glomus tumor

Florida (Winter Haven Hospital) - Paranglioma
Florida, Ocala - Paranglioma
Georgia, Decatur - Paranglioma
Illinois (Heartland Regional Medical Center) - Carotid body paraganglioma
Indiana, Fort Wayne - Carotid body tumor
Kansas (Coffeyville Regional Medical Center) - Carotid body tumor (paranglioma) or (chemodectoma)
Maryland (University of Maryland) - Carotid body tumor
Massachusetts (Brigham & Women's Hospital, Residents/Fellow) - Paranglioma
Michigan, Grand Rapids - Carotid body paraganglioma
Minnesota (North Memorial Health Care) - Paranglioma
Nebraska (Good Samaritan Hospital) - Carotid body paraganglioma
Nevada, Las Vegas - Paranglioma
New Mexico (University of New Mexico) - Paranglioma
New York (Westchester Medical Center) - Paranglioma - carotid body tumor
Ohio (MCO Pathology) - Carotid body paraganglioma (chemodectoma)
Ohio, Columbus - Carotid body tumor
Pennsylvania (Memorial Medical Center) - Paranglioma
Pennsylvania (Magee Women's Hospital) - Paranglioma (chemodectoma)
Pennsylvania, Pittsburgh - Carotid body paraganglioma
Pennsylvania, Swoyersville - Paranglioma
Texas (Scott & White Hospital) - Paranglioma
Texas, Houston - Paranglioma
Texas, Lubbock - Paranglioma
Texas, San Antonio - Paranglioma
Utah (St. Mark's Hospital) - Carotid body paraganglioma
Washington, D.C. - Paranglioma
Canada (CUSI, Site Fleurimont) - Paranglioma
Canada (University of Calgary, Foothills Hospital) - Paranglioma
China (Sir Run Run Shaw Hospital) - Carotid body paraganglioma
Japan (Hamamatsu University School of Medicine) - Carotid body tumor
Japan (Shimada City Hospital) - Carotid body paraganglioma
Japan (Gunma University Hospital) - Carotid body paraganglioma
Japan (Shiga University of Medical Science) - Chemodectoma
Japan, Chiba - Paranglioma
Qatar, Doha - Paranglioma
Spain (Povisa) - Paranglioma
The Netherlands, Amstelveen - Carotid body paraganglioma

Case 9 - Diagnosis:

Paranglioma, carotid body ("carotid body tumor")
T94000, M86801

Case 9 - References:

Stoeckli SJ, Schuknecht B, Alkadhi H, Fisch U: Evaluation of Parangliomas Presenting As A Cervical Mass On Color-Coded Doppler Sonography. *Laryngoscope*, 2002 Jan; 112(1):143-6.
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Case No. 10, Accession No. 12494

February, 2003

Escondido - Medullary carcinoma
Glendale (Glendale Pathology Association) - Medullary carcinoma
Modesto (Yosemite Pathology Medical Group) - Medullary carcinoma
Orange (UCI Medical Center Residents) - Medullary carcinoma
Sacramento (UC Davis Medical Center) - Medullary carcinoma

San Diego (Naval Medical Center) - Medullary thyroid carcinoma
Alabama (Cunningham Pathology) - Medullary carcinoma
Arizona (Phoenix Memorial Hospital) - Medullary carcinoma, thyroid
Arkansas (Little Rock) - Medullary carcinoma, thyroid
Colorado (UNIPATH) - Medullary carcinoma
Florida (Winter Haven Hospital) - Medullary carcinoma
Florida, Ocala - Medullary carcinoma
Georgia, Decatur - Medullary carcinoma, thyroid
Illinois (Heartland Regional Medical Center) - Medullary carcinoma
Indiana, Fort Wayne - Medullary carcinoma, thyroid gland
Kansas (Coffeyville Regional Medical Center) - Medullary thyroid carcinoma
Maryland (University of Maryland) - Medullary carcinoma
Massachusetts (Brigham & Women's Hospital, Residents/Fellow) - Medullary carcinoma
Michigan, Grand Rapids - Medullary carcinoma
Minnesota (North Memorial Health Care) - Medullary carcinoma
Nebraska (Good Samaritan Hospital) - Medullary carcinoma
Nevada, Las Vegas - Medullary carcinoma
New Mexico (University of New Mexico) - Medullary carcinoma
New York (Westchester Medical Center) - Medullary thyroid carcinoma
Ohio (MCO Pathology) - Medullary thyroid carcinoma
Ohio, Columbus - Medullary carcinoma, thyroid
Pennsylvania (Memorial Medical Center) - Medullary carcinoma of thyroid
Pennsylvania (Magee Women's Hospital) - Medullary carcinoma
Pennsylvania, Pittsburgh - Medullary carcinoma, thyroid
Pennsylvania, Swoyersville - Medullary carcinoma, thyroid
Texas (Scott & White Hospital) - Medullary carcinoma
Texas, Houston - Medullary carcinoma
Texas, Lubbock - Medullary carcinoma
Texas, San Antonio - Medullary carcinoma
Utah (St. Mark's Hospital) - Medullary carcinoma
Washington, D.C. - Medullary carcinoma
Canada (CUSI, Site Fleurimont) - Medullary carcinoma
Canada (University of Calgary, Foothills Hospital) - Medullary carcinoma of thyroid
China (Sir Run Run Shaw Hospital) - Thyroid medullary carcinoma
Japan (Hamamatsu University School of Medicine) - Medullary carcinoma with amyloid
Japan (Shimada City Hospital) - Medullary thyroid carcinoma
Japan (Gunma University Hospital) - Medullary carcinoma, thyroid gland
Japan (Shiga University of Medical Science) - Medullary carcinoma
Japan, Chiba - Medullary carcinoma
Qatar, Doha - Medullary carcinoma, thyroid
Spain (Povisa) - Medullary carcinoma
The Netherlands, Amstelveen - Medullary thyroid carcinoma

Case 10 - Diagnosis:

Medullary carcinoma, thyroid

T96000, M85103

Case 10 - References:

- Franc S, Niccoli-Sire P, Cohen R, et al: Complete Surgical Lymph Node Resection Does Not Prevent Authentic Recurrences of Medullary Thyroid Carcinoma. *Clin Endocrinol (Oxf.)*, 2001 Sept; 55(3):403-9.
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 Gordon PR, Huvos AG, Strong EW: Medullary Carcinoma of the Thyroid Gland: A Clinicopathologic Study of 40 Cases. *Cancer*, 1973 Apr; 31(4):915-24.