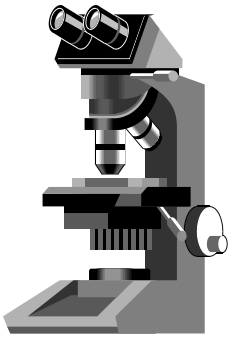
CALIFORNIA
TUMOR TISSUE REGISTRY

"PEDIATRIC TUMORS"

Minutes – Subscription B

April 2002



SUGGESTED READING (General Topics from Recent Literature):

Proteins Rule. Ezzell C. *Sci Am*. 2002 Apr; 286(4):40-47.

Intraoperative Sentinel Lymph Node Mapping in Patients with Colon Cancer. Paramo JC, Summerall J, Wilson C, et al. *Am J Surg*. 2001 Jul; 182(1):40-43.

Sentinel Nodes in Gynecologic Malignancies. Ramirez PT, Levenback C. *Curr Opin Oncol*. 2001 Sep; 13(5):403-407.

Keratin Immunohistochemistry Detects Clinically Significant Metastases in Bone Marrow Biopsy Specimens in Women with Lobular Breast Carcinoma. Lyda MH, Tetef M, et al. *Am J Surg Pathol.* 2000; 24(12):1593-1599.

Increased Carcinoembryonic Antigen Expression in Cervical Intraepithelial Neoplasia Grade 3 and in Cervical Squamous Cell Carcinoma. Tendler A, Kaufman HL, et al. *Hum Pathol* 2000; 31 (November):1357-1362.

Cytokeratin 5/6 Immunohistochemistry Assists the Differential Diagnosis of Atypical Proliferations of the Breast. *Histopathology.* 2000; (232-240):232-240.

California Tumor Tissue Registry
c/o: Department of Pathology and Human Anatomy
Loma Linda University School of Medicine
11021 Campus Avenue, AH 335
Loma Linda, California 92350
(909) 558-4788
FAX: (909) 558-0188
E-mail: cttr@linkline.com
Web site & Case of the Month: www.cttr.org

FILE DIAGNOSES

CTTR Subscription B April 2002

Case 1:

Immature teratoma, ovary
T-87000, M-90801

Case 2:

Immature teratoma, sacrococcygeal
T-Y1400, M-90801

Case 3:

Epithelial cyst ("True cyst", "Epidermoid cyst"), spleen
T-07000, M-33420

Case 4:

Lymphangioma, abdomen/chest
T-Y4100, M-91700

Case 5:

Embryonal rhabdomyosarcoma (spindle cell type), bladder, colon and omentum
T-74000, T-67000, T-63850, M-8910/3

Case 6:

Anaplastic rhabdomyosarcoma, abdomen
T-Y4100, M-8901/3

Case 7:

Ganglioneuroblastoma, retroperitoneum
T-Y4600, M-9490/3

Case 8:

Atypical peripheral sheath tumor, probably low grade MPNST, flank
T-Y1310, M-95600

Case 9:

Hepatoblastoma, mixed fetal and embryonal, with ossification, liver
T-56000, M-8970/3

Case 10:

Inflammatory myofibroblastic tumor ("inflammatory pseudotumor"), colon
T-67000, M-76820

Escondido - Mature teratoma
Glendale (Glendale Pathology Associates) - Mature teratoma
Los Angeles (USC Residents) - Mature cystic teratoma
Modesto (Yosemite Pathology Medical Group) - Mature cystic teratoma
Orange (UCI Medical Center Residents) - Immature teratoma, grade I
Sacramento (UC Davis Medical Center) - Immmature teratoma
Alabama (Cunningham Pathology) - Mature teratoma
Arizona (Phoenix Memorial Hospital) - Immature teratoma, ovary
Arkansas (UAMS) - Immature (malignant) teratoma
Colorado (UNIPATH) - Mature cystic teratoma
Florida (Winter Haven Hospital) - Benign cystic teratoma (1); Mature teratoma (1)
Florida, Ocala - Teratoma
Georgia, Decatur - Teratoma, immature
Illinois (Marion Memorial Hospital) - Immature teratoma, grade I
Illinois (Sarah Bush Lincoln Health Center) - Immature teratoma
Indiana, Fort Wayne - Ovarian teratoma (1); Solid and cystic adult teratoma, right ovary
Kansas (Coffeyville Regional Medical Center) - Teratoma, ovary; potentially malignant
Kentucky (University of Louisville Hospital) - Teratoma with focal immature elements, grade I
Maryland (National Naval Medical Center) - Mature cystic teratoma (8)
Maryland (University of Maryland) - Immature teratoma
Massachusetts (Berkshire Medical Center) - Mature teratoma
Michigan, East Lansing - Immature teratoma
Michigan (Spectrum Health) - Immature teratoma
Michigan (St. Joseph Mercy Hospital) - Dermoid cyst
Nebraska (Good Samaritan Hospital) - Immature teratoma
New York (Nassau University Medical Center) - Immature teratoma
Ohio (MCO) - Immature teratoma, grade II
Pennsylvania (Allegheny General Hospital) - Teratoma, mature
Pennsylvania (Memorial Medical Center) - Multicystic teratoma
Pennsylvania, Sewickley - Mature teratoma
Utah (St. Mark's Hospital) - Mature teratoma
Washington, DC - Teratoma, immature foci
Texas, Lubbock - Mature teratoma
Texas, San Antonio - Immature teratoma, grade I (mostly mature – some foci immature)
Texas (Scott & White Memorial Hospital) - Mature teratoma
Canada (CUSE, Site Fleurimont) - Immature teratoma, grade I/II
Canada (University of Calgary, Foothills Hospital) - Mature teratoma
Japan (Self Defense Hospital) - Immature teratoma
Japan (Shiga University of Medical Science) - Immature teratoma
Japan (Hamamatsu University, School of Medicine) - Mature cystic teratoma
Japan (Shimada City Hospital) - Immature teratoma
Saudi Arabia (King Khalid University Hospital) - Mature ovarian teratoma

Case 1 - Diagnosis:

Immature teratoma, ovary
T-87000, M-90801

Case 1 - References:

Rubin A, Papadaki L. Multicystic Structures Appearing in Mature Cystic Teratomas of the Ovary: An Immunohistochemical and Ultrastructural Study. *Histopathology*. 1990 Oct; 17(4):359-363.

Pantoja E, Noy MA, Axtmayer RW, et al. Ovarian Dermoids and Their Complications. Comprehensive Historical Review. *Obstet Gynecol Surv*. 1975 Jan; 30(1):1-20.

Anteby EY, Ron M, Revel A, et al. Germ Cell Tumors of the Ovary Arising After Dermoid Cyst Resection: A Long-term Follow-up Study. *Obstet Gynecol*. 1994 Apr; 83(4):605-608.

Cushing B, Giller R, Ablin A, et al. Surgical Resection Alone is Effective Treatment for Ovarian Immature Teratoma in Children and Adolescents: A report of the Pediatric Oncology Group and the Children's Cancer Group. *Am J Obstet Gynecol*. 1999 Aug; 181(2);353-358.

Selvaggi SM, Guidos BJ. Immature Teratoma of the Ovary on Fluid Cytology. *Diagn Cytopathol*. 2001 Dec; 25(6):411-414.

Escondido - Mature and focally immature teratoma
Glendale (Glendale Pathology Associates) - Mature teratoma
Los Angeles (USC Residents) - Coccygeal teratoma
Modesto (Yosemite Pathology Medical Group) - Immature teratoma
Orange (UCI Medical Center Residents) - Immature teratoma
Sacramento (UC Davis Medical Center) - Carcinosarcoma
Alabama (Cunningham Pathology) - Sacrococcygeal teratoma
Arizona (Phoenix Memorial Hospital) - Malignant sacrococcygeal teratoma
Arkansas (UAMS) - Sacrococcygeal teratoma, immature
Colorado (UNIPATH) - Mature teratoma
Florida (Winter Haven Hospital) - Immature teratoma (2)
Florida, Ocala - Teratoma with endodermal sinus tumor (teratocarcinoma)
Georgia, Decatur - Sacrococcygeal teratoma
Illinois (Marion Memorial Hospital) - Sacrococcygeal immature teratoma, grade I
Illinois (Sarah Bush Lincoln Health Center) - Immature coccygeal teratoma
Indiana, Fort Wayne - Sacrococcygeal teratoma (1); Sacrococcygeal teratoma, coccygeal-perineal region (1)
Kansas (Coffeyville Regional Medical Center) - Congenital sacrococcygeal teratoma
Kentucky (University of Louisville Hospital) - Immature teratoma, grade I
Maryland (National Naval Medical Center) - Sacral coccygeal teratoma with immature elements (8)
Maryland (University of Maryland) - Immature teratoma
Massachusetts (Berkshire Medical Center) - Sacrococcygeal teratoma, immature, grade I
Michigan, East Lansing - Immature teratoma
Michigan (Spectrum Health) - Immature teratoma
Michigan (St. Joseph Mercy Hospital) - Immature teratoma
Nebraska (Good Samaritan Hospital) - Immature teratoma
New York (Nassau University Medical Center) - Immature teratoma
Ohio (MCO) - Sacrococcygeal teratoma with focal neuroepithelial element
Pennsylvania (Allegheny General Hospital) - Teratoma immature
Pennsylvania (Memorial Medical Center) - Ganglioma
Pennsylvania, Sewickley - Sacrococcygeal teratoma
Utah (St. Mark's Hospital) - Sacrococcygeal teratoma consistent with immature elements
Washington, DC - Immature teratoma
Texas, Lubbock - Teratoma
Texas, San Antonio - Immature teratoma – sacrococcygeal
Texas (Scott & White Memorial Hospital) - Immature teratoma
Canada (CUSE, Site Fleurimont) - Sacrococcygeal teratoma
Canada (University of Calgary, Foothills Hospital) - Sacrococcygeal teratoma with immature neural tissue
Japan (Self Defense Hospital) - Mature teratoma
Japan (Shiga University of Medical Science) - Immature teratoma
Japan (Hamamatsu University, School of Medicine) - Immature teratoma
Japan (Shimada City Hospital) - Coccygeal teratoma
Saudi Arabia (King Khalid University Hospital) - Immature sacrococcygeal teratoma

Case 2 - Diagnosis:

Immature teratoma, sacrococcygeal
T-Y1400, M-90801

Case 2 - References:

Misra D, Pritchard J, Drake DP, et al. Markedly Improved Survival in Malignant Sacro-Coccygeal Teratomas--16 Years, Experience. *Eur J Pediatr Surg*. 1997 Jun; 7(3):152-155.

Uchiyama M, Iwafuchi M, Naitoh M, et al. Sacrococcygeal Teratoma: A Series of 19 Cases with Long-term Follow-up. *Eur J Pediatr Surg*. 1999 Jun; 9(3):158-162.

Azizkhan RG, Caty MG. Teratomas in Childhood. *Curr Opin Pediatr*. 1996 Jun; 8(3):287-292.

Flake AW. Fetal Sacrococcygeal Teratoma. *Semin Pediatr Surg*. 1993 May; 2(2):113-120.

Hermann ME, Thompson K, Wojcik EM, et al. Congenital Sacrococcygeal Teratomas: Effect of Gestational Age on Size, Morphologic Pattern, Ploidym, p53, and Ret Expression. *Pediatr Dev Pathol.* 2000 May-Jun; 3(3):240-248.

Kruslin B, Visnjic A, Cizmic A, et al. DNA Ploidy Analysis and Cell Proliferation in Congenital Sacrococcygeal Teratomas. *Cancer.* 2000 Aug; 89(4):932-937.

Graf JL, Housely HT, Albanese CT, et al. A Surprising Histological Evolution of Preterm Sacrococcygeal Teratomas. *Jpediatr Surg.* 1998 Feb; 33(2):177-179.

Escondido - Epithelial cyst
Glendale (Glendale Pathology Associates) - Epidermoid cyst of spleen
Los Angeles (USC Residents) - Pseudocyst
Modesto (Yosemite Pathology Medical Group) - Epidermoid (epithelial) cyst of spleen
Orange (UCI Medical Center Residents) - Epithelial cyst
Sacramento (UC Davis Medical Center) - Follicular hyperplasia (11) vs. Castleman's disease (2) vs. thymoma (1)
Alabama (Cunningham Pathology) - Epithelial cyst
Arizona (Phoenix Memorial Hospital) - Cystic hemangioma
Arkansas (UAMS) - Epidermoid cyst, spleen
Colorado (UNIPATH) - Hemangioma
Florida (Winter Haven Hospital) - Epidermoid cyst (1); Primary non-parasitic cyst (1)
Florida, Ocala - Epidermoid cyst
Georgia, Decatur - Epidermoid cyst
Illinois (Marion Memorial Hospital) - Epithelial cyst
Illinois (Sarah Bush Lincoln Health Center) - Epidermoid cyst of spleen
Indiana, Fort Wayne - Benign cyst, ? squamous lining (1); Splenic epidermoid cyst (1)
Kansas (Coffeyville Regional Medical Center) - Splenic epidermoid cyst, benign
Kentucky (University of Louisville Hospital) - Congenital cyst
Maryland (National Naval Medical Center) - Pseudocyst with Langerhan's histiocytosis (3); Pseudocyst with atypical histiocytic red pulp infiltrate (5)
Maryland (University of Maryland) - Benign (congenital) splenic cyst
Massachusetts (Berkshire Medical Center) - Congenital cyst
Michigan, East Lansing - Epidermoid cyst
Michigan (Spectrum Health) - Red pulp lymphoproliferative lesion ? T-cell
Michigan (St. Joseph Mercy Hospital) - True cyst
Nebraska (Good Samaritan Hospital) - Epidermoid cyst
New York (Nassau University Medical Center) - Benign cyst, ? dermoid cyst
Ohio (MCO) - Epithelial splenic cyst
Pennsylvania (Allegheny General Hospital) - Epithelial cyst
Pennsylvania (Memorial Medical Center) - Epidermoid cyst
Pennsylvania, Sewickley - Hemorrhagic cyst, benign
Utah (St. Mark's Hospital) - Primary splenic cyst
Washington, DC - Splenic cyst, benign
Texas, Lubbock - Benign epithelial cyst
Texas, San Antonio - Epithelial cyst
Texas (Scott & White Memorial Hospital) - Epithelial cyst
Canada (CUSE, Site Fleurimont) - Haemangioma
Canada (University of Calgary, Foothills Hospital) - Epidermal cyst of spleen
Japan (Self Defense Hospital) - Epithelial cyst
Japan (Shiga University of Medical Science) - Epithelial (epidermoid) cyst
Japan (Hamamatsu University, School of Medicine) - Epithelial cyst of spleen
Japan (Shimada City Hospital) - Epithelial cyst
Saudi Arabia (King Khalid University Hospital) - Benign epithelial or primary splenic cyst

Case 3 - Diagnosis:

Epithelial cyst ("True cyst", "Epidermoid cyst"), spleen
T-07000, M-33420

Case 3 - References:

Higaki K, Jimi A, Watanabe J, et al. Epidermoid Cyst of the Spleen with CA19-9 or Carcinoembryonic Antigen Productions: Report of Three Cases. *Am J Surg Pathol*. 1998 Jun; 22(6):704-708.

Touloukian RJ, Maharaj A, Ghoussoub R, et al. Partial Decapsulation of Splenic Epithelial Cysts: Studies on Etiology and Outcome. *J Pediatr Surg*. 1997 Feb; 32(2):272-274.

Adsay NV, Hasteh F, Cheng JD, et al. Squamous-lined Cysts of the Pancreas: Lymphoepithelial Cysts, Dermoid Cysts (Teratomas), and Accessory-Splenic Epidermoid Cysts. *Semin Diagn Pathol*. 2000 Feb; 17(1):56-65.

Sardi A, Ojeda HF, King D. Laparoscopic Resection of a Benign True Cyst of the Spleen with the Harmonic Scalpel Producing High Levels of CA 19-9 and Carcinoembryonic Antigen. *Am Surg.* 1998 Dec; 64(12):1149-1154.

Escondido - Cavernous lymphangioma
Glendale (Glendale Pathology Associates) - Cavernous hemangioma
Los Angeles (USC Residents) - Intramuscular hemangioma/lymphangioma
Modesto (Yosemite Pathology Medical Group) - Lymphangioma
Orange (UCI Medical Center Residents) - Arterio-venous malformation
Sacramento (UC Davis Medical Center) - Oncocytoma
Alabama (Cunningham Pathology) - Cavernous lymphangioma
Arizona (Phoenix Memorial Hospital) - Lymphangioma
Arkansas (UAMS) - Cystic lymphangioma
Colorado (UNIPATH) - Cavernous hemangioma
Florida (Winter Haven Hospital) - Lymphangioma (1); Angioma (1)
Florida, Ocala - Lymphangioma
Georgia, Decatur - Lymphangioma, cavernous
Illinois (Marion Memorial Hospital) - Cavernous lymphangioma
Illinois (Sarah Bush Lincoln Health Center) - Lymphangioma
Indiana, Fort Wayne - Hemangioma/lymphangioma (1); Lymphangioma, right abdomen/chest soft tissue (1)
Kansas (Coffeyville Regional Medical Center) - Vascular malformation (hamartoma)
Kentucky (University of Louisville Hospital) - Lymphangioma
Maryland (National Naval Medical Center) - Lymphangioma (8)
Maryland (University of Maryland) - Lymphangioma
Massachusetts (Berkshire Medical Center) - Cavernous lymphangioma
Michigan, East Lansing - Lymphangioma
Michigan (Spectrum Health) - Hemangioma
Michigan (St. Joseph Mercy Hospital) - Lymphangioma
Nebraska (Good Samaritan Hospital) - Cavernous lymphangioma
New York (Nassau University Medical Center) - Lymphangioma
Ohio (MCO) - Lymphangioma
Pennsylvania (Allegheny General Hospital) - Lymphangioma
Pennsylvania (Memorial Medical Center) - Oncocytic carcinoma
Pennsylvania, Sewickley - Lymphangioma
Utah (St. Mark's Hospital) - Lymphangioma
Washington, DC - Lymphangioma
Texas, Lubbock - A-V (arterio-venous) malformation
Texas, San Antonio - Lymphangioma
Texas (Scott & White Memorial Hospital) - Lymphangioma
Canada (CUSE, Site Fleurimont) - Lymphangioma
Canada (University of Calgary, Foothills Hospital) - Lymphangioma
Japan (Self Defense Hospital) - Intra-abdominal lymphangioma
Japan (Shiga University of Medical Science) - Lymphangioma
Japan (Hamamatsu University, School of Medicine) - Lymphangioma
Japan (Shimada City Hospital) - Cystic hygroma
Saudi Arabia (King Khalid University Hospital) - Lymphangioma (probably part of a vascular malformation)

Case 4 - Diagnosis:

Lymphangioma, abdomen/chest

T-Y4100, M-91700

Case 4 - References:

Daniel S, Lazarevic B, Attia A. Lymphangioma of the Mesentery of the Jejunum: Report of a Case and a Brief Review of the Literature. *Am J Gastroenterol*. 1983 Nov; 78(11):726-729.

Pang LC. Acute Abdominal Conditions in Mesenteric Lymphangioma. *South Med J*. 1990 Apr; 83(4):467-470.

De Perrot M, Rostan O, Morel P, et al. Abdominal Lymphangioma in Adults and Children. *Br J Surg*. 1998 Mar; 85(3):395-397.

Chand EM, Mcneely TW, Freant LJ. Pathologic Quiz Case: Male with Increasing Abdominal Girth. Pathologic Diagnosis: Multicystic Intra-Abdominal Lymphangioma. *Arch Pathol Lab Med*. 2000 Nov; 124(11):1723-1724.

Dagenais F, Ferraro P, Duranceau A. Spontaneous Chylothorax Associated with Primary Lymphedema and a Lymphangioma Malformation. *Ann Thorac Surg*. 1999 May; 67(5):1480-1482.

Escondido - Embryonal rhabdomyosarcoma, anaplastic type
Glendale (Glendale Pathology Associates) - Spindle cell sarcoma, high-grade, rule out rhabdomyosarcoma
Los Angeles (USC Residents) - Pleomorphic sarcoma MFH (malignant fibrous histiocytoma)
Modesto (Yosemite Pathology Medical Group) - Rhabdomyosarcoma
Orange (UCI Medical Center Residents) - Rhabdomyosarcoma
Sacramento (UC Davis Medical Center) - Pancreatic endocrine neoplasm
Alabama (Cunningham Pathology) - Embryonal rhabdomyosarcoma
Arizona (Phoenix Memorial Hospital) - Pleomorphic rhabdomyosarcoma
Arkansas (UAMS) - Embryonal rhabdomyosarcoma, botyroid type, recurrent/metastatic
Colorado (UNIPATH) - High grade sarcoma
Florida (Winter Haven Hospital) - Sarcoma (2)
Florida, Ocala - Leiomyosarcoma vs. MFH (malignant fibrous histiocytoma)
Georgia, Decatur - Myosarcoma
Illinois (Marion Memorial Hospital) - Embryonal rhabdomyosarcoma, spindle cell type
Illinois (Sarah Bush Lincoln Health Center) - Embryonal rhabdomyosarcoma
Indiana, Fort Wayne - Spindle/pleomorphic cell sarcoma (1); Leiomyosarcoma, urinary bladder (1)
Kansas (Coffeyville Regional Medical Center) - Sarcoma - (rhabdomyosarcoma?)
Kentucky (University of Louisville Hospital) - Rhabdomyosarcoma
Maryland (National Naval Medical Center) - High grade sarcoma, NOS (1); Triton tumor (1); Rhabdomyosarcoma (2); Fibrosarcoma (4)
Maryland (University of Maryland) - Rhabdomyosarcoma
Massachusetts (Berkshire Medical Center) - Sarcoma, favor rhabdomyosarcoma
Michigan, East Lansing - Rhabdomyosarcoma
Michigan (Spectrum Health) - High grade sarcoma
Michigan (St. Joseph Mercy Hospital) - (Embryonal) rhabdomyosarcoma
Nebraska (Good Samaritan Hospital) - Leiomyosarcoma, high grade
New York (Nassau University Medical Center) - Rhabdomyosarcoma
Ohio (MCO) - Rhabdomyosarcoma vs. Triton tumor
Pennsylvania (Allegheny General Hospital) - Rhabdomyosarcoma, embryonal
Pennsylvania (Memorial Medical Center) - Lymphoma
Pennsylvania, Sewickley - Rhabdomyosarcoma
Utah (St. Mark's Hospital) - Rhabdomyosarcoma
Washington, DC - Leiomyosarcoma
Texas, Lubbock - Rhabdomyosarcoma
Texas, San Antonio - Sarcoma - sarcomatoid treatment of IMT (inflammatory myofibroblastic tumor) vs. RMS (rhabdomyosarcoma) w/ treatment effect
Texas (Scott & White Memorial Hospital) - Pleomorphic sarcoma NOS (favor rhabdomyosarcoma x 1)
Canada (CUSE, Site Fleurimont) - Embryonal rhabdomyosarcoma, spindle cell type.
Canada (University of Calgary, Foothills Hospital) - Rhabdomyosarcoma
Japan (Self Defense Hospital) - Embryonal rhabdomyosarcoma
Japan (Shiga University of Medical Science) - Rhabdomyosarcoma, spindle cell
Japan (Hamamatsu University, School of Medicine) - MFH (malignant fibrous histiocytoma)
Japan (Shimada City Hospital) - Embryonal rhabdomyosarcoma
Saudi Arabia (King Khalid University Hospital) - Rhabdomyosarcoma

Case 5 - Diagnosis:

Embryonal rhabdomyosarcoma (spindle cell type), bladder, colon and omentum
T-74000, T-67000, T-63850, M-8910/3

Case 5 - References:

Cessna MH, Zhou H, Perkins SL, et al. Are Myogenin and Myo1 Expression Specific for Rhabdomyosarcoma? A Study of 150 Cases, with Emphasis on Spindle Cell Mimics. *Am J Pathol.* 2001 Sep; 25(9):1150-1157.

Leuschner I, Harms D, Mattke A, et al. Rhabdomyosarcoma of the Urinary Bladder and Vagina: A Clinicopathologic Study with Emphasis on Recurrent Disease: A Report from the Kiel Pediatric Tumor Registry and the German CWS Study. *Am J Surg Pathol.* 2001 Jul; 25(7):856-864.

Grundy R, Anderson J, Gaze M, et al. Congenital Alveolar Rhabdomyosarcoma: Clinical and Molecular Distinction from Alveolar Rhabdomyosarcoma in Older Children. *Cancer.* 2001 Feb 1; 91(3):606-612.

Ruymann FB, Grovas AC. Progress in the Diagnosis and Treatment of Rhabdomyosarcoma and Related Soft Tissue Sarcomas. *Cancer Invest*. 2000; 18(3): 223-241.

Lugo-Vicente H. Molecular Biology and Genetics Affecting Pediatric Solid Tumors. *Bol Asoc Med P R*. 2000 Apr-Aug; 92(4-8):72-82.

Escondido - Rhabdomyosarcoma
Glendale (Glendale Pathology Associates) - Pleomorphic sarcoma, rule out rhabdomyosarcoma
Los Angeles (USC Residents) - Pleomorphic rhabdomyosarcoma
Modesto (Yosemite Pathology Medical Group) - Embryonal rhabdomyosarcoma, anaplastic
Orange (UCI Medical Center Residents) - Rhabdomyosarcoma
Sacramento (UC Davis Medical Center) - Meningioma
Alabama (Cunningham Pathology) - Pleomorphic rhabdomyosarcoma
Arizona (Phoenix Memorial Hospital) - Pleomorphic rhabdomyosarcoma
Arkansas (UAMS) - Pleomorphic rhabdomyosarcoma
Colorado (UNIPATH) - Rhabdomyosarcoma
Florida (Winter Haven Hospital) - Sarcoma (1); Pleomorphic rhabdomyosarcoma (1)
Florida, Ocala - Ganglioneuroblastoma
Georgia, Decatur - Rhabdomyosarcoma, embryonal
Illinois (Marion Memorial Hospital) - Embryonal rhabdomyosarcoma, anaplastic type
Illinois (Sarah Bush Lincoln Health Center) - Rhabdomyosarcoma, embryonal vs. pleomorphic
Indiana, Fort Wayne - Rhabdomyosarcoma (1); Pleomorphic rhabdomyosarcoma, abdomen (1)
Kansas (Coffeyville Regional Medical Center) - Rhabdomyosarcoma
Kentucky (University of Louisville Hospital) - Rhabdomyosarcoma
Maryland (National Naval Medical Center) - High grade rhabdomyosarcoma (8)
Maryland (University of Maryland) - Rhabdomyosarcoma
Massachusetts (Berkshire Medical Center) - Rhabdomyosarcoma
Michigan, East Lansing - Rhabdomyosarcoma, pleomorphic
Michigan (Spectrum Health) - Pleomorphic rhabdomyosarcoma
Michigan (St. Joseph Mercy Hospital) - Alveolar rhabdomyosarcoma
Nebraska (Good Samaritan Hospital) - Embryonal rhabdomyosarcoma with anaplastic features
New York (Nassau University Medical Center) - Rhabdomyosarcoma, pleomorphic
Ohio (MCO) - Alveolar rhabdomyosarcoma
Pennsylvania (Allegheny General Hospital) - Sarcoma, malignant
Pennsylvania (Memorial Medical Center) - Rhabdomyosarcoma
Pennsylvania, Sewickley - Rhabdomyosarcoma
Utah (St. Mark's Hospital) - Rhabdomyosarcoma
Washington, DC - Rhabdomyosarcoma, pleomorphic
Texas, Lubbock - Rhabdomyosarcoma
Texas, San Antonio - Pleomorphic sarcoma, favor RMS (rhabdomyosarcoma)
Texas (Scott & White Memorial Hospital) - Pleomorphic rhabdomyosarcoma
Canada (CUSE, Site Fleurimont) - Embryonal rhabdomyosarcoma with anaplastic features
Canada (University of Calgary, Foothills Hospital) - Embryonal rhabdomyosarcoma with anaplastic features
Japan (Self Defense Hospital) - Embryonal rhabdomyosarcoma
Japan (Shiga University of Medical Science) -
Japan (Hamamatsu University, School of Medicine) - Rhabdomyosarcoma, embryonal
Japan (Shimada City Hospital) - Anaplastic embryonal rhabdomyosarcoma
Saudi Arabia (King Khalid University Hospital) - Embryonal rhabdomyosarcoma

Case 6 - Diagnosis:

Anaplastic rhabdomyosarcoma, abdomen

Director's Note: The current preferred designation for a pleomorphic rhabdomyosarcoma occurring in children is "anaplastic rhabdomyosarcoma". (drc)
T-Y4100, M-8901/3

Case 6 - References:

Qualman SJ, Coffin CM, Newton WA, et al. Intergroup Rhabdomyosarcoma Study: Update for Pathologists. *Pediatr Dev Pathol.* 1998 Nov-Dec; 1(6):550-561.

Kodet R, Newton WA Jr, Hamoudi AB, et al. Childhood Rhabdomyosarcoma with Anaplastic (Pleomorphic) Features. A report of the Intergroup Rhabdomyosarcoma Study. *Am J Surg Pathol*. 1993 May; 17(5):443-453.

Kelly KM, Womer RB, Sorensen PH, et al. Common and Variant Gene Fusions Predict Distinct Clinical Phenotypes in Rhabdomyosarcoma. *J Clin Oncol*. 1997 May; 15(5):1831-1836.

Scrable H, Witte D, Shimada H, et al. Molecular Differential Pathology of Rhabdomyosarcoma. *Genes Chromosomes Cancer*. 1989 Sep; 1(1):23-35.

Chung CJ, Fordham L, Little S, et al. Intraperitoneal Rhabdomyosarcoma in Children: Incidence and Imaging Characteristics on CT. *AJR Am J Roentgenol.* 1998 May; 170(5):1385-1387.

Case No. 7, Accession No. 28717 April 2002

Escondido - Ganglioneuroblastoma
Glendale (Glendale Pathology Associates) - Ganglioneuroblastoma
Los Angeles (USC Residents) - Ganglioneuroblastoma
Modesto (Yosemite Pathology Medical Group) - Composite pheochromocytoma F floater
Orange (UCI Medical Center Residents) - Ganglioneuroblastoma
Sacramento (UC Davis Medical Center) - Chondrosarcoma
Alabama (Cunningham Pathology) - Rhabdoid tumor
Arizona (Phoenix Memorial Hospital) - Ganglioneuroblastoma
Arkansas (UAMS) - Ganglioneuroblastoma, nodular type
Colorado (UNIPATH) - Alveolar soft part sarcoma
Florida (Winter Haven Hospital) - Ganglioneuroblastoma (2)
Florida, Ocala - Composite ganglioneuroblastoma
Georgia, Decatur - Ganglioneuroblastoma
Illinois (Marion Memorial Hospital) - Ganglioneuroblastoma
Illinois (Sarah Bush Lincoln Health Center) - Ganglioneuroblastoma
Indiana, Fort Wayne - Ganglioneuroblastoma (1); Ganglioneuroblastoma, retroperitoneum (1)
Kansas (Coffeyville Regional Medical Center) - Extra adrenal abdominal paraganglioma
Kentucky (University of Louisville Hospital) - Ganglioneuroblastoma
Maryland (National Naval Medical Center) - Ganglioneuroblastoma (8)
Maryland (University of Maryland) - Neuroblastoma
Massachusetts (Berkshire Medical Center) - Ganglioneuroblastoma
Michigan, East Lansing - Ganglioneuroblastoma
Michigan (Spectrum Health) - Nodular ganglioneuroblastoma
Michigan (St. Joseph Mercy Hospital) - Ganglioneuroblastoma
Nebraska (Good Samaritan Hospital) - Ganglioneuroblastoma
New York (Nassau University Medical Center) - Ganglioneuroblastoma
Ohio (MCO) - Ganglioneuroblastoma, imperfect
Pennsylvania (Allegheny General Hospital) - Ganglioneuroblastoma
Pennsylvania (Memorial Medical Center) - Lymphangio epithelioma
Pennsylvania, Sewickley - Ganglioneuroblastoma
Utah (St. Mark's Hospital) - Ganglioneuroblastoma
Washington, DC - Ganglioneuroblastoma
Texas, Lubbock - Immature teratoma
Texas, San Antonio - NBE
Texas (Scott & White Memorial Hospital) - Ganglioneuroblastoma
Canada (CUSE, Site Fleurimont) - Ganglioneuroblastoma
Canada (University of Calgary, Foothills Hospital) - Intermixed ganglioneuroblastoma
Japan (Self Defense Hospital) - Ganglioneuroblastoma
Japan (Shiga University of Medical Science) - Ganglioneuroblastoma, imperfect variety
Japan (Hamamatsu University, School of Medicine) - Ganglioneuroblastoma
Japan (Shimada City Hospital) - Ganglioneuroblastoma
Saudi Arabia (King Khalid University Hospital) - Ganglioneuroblastoma

Case 7 - Diagnosis:

Ganglioneuroblastoma, retroperitoneum
T-Y4600, M-9490/3

Case 7 - References:

Hachitanda Y, Hata J. Stage IVS Neuroblastoma: A Clinical, Histological, and Biological Analysis of 45 Cases. *Hum Pathol*. 1996 Nov; 27(11):1135-1138.

Shimada H, Ambros Im, Dehner LP, et al. The International Neuroblastoma Pathology Classification (The Shimada System). *Cancer*. 1999 Jul; 86(2):364-372.

Umehara S, Nakagawa A, Matthay KK, et al. Histopathology Defines Prognostic Subsets of Ganglioneuroblastoma, Nodular. *Cancer*. 2000 Sept; 89(5):1150-1161.

Matias-Guiu X, Garrastazu MT. Composite Phaechromocytoma-Ganglioneuroblastoma in a Patient with Multiple Endocrine Neoplasia Type IIA. *Histopathology*. 1998 Mar; 32(3):281-282.

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; 92(9):2451-2461.
Thorner PS, Squire JA. Molecular Genetics in the Diagnosis and Prognosis of Solid Pediatric Tumors. *Pediatr Dev Pathol*. 1998 Sep-Oct; 1(5):337-365.

Case No. 8, Accession No. 29034 April 2002

Escondido - Neurofibroma
Glendale (Glendale Pathology Associates) - Low-grade fibromyxoid sarcoma
Los Angeles (USC Residents) - Peripheral nerve sheath tumor
Modesto (Yosemite Pathology Medical Group) - Schwannoma
Orange (UCI Medical Center Residents) - Schwannoma
Sacramento (UC Davis Medical Center) - Fibromatosis
Alabama (Cunningham Pathology) - Cellular schwannoma
Arizona (Phoenix Memorial Hospital) - Cellular schwannoma
Arkansas (UAMS) - Neurofibroma
Colorado (UNIPATH) - Plexiform neurofibroma
Florida (Winter Haven Hospital) - Neurofibroma (1); Fibromatosis (1)
Florida, Ocala - Schwannoma
Georgia, Decatur - Neurofibroma
Illinois (Marion Memorial Hospital) - Cellular neurofibroma
Illinois (Sarah Bush Lincoln Health Center) - Neurofibroma
Indiana, Fort Wayne - Spindle cell tumor (1); Cellular schwannoma, right flank (1)
Kansas (Coffeyville Regional Medical Center) - Schwannoma
Kentucky (University of Louisville Hospital) - Schwannoma
Maryland (National Naval Medical Center) - Neurofibroma (3); Fibrous histiocytoma (2); Fibromatosis (1); Spindle cell neoplasm (1); Fibrous histiocytoma with hemangiopericytoma-like areas (1)
Maryland (University of Maryland) - Neurofibroma
Massachusetts (Berkshire Medical Center) - Neurofibroma
Michigan, East Lansing - Nodular fasciitis
Michigan (Spectrum Health) - Nodular fasciitis
Michigan (St. Joseph Mercy Hospital) - Nodular fasciitis
Nebraska (Good Samaritan Hospital) - Neurofibroma
New York (Nassau University Medical Center) - Neurofibroma
Ohio (MCO) - Nerve sheath myxoma
Pennsylvania (Allegheny General Hospital) - Nodular fasciitis
Pennsylvania (Memorial Medical Center) - Fibromatosis
Pennsylvania, Sewickley - Desmoplastic fibroma
Utah (St. Mark's Hospital) - Benign fibrogenic tumor, NOS
Washington, DC - Neurofibroma
Texas, Lubbock - Dermatofibroma
Texas, San Antonio - RM interstitial tumor vs. MST
Texas (Scott & White Memorial Hospital) - Neurofibroma
Canada (CUSE, Site Fleurimont) - Neurofibroma
Canada (University of Calgary, Foothills Hospital) - Cellular neurothekeoma
Japan (Self Defense Hospital) - Nodular fasciitis
Japan (Shiga University of Medical Science) - Traumatic neuroma
Japan (Hamamatsu University, School of Medicine) - Fibromatosis
Japan (Shimada City Hospital) - Myofibroma
Saudi Arabia (King Khalid University Hospital) - Fibromatosis

Case 8 - Diagnosis:

Atypical peripheral sheath tumor, probably low grade MPNST, flank

Director's Note: Note the presence of mitotic figures, necrosis, hypercellularity, and infiltrate periphery. (drc)
T-Y1310, M-95600

Case 8 - References:

Kawahara E, Oda Y, Ooi A, et al. Expression of Glial Fibrillary Acidic Protein (GFAP) in Peripheral Nerve Sheath Tumors. A Comparative Study of Immunoreactivity of GFAP, Vimentin, S-100 Protein, and Neurofilament in 38 Schwannomas and 18 Neurofibromas. *Am J Surg Pathol*. 1988 Feb; 12(2):115-120.

Watanabe T, Oda Y, Tamiya S, et al. Malignant Peripheral Nerve Sheath Tumour Arising within Neurofibroma. An Immunohistochemical Analysis in the Comparison Between Benign and Malignant Components. *J Clin Pathol.* 2001 Aug; 54(8):631-636.

Lin BT, Weiss LM, Medeiros LJ. Neurofibroma and Cellular Neurofibroma with Atypia: A report of 14 Tumors. *Am J Surg Pathol.* 1997 Dec; 21(12):1443-1449.

Liapis H, Marley EF, Lin Y, et al. P53 and Ki-67 Proliferating Cell Nuclear Antigen in Benign and Malignant Peripheral Nerve Sheath Tumors in Children. *Pediatr Dev Pathol.* 1999 Jul-Aug; 2(4):377-384.

Watanabe T, Oda Y, Tamiya S. Malignant Peripheral Nerve Sheath: High Ki67 Labeling Index is the Significant Prognostic Indicator. *Histopathology.* 2001 Aug; 39(2):187-197.

Case No. 9, Accession No. 29235 April 2002

Escondido - Hepatoblastoma
Glendale (Glendale Pathology Associates) - Hepatoblastoma
Los Angeles (USC Residents) - Hepatoblastoma with heterologous elements
Modesto (Yosemite Pathology Medical Group) - Mixed epithelial and mesenchymal hepatoblastoma
Orange (UCI Medical Center Residents) - Embryonal hepatoblastoma with mixed epithelial, mesenchymal component
Sacramento (UC Davis Medical Center) - Dermatofibrosarcoma protuberance
Alabama (Cunningham Pathology) - Fetal/embryonal hepatoblastoma
Arizona (Phoenix Memorial Hospital) - Mixed epithelial and mesenchymal hepatoblastoma
Arkansas (UAMS) - Hepatoblastoma, mixed epithelioid/mesenchymal type
Colorado (UNIPATH) - Chondrosarcoma
Florida (Winter Haven Hospital) - Hepatoblastoma (1); Hepatoblastoma, mixed type (1)
Florida, Ocala - Hepatoblastoma
Georgia, Decatur - Hepatoblastoma, mixed epithelial and mesenchymal type
Illinois (Marion Memorial Hospital) - Hepatoblastoma, mixed epithelial and mesenchymal type
Illinois (Sarah Bush Lincoln Health Center) - Hepatoblastoma
Indiana, Fort Wayne - Hepatoblastoma (1); Mixed epithelial/mesenchymal hepatoblastoma, liver (1)
Kansas (Coffeyville Regional Medical Center) - Hepatoblastoma (mixed epithelial and mesenchymal)
Kentucky (University of Louisville Hospital) - Mixed epithelial-mesenchymal hepatoblastoma
Maryland (National Naval Medical Center) - Hepatoblastoma, mixed epithelial mesenchymal (8)
Maryland (University of Maryland) - Hepatoblastoma, mixed epithelial - mesenchymal
Massachusetts (Berkshire Medical Center) - Hepatoblastoma, mixed epithelial-mesodermal
Michigan, East Lansing - Hepatoblastoma, mixed type
Michigan (Spectrum Health) - Hepatoblastoma with osteoid metaplasia
Michigan (St. Joseph Mercy Hospital) - Hepatoblastoma
Nebraska (Good Samaritan Hospital) - Hepatoblastoma
New York (Nassau University Medical Center) - Hepatoblastoma
Ohio (MCO) - Osteosarcoma
Pennsylvania (Allegheny General Hospital) - Hepatoblastoma, mixed
Pennsylvania (Memorial Medical Center) - Hepatoblastoma
Pennsylvania, Sewickley - Hepatoblastoma
Utah (St. Mark's Hospital) - Hepatoblastoma – mixed epithelial and mesenchymal
Washington, DC - Osteosarcoma
Texas, Lubbock - Hepatoblastoma
Texas, San Antonio - HRE
Texas (Scott & White Memorial Hospital) - Mixed epithelial and mesenchymal hepatoblastoma
Canada (CUSE, Site Fleurimont) - Hepatoblastoma, mixed epithelial, mesenchymal type
Canada (University of Calgary, Foothills Hospital) - Embryonal hepatoblastoma
Japan (Self Defense Hospital) - Hepatoblastoma
Japan (Shiga University of Medical Science) - Hepatoblastoma (mixed type)
Japan (Hamamatsu University, School of Medicine) - Hepatoblastoma, mixed epithelial and mesenchymal
Japan (Shimada City Hospital) - Hepatoblastoma
Saudi Arabia (King Khalid University Hospital) - Hepatoblastoma

Case 9 - Diagnosis:

Hepatoblastoma, mixed fetal and embryonal, with ossification, liver
T-56000, M-8970/3

Case 9 - References:
Herzog CE, Andrassy RJ, Eftekhari F. Childhood Cancers: Hepatoblastoma. *Oncologist*. 2000; 5(6):445-453.
Stocker JT. Hepatic Tumors in Children. *Clin Liver Dis*. 2001 Feb; 5(1):259-281.
Sattler B, Gunawan B, Lorf T, et al. Undifferentiated Small-Cell Hepatoblastoma. *Pathologe*. 2000 Nov; 21(6):456-459.
Molmenti EP, Nagata D, Roden J, et al. Liver Transplantation for Hepatoblastoma in the Pediatric Population. *Transplant Proc*. 2001 Feb-Mar; 33(1-2):1749.

Case No. 10, Accession No. 29031 April 2002

Escondido - Leiomyosarcoma
Glendale (Glendale Pathology Associates) - Inflammatory myofibroblastic tumor
Los Angeles (USC Residents) - Inflammatory myofibroblastic tumor
Modesto (Yosemite Pathology Medical Group) - Leiomyoma
Orange (UCI Medical Center Residents) - Inflammatory fibrous polyp
Sacramento (UC Davis Medical Center) - Focal mucinosis
Alabama (Cunningham Pathology) - Inflammatory pseudopolyp
Arizona (Phoenix Memorial Hospital) - Gastrointestinal stromal tumor (GIST)
Arkansas (UAMS) - Inflammatory fibroid polyp
Colorado (UNIPATH) - Leiomyoma
Florida (Winter Haven Hospital) - Inflammatory polyp (2)
Florida, Ocala - GIST (gastrointestinal stromal tumor)
Georgia, Decatur - Inflammatory myofibroblastic tumor, rule out Hodgkin's lymphoma
Illinois (Marion Memorial Hospital) - Inflammatory myofibroblastic tumor
Illinois (Sarah Bush Lincoln Health Center) - Inflammatory myofibroblastic tumor vs. sarcoma
Indiana, Fort Wayne - Stromal tumor with smooth muscle differentiation (1); Inflammatory myofibroblastic tumor, right colon (1)
Kansas (Coffeyville Regional Medical Center) - Inflammatory pseudotumor
Kentucky (University of Louisville Hospital) - Inflammatory fibroid polyp
Maryland (National Naval Medical Center) - Inflammatory pseudo tumor (8)
Maryland (University of Maryland) - Inflammatory myofibroblastic tumor
Massachusetts (Berkshire Medical Center) - Inflammatory pseudotumor
Michigan, East Lansing - MFH (malignant fibrous histiocytoma), inflammatory type
Michigan (Spectrum Health) - Malignant fibrous histiocytoma
Michigan (St. Joseph Mercy Hospital) - Inflammatory fibroid polyp
Nebraska (Good Samaritan Hospital) - Inflammatory myofibroblastic tumor
New York (Nassau University Medical Center) - Inflammatory pseudosarcoma
Ohio (MCO) - Hodgkin's disease
Pennsylvania (Allegheny General Hospital) - Inflammatory pseudotumor
Pennsylvania (Memorial Medical Center) - Leiomyoma
Pennsylvania, Sewickley - Inflammatory pseudotumor
Utah (St. Mark's Hospital) - Inflammatory myofibroblastic pseudotumor
Washington, DC - GIST (gastrointestinal stromal tumor)
Texas, Lubbock - Leiomyoblastoma
Texas, San Antonio - IMT (Inflammatory myofibroblastic tumor)
Texas (Scott & White Memorial Hospital) - Inflammatory myofibroblastic tumor
Canada (CUSE, Site Fleurimont) - GIST (gastrointestinal stromal tumor)
Canada (University of Calgary, Foothills Hospital) - Inflammatory (pseudotumor) myofibroblastic tumor
Japan (Self Defense Hospital) - Inflammatory myofibroblastic tumor
Japan (Shiga University of Medical Science) - Inflammatory myofibroblastic tumor
Japan (Hamamatsu University, School of Medicine) - Follicular dendritic sarcoma, inflammatory pseudotumor-like variant
Japan (Shimada City Hospital) - Inflammatory fibroid polyp
Saudi Arabia (King Khalid University Hospital) - Inflammatory pseudotumor

Case 10 - Diagnosis:

Inflammatory myofibroblastic tumor ("inflammatory pseudotumor"), colon
T-67000, M-76820

Case 10 - References:
Coffin CM, Dehner LP, Meis-Kindblom JM. Inflammatory Myofibroblastic Tumor, Inflammatory Fibrosarcoma, and Related Lesions: An Historical Review with Differential Diagnostic Considerations. *Semin Diagn Pathol.* 1998 May; 15(2):102-110.
Van Dorpe J, Ectors N, Geboes K, et al. Is Calcifying Fibrous Pseudotumor a Late Sclerosing Stage of Inflammatory Myofibroblastic Tumor? *Am J Pathol.* 1999 Mar; 23(3):329-335.

Su LD, Atayde-Perez A, Sheldon S, Fletcher JA, et al. Inflammatory Myofibroblastic Tumor: Cytogenetic Evidence Supporting Clonal Origin. *Mod Pathol.* 1998 Apr; 11(4):364-368.
Sanders BM, West KW, Gingalewski C, et al. Inflammatory Pseudotumor of the Alimentary Tract: Clinical and Surgical Experience. *J Pediatr Surg.* 2001 Jan; 36(1):169-173.
Velitchkov N, Losanoff J, Kjossev K, et al. Inflammatory Pseudotumor of the Colon. *Dig Dis Sci*. 2000 Mar; 45(3):515-516.
Sanders BM, West KW, Gingalewski C, et al. Inflammatory Pseudotumor of the Alimentary Tract: Clinical and Surgical Experience. *J Pediatr Surg*. 2001 Jan; 36(1):169-173.