



CALIFORNIA  
TUMOR TISSUE REGISTRY

“RENAL TUMORS AND TUMOR-LIKE  
CONDITIONS”

Minutes – Subscription A

April, 2005



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

Errors in Pathology and Laboratory Medicine. Consequences and Prevention. Hollensead, SC, Lockwood WB, and Elin RJ. *J of Surg Oncol* 2004; 161-181.

Parathyroid Carcinoma. An Overview. DeLellis RA. *Adv Anat Pathol* 2005; 12(2):53-60.

Gleason Grading of Prostatic Carcinoma. Wheeler DT. *Adv Anat Pathol* 2005; 12(1):36.

Stool Screening for Colorectal Cancer. Molecular Approaches. *Gastroenter* 2005; 192-206.

Diverticulosis Coli. Update on a “Western” Disease. Ye, H, Losada M. and West AB. *Adv Anat Pathol* 2005; 12(2).

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## **FILE DIAGNOSES**

**CTTR Subscription A**

**April, 2005**

**Case 1:**

Adult polycystic kidney disease  
T-71000, M-26730

**Case 2:**

Conventional/clear renal cell carcinoma, kidney  
T-71000, M-83123

**Case 3:**

Papillary renal cell carcinoma, kidney  
T-71000, M-83123

**Case 4:**

Renal cell carcinoma with oncocytic features, kidney  
T-71000, M-82903

**Case 5:**

Renal cell carcinoma, “collecting duct type” (collecting duct carcinoma), kidney  
T-71000, M-83123

**Case 6:**

Renal cell carcinoma, medullary type (medullary carcinoma) associated with sickle cell trait/disease, kidney  
T-71000, M-85103

**Case 7:**

Mixed renal cell carcinoma, clear cell and sarcomatoid, kidney  
T-71000, M-83123

**Case 8:**

Epithelioid angiosarcoma, kidney and retroperitoneum  
T-08580, M-71010, M-91203

**Case 9:**

Low grade spindle cell neoplasm (NOS), probably variant of solitary fibrous tumor, kidney  
T-71000, M-88003

**Case 10:**

Small cell sarcoma (NOS), intermediate grade, kidney  
T-71000, M-88033

## Cases Submitted by Study Groups

**Case No. 1, Accession No. 29902**

**April 2005**

Alameda (Alameda County Medical Center) - Adult polycystic kidney disease  
Baldwin Park (Kaiser Permanente) - Adult polycystic disease (3)  
Fontana (Kaiser Permanente) - Adult polycystic kidney disease  
Hayward/Fremont (St. Rose Hospital) - Reactive histiocytosis associated with APCKD (urine granulomata)  
Laguna (South Coast Medical Center) - Adult polycystic kidney disease  
Loma Linda (Loma Linda University Residents) - Autosomal dominant polycystic kidney disease  
Long Beach (Lakewood Regional Medical Center) - Adult polycystic disease with crystals (8)  
Monterey Park (Garfield Medical Center) - Polycystic renal disease  
Monterey Park (Monterey Peninsula Pathologists) - Polycystic kidney  
Mountain View (El Camino Pathology Group) - Adult polycystic kidney disease  
San Diego (Naval Medical Center) - Autosomal dominant polycystic kidney disease  
San Francisco (San Francisco General Hospital) - Adult polycystic kidney  
Santa Barbara (Cottage Hospital) - Adult polycystic kidney disease  
Santa Rosa (Santa Rosa Memorial Hospital) - Polycystic renal disease  
Orange (Orange County Medical Group) - Adult polycystic kidney  
Sacramento (UC Davis Medical Center Residents) - Adult polycystic kidney  
Arizona (Maryvale Medical Center) - Adult polycystic kidneys  
Florida (Baptist Hospital) - Autosomal dominant polycystic kidney disease (1); Adult polycystic kidney (4)  
Florida, Tallahassee - Autosomal dominant polycystic kidney disease  
Florida (Winter Haven Hospital) - Polycystic kidney  
Illinois (Northwestern Memorial Hospital) - Adult-type polycystic kidney disease  
Indiana (Ball Memorial Hospital) - Acquired cystic disease of kidney with calcium oxalate crystals  
Louisiana (Louisiana State University Medical Center) - Multicystic kidney, adult type  
Maryland (Johns Hopkins Hospital Residents) - Adult polycystic kidney disease  
Maryland (National Naval Medical Center) - Polycystic kidney disease (2)  
Maryland (University of Maryland) - Adult polycystic kidney disease  
Massachusetts (New England Medical Center Boston) - Adult polycystic kidney disease  
Michigan (Oakwood Hospital) - Cystic kidneys consistent with autosomal dominant disease  
Michigan (Pathology Services of West Michigan) - Dialysis kidney  
Minnesota (Fairview Ridges Hospital) - Autosomal dominant polycystic kidney disease  
Minnesota (Fairview Southdale Hospital) - Polycystic kidney disease  
New York (Long Island Jewish Medical Center) - Polycystic kidney disease  
New York (Nassau University Medical Center) - Polycystic kidney, adult type with hemorrhage  
New York (Stony Brook University Hospital) - Cyst epithelial hyperplasia  
New York (Westchester Medical Center) - Polycystic kidney disease, adult type  
North Carolina (Mountain Area Pathology) - Autosomal dominant polycystic kidney disease (1); Adult polycystic kidney disease (4)  
Ohio (Medical College of Ohio) - Polycystic kidney disease  
Ohio (McCullough Hyde Memorial Hospital) - Polycystic kidney with hemorrhage  
Pennsylvania (Conemaugh Memorial Medical Center) - Adult polycystic kidney disease  
Pennsylvania (Drexel University College of Medicine) - Autosomal dominant polycystic kidney disease  
Pennsylvania (Lehigh Valley Hospital) - Adult polycystic kidney disease (3)  
Pennsylvania (Magee Women's Hospital) - Adult polycystic kidney disease  
Pennsylvania (Mt. Nittany Medical Center) - Autosomal dominant (adult) polycystic disease  
Pennsylvania (Pennsylvania Hospital Pathology Residents) - Adult polycystic kidney disease  
Puerto Rico (University of Puerto Rico) - Polycystic kidney disease  
Texas, Lubbock - Xanthomatous nephritis  
Texas (Propath Associates) - Polycystic renal disease, type III (2)  
Texas (Scott & White Memorial Hospital) - Adult polycystic kidney disease

Texas, Temple - Adult polycystic kidney disease  
West Virginia (Greenbrier Valley Medical Center) - Acquired cystic kidney disease  
Wisconsin (Bellin Health) - Polycystic kidney disease  
Wisconsin (Meriter Hospital) - Adult polycystic kidney disease  
Australia (Royal Prince Alfred Hospital) - Adult polycystic kidney disease, organized intra-cyst hemorrhage  
Australia (North Queensland Pathology) - Adult polycystic kidney  
Brazil (UNIFESP/EPM) - Polycystic kidney disease, autosomal dominant, with cyst infection and rupture and malakoplakia-like reaction (2)  
Canada (Foothills Hospital) - Adult polycystic disease with melanoplasia  
Canada (Woodstock General Hospital) - Adult polycystic kidney  
Germany, Hamburg - Multicystic disease  
Hong Kong (Hong Kong Baptist Hospital) - Acquired polycystic kidney disease  
Italy, Naples - Adult polycystic kidney  
Netherlands, Amsterdam - Rule out multilocular cystic renal cell carcinoma  
Qatar - Adult polycystic kidney disease

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

Adult polycystic kidney disease  
 T-71000, M-26730

#### **Case 1 – References:**

Rossetti S, Chauveau D, Kubly V, et al. Association of Mutation Position in Polycystic Kidney Disease 1 (PKD1) Gene and Development of a Vascular Phenotype. *Lancet* 2003; 361:2196-2201.  
 Gregoire JR, Torres VE, Holly KE, et al. Renal Epithelial Hyperplastic and Neoplastic Proliferation in Autosomal Dominant Polycystic Kidney Disease *Am J Kidney Dis* 1987; 9(1):27-38.  
 Magistroni R, He N, Wang K, et al. Genotype Renal Function Correlation in Type 2 Autosomal Dominant Polycystic Kidney Disease. *J Am Soc Nephrol* 2003; 14(5):1164-1174.  
 Altiparmak MR, Pamuk ON, Toptas T, et al. Psoriatic Arthritis Associated with Adult Polycystic Kidney Disease, Seminal Vesicle, and Epididymal Cysts. *Eur J Intern Med* 2003; 14(4):265-268.

#### **Case No. 2, Accession No. 29383**

**April 2005**

Alameda (Alameda County Medical Center) - Renal cell carcinoma, clear cell type  
Baldwin Park (Kaiser Permanente) - Renal cell carcinoma, clear cell type (3)  
Fontana (Kaiser Permanente) - Clear cell renal cell carcinoma  
Hayward/Fremont (St. Rose Hospital) - Renal cell carcinoma, Fuhrman, grade II  
Laguna (South Coast Medical Center) - Chromophobe renal cell carcinoma  
Loma Linda (Loma Linda University Residents) - Renal cell carcinoma, clear cell  
Long Beach (Lakewood Regional Medical Center) - Clear cell renal cell carcinoma (8)  
Monterey Park (Garfield Medical Center) - Renal clear cell carcinoma  
Monterey Park (Monterey Peninsula Pathologists) - Renal cell carcinoma, clear cell  
Mountain View (El Camino Pathology Group) - Chromophobe cell carcinoma  
San Diego (Naval Medical Center) - Clear cell renal cell carcinoma  
San Francisco (San Francisco General Hospital) - Chromophobe renal cell carcinoma  
Santa Barbara (Cottage Hospital) - Renal cell carcinoma, Grade II  
Santa Rosa (Santa Rosa Memorial Hospital) - Renal cell carcinoma, clear cell type (3)  
Orange (Orange County Medical Group) - Renal cell carcinoma, clear cell type  
Sacramento (UC Davis Medical Center Residents) - Clear cell carcinoma, multilocular  
Arizona (Maryvale Medical Center) - Renal cell (clear cell) carcinoma  
Florida (Baptist Hospital) - Renal cell carcinoma (1); Clear cell renal cell carcinoma with sarcomatoid renal cell carcinoma (1); Renal cell carcinoma, clear cell type (3)  
Florida, Tallahassee - Clear cell renal carcinoma  
Florida (Winter Haven Hospital) - Renal cell carcinoma, chromophobe

Illinois (Northwestern Memorial Hospital) - Renal cell carcinoma, clear cell type  
Indiana (Ball Memorial Hospital) - Renal cell carcinoma  
Louisiana (Louisiana State University Medical Center) - Renal cell carcinoma, clear cell  
Maryland (Johns Hopkins Hospital Residents) - Renal cell carcinoma, conventional type  
Maryland (National Naval Medical Center) - Renal cell carcinoma, clear cell type  
Maryland (University of Maryland) - Renal cell carcinoma, clear cell type  
Massachusetts (New England Medical Center Boston) - Clear cell renal cell carcinoma  
Michigan (Oakwood Hospital) - Clear cell renal carcinoma  
Michigan (Pathology Services of West Michigan) - Renal cell carcinoma, clear cell variant  
Minnesota (Fairview Ridges Hospital) - Renal cell carcinoma, clear cell type  
Minnesota (Fairview Southdale Hospital) - Renal cell carcinoma, cystic clear cell type  
New York (Long Island Jewish Medical Center) - Clear cell carcinoma (renal)  
New York (Nassau University Medical Center) - Chromophobe renal cell carcinoma  
New York (Stony Brook University Hospital) - Clear cell renal cell carcinoma  
New York (Westchester Medical Center) - Renal cell carcinoma, clear cell type  
North Carolina (Mountain Area Pathology) - Renal cell carcinoma, clear cell (5)  
Ohio (Medical College of Ohio) - Renal cell carcinoma, clear cell type  
Ohio (McCullough Hyde Memorial Hospital) - Renal cell carcinoma, clear cell  
Pennsylvania (Conemaugh Memorial Medical Center) - Clear cell renal cell carcinoma  
Pennsylvania (Drexel University College of Medicine) - Conventional renal cell carcinoma  
Pennsylvania (Lehigh Valley Hospital) - Renal cell carcinoma, clear cell type (3)  
Pennsylvania (Magee Women's Hospital) - Renal cell carcinoma, clear cell type  
Pennsylvania (Mt. Nittany Medical Center) - Renal cell carcinoma, clear cell type, Fuhrman, grade 2/4  
Pennsylvania (Pennsylvania Hospital Pathology Residents) - Renal cell carcinoma, clear cell type  
Puerto Rico (University of Puerto Rico) - Clear cell renal cell carcinoma  
Texas, Lubbock - Renal cell carcinoma, clear cell type  
Texas (ProPath Associates) - Grade III, renal cell carcinoma (2); Clear cell (renal cell) carcinoma (1)  
Texas (Scott & White Memorial Hospital) - Clear cell renal cell carcinoma  
Texas, Temple - Chromophobe renal cell carcinoma (Fuhrman, grade 2)  
West Virginia (Greenbrier Valley Medical Center) - Renal cell carcinoma, clear cell type  
Wisconsin (Bellin Health) - Clear cell carcinoma  
Wisconsin (Meriter Hospital) - Renal cell carcinoma, clear cell type  
Australia (Royal Prince Alfred Hospital) - Renal cell carcinoma, clear cell type, Fuhrman 2, eosinophilic and multicystic areas  
Australia (North Queensland Pathology) - Clear cell renal cell carcinoma with rhabdoid features  
Brazil (UNIFESP/EPM) - Renal cell carcinoma, cystic clear cell type with chromophilic areas, Fuhrmann, grade III (2)  
Canada (Foothills Hospital) - Clear cell (conventional) renal cell carcinoma  
Canada (Woodstock General Hospital) - Clear cell renal cell carcinoma  
Germany, Hamburg - Clear cell carcinoma  
Hong Kong (Hong Kong Baptist Hospital) - Multilocular cystic renal cell carcinoma  
Italy, Naples - Conventional (clear cell) renal cell carcinoma  
Netherlands, Amsterdam - Clear cell renal cell carcinoma  
Qatar - Conventional renal cell carcinoma

## **Case 2 - Diagnosis:**

Conventional/clear cell renal cell carcinoma, kidney

Director's Note: Several slides also showed a chromophobe cell population ("mixed renal cell carcinoma")...drc  
T-71000, M-83123

## **Case 2 - References:**

Rioux-Leclercq N, Turlin B, Bansard J, et al. Value of Immunohistochemical Ki-67 and p53 Determinations as Predictive Factors of Outcome in Renal Cell Carcinoma. *Urol* 2000; 55(4):501-505.  
 Amo-Takyi BK, Mittermayer C, Gunther K, et al. Interphase Cytogenetics of Multicentric Renal Cell Tumors Confirm Associations of Specific Aberrations with Defined Cytomorphologies. *Br J Cancer* 2000; 82(8):1407-1414.

Tsui KH, Shvarts O, Smith RB, et al. Prognostic Indicators for Renal Cell Carcinoma. A Multivariate Analysis of 643 Patients Using the Revised 1997 TNM Staging Criteria. *J Urol* 2000; 163(4):1090-1095.

Jiang F, Richter J, Schraml P, et al. Chromosomal Imbalances In Papillary Renal Cell Carcinoma. Genetic Differences Between Histological Subtypes. *Am J Pathol* 1998; 153(5):1467-1473.

**Case No. 3, Accession No. 29905**

**April 2005**

Alameda (Alameda County Medical Center) - Renal cell carcinoma, papillary type I

Baldwin Park (Kaiser Permanente) - Renal cell carcinoma, papillary type (3)

Fontana (Kaiser Permanente) - Papillary renal cell carcinoma

Hayward/Fremont (St. Rose Hospital) - Collecting duct carcinoma (? Loop of Henle type)

Laguna (South Coast Medical Center) - Papillary renal cell carcinoma

Loma Linda (Loma Linda University Residents) - Papillary renal cell carcinoma

Long Beach (Lakewood Regional Medical Center) - Papillary renal cell carcinoma (8)

Monterey Park (Garfield Medical Center) - Papillary renal carcinoma

Monterey Park (Monterey Peninsula Pathologists) - Papillary renal cell carcinoma

Mountain View (El Camino Pathology Group) - Papillary renal cell carcinoma

San Diego (Naval Medical Center) - Papillary renal cell carcinoma

San Francisco (San Francisco General Hospital) - Papillary renal cell carcinoma

Santa Barbara (Cottage Hospital) - Papillary renal cell carcinoma

Santa Rosa (Santa Rosa Memorial Hospital) - Papillary renal cell carcinoma (3)

Orange (Orange County Medical Group) - Renal cell carcinoma

Sacramento (UC Davis Medical Center Residents) - Tubulopapillary renal cell carcinoma

Arizona (Maryvale Medical Center) - Papillary renal cell carcinoma

Florida (Baptist Hospital) - Papillary renal cell carcinoma (4); Chromophil renal cell carcinoma met to right kidney (1)

Florida, Tallahassee - Papillary renal carcinoma

Florida (Winter Haven Hospital) - Tubulopapillary renal cell carcinoma

Illinois (Northwestern Memorial Hospital) - Renal cell carcinoma, papillary type I

Indiana (Ball Memorial Hospital) - Papillary renal cell carcinoma

Louisiana (Louisiana State University Medical Center) - Renal cell carcinoma, papillary

Maryland (Johns Hopkins Hospital Residents) - Papillary renal cell carcinoma (2)

Maryland (National Naval Medical Center) - Renal cell carcinoma, papillary type

Maryland (University of Maryland) - Renal cell carcinoma, papillary type I

Massachusetts (New England Medical Center Boston) - Papillary renal cell carcinoma

Michigan (Oakwood Hospital) - Papillary renal carcinoma

Michigan (Pathology Services of West Michigan) - Renal cell carcinoma, papillary variant

Minnesota (Fairview Ridges Hospital) - Multifocal papillary renal cell carcinoma

Minnesota (Fairview Southdale Hospital) - Renal cell carcinoma, papillary variant

New York (Long Island Jewish Medical Center) - Papillary renal cell carcinoma

New York (Nassau University Medical Center) - Papillary carcinoma

New York (Stony Brook University Hospital) - Papillary renal cell carcinoma

New York (Westchester Medical Center) - Papillary renal cell carcinoma

North Carolina (Mountain Area Pathology) - Papillary renal cell carcinoma (4); Papillary (chromophil) carcinoma (1)

Ohio (Medical College of Ohio) - Renal cell carcinoma, papillary type

Ohio (McCullough Hyde Memorial Hospital) - Papillary renal cell carcinoma

Pennsylvania (Conemaugh Memorial Medical Center) - Metanephric adenoma

Pennsylvania (Drexel University College of Medicine) - Papillary renal cell carcinoma

Pennsylvania (Lehigh Valley Hospital) - Collecting duct carcinoma (1); Renal cell carcinoma, papillary type (2)

Pennsylvania (Magee Women's Hospital) - Renal cell carcinoma, papillary type

Pennsylvania (Mt. Nittany Medical Center) - Papillary renal cell carcinoma, type I (2004 WHO classification)

Pennsylvania (Pennsylvania Hospital Pathology Residents) - Renal cell carcinoma, papillary type

Puerto Rico (University of Puerto Rico) - Chromophil (papillary) renal cell carcinoma

Texas, Lubbock - Papillary renal cell carcinoma  
Texas (ProPath Associates) - Papillary renal cell carcinoma (2)  
Texas (Scott & White Memorial Hospital) - Papillary renal cell carcinoma  
Texas, Temple - Papillary (chromophil) renal cell carcinoma  
West Virginia (Greenbrier Valley Medical Center) - Renal cell carcinoma, papillary  
Wisconsin (Bellin Health) - Papillary renal cell carcinoma  
Wisconsin (Meriter Hospital) - Papillary renal cell carcinoma  
Australia (Royal Prince Alfred Hospital) - Renal cell carcinoma, papillary type I, Fuhrman 2  
Australia (North Queensland Pathology) - High grade papillary carcinoma  
Brazil (UNIFESP/EPM) - Papillary renal cell carcinoma, type I (2)  
Canada (Foothills Hospital) - Papillary renal cell carcinoma (mostly solid)  
Canada (Woodstock General Hospital) - Chromophil renal cell carcinoma  
Germany, Hamburg - Papillary renal cell carcinoma  
Hong Kong (Hong Kong Baptist Hospital) - Papillary renal cell carcinoma  
Italy, Naples - Papillary renal cell carcinoma  
Netherlands, Amsterdam - Papillary renal adenoma  
Qatar - Papillary renal cell carcinoma

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

Papillary renal cell carcinoma, kidney  
 T-71000, M-83123

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

Fiori E, De Cesare A, Galati G, et al. Prognostic Significance of Primary-Tumor Extension, Stage and Grade of Nuclear Differentiation in Patients with Renal Cell Carcinoma. *J Exp Clin Cancer Res* 2002; 21(2):229-232.  
 Ficarra V, Righetti R, Martignoni G, D'Amico, et al. Prognostic Value of Renal Cell Carcinoma Nuclear Grading. Multivariate Analysis of 333 Cases. *Urol Int* 2001; 67(2):130-134.  
 Tomasino RM, Morello V, Tralongo V, et al. p53 Expression in Human Renal Cell Carcinoma. An Immunohistochemical Study and a Literature Outline of the Cytogenetic Characterization. *Pathologica* 1994; 86(3):227-233.  
 Steinbach F, Stockle M, Muller SC, et al. Conservative Surgery of Renal Cell Tumors in 140 Patients. 21 Years of Experience. *J Urol* 1992; 148(1):24-29.  
 Baltaci S, Orhan D, Soyuek S, et al. Influence of Tumor Stage, Size, Grade, Vascular Involvement, Histological Cell Type and Histological Pattern on Multifocality of Renal Cell Carcinoma. *J Urol* 2000; 164(1):36-39.

### **Case No. 4, Accession No. 29498**

**April 2005**

Alameda (Alameda County Medical Center) - Renal cell carcinoma, unclassified  
Baldwin Park (Kaiser Permanente) - Oncocytoma (3)  
Fontana (Kaiser Permanente) - Renal cell carcinoma, granular cell  
Hayward/Fremont (St. Rose Hospital) - Oncocytoma  
Laguna (South Coast Medical Center) - Chronic xanthogranulomatous pyelonephritis  
Loma Linda (Loma Linda University Residents) - Renal oncocytoma (1); Oncocytic renal cell carcinoma (1)  
Long Beach (Lakewood Regional Medical Center) - Oncocytoma (8)  
Monterey Park (Garfield Medical Center) - Oncocytoma  
Monterey Park (Monterey Peninsula Pathologists) - Collecting duct carcinoma vs. metahepatic adenoma  
Mountain View (El Camino Pathology Group) - Oncocytoma vs. oncocytic renal cell carcinoma  
San Diego (Naval Medical Center) - Renal cell carcinoma, NOS  
San Francisco (San Francisco General Hospital) - Oncocytoma  
Santa Barbara (Cottage Hospital) - Oncocytoma vs. low-grade  
Santa Rosa (Santa Rosa Memorial Hospital) - Oncocytoma vs. low-grade renal cell carcinoma (1); Renal cell carcinoma, granular cell type (2)  
Orange (Orange County Medical Group) - Oncocytoma

Sacramento (UC Davis Medical Center Residents) - Tubulocystic oncocytoma  
Arizona (Maryvale Medical Center) - Renal oncocytoma  
Florida (Baptist Hospital) - Granular cell type, renal cell carcinoma (2) Oncocytoma (1); Oncocytoma vs. granular renal cell carcinoma (1); Collecting duct carcinoma (1)  
Florida, Tallahassee - Granular cell renal carcinoma, oncocytoma  
Florida (Winter Haven Hospital) - Collecting duct carcinoma  
Illinois (Northwestern Memorial Hospital) - Renal cell carcinoma, papillary type 2A with solid growth pattern  
Indiana (Ball Memorial Hospital) - Chromophobe cell renal cell carcinoma  
Louisiana (Louisiana State University Medical Center) - Oncocytoma  
Maryland (Johns Hopkins Hospital Residents) - Oncocytoma (2)  
Maryland (National Naval Medical Center) - Chromophobe renal cell carcinoma (9); Renal cell carcinoma, unclassifiable (2); Oncocytoma (1)  
Maryland (University of Maryland) - Renal cell carcinoma, papillary, type II  
Massachusetts (New England Medical Center Boston) - Renal cell carcinoma consistent with oncocytic differentiation  
Michigan (Oakwood Hospital) - Renal cell carcinoma unclassified, chromophylic vs. oncocytoma  
Michigan (Pathology Services of West Michigan) - Renal cell carcinoma, granular variant  
Minnesota (Fairview Ridges Hospital) - Oncocytoma  
Minnesota (Fairview Southdale Hospital) - Renal cell carcinoma -- ? eosinophilic chromophobe  
New York (Long Island Jewish Medical Center) - Oncocytoma  
New York (Nassau University Medical Center) - Renal cell carcinoma  
New York (Stony Brook University Hospital) - Combined renal cell carcinoma and angiomyolipoma  
New York (Westchester Medical Center) - Renal oncocytoma  
North Carolina (Mountain Area Pathology) - Chromophobe renal cell carcinoma (5)  
Ohio (Medical College of Ohio) - Epithelioid angiomyolipoma  
Ohio (McCullough Hyde Memorial Hospital) - Oncocytoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Chromophobe renal cell carcinoma  
Pennsylvania (Drexel University College of Medicine) - Oncocytoma  
Pennsylvania (Lehigh Valley Hospital) - Chromophobe cell carcinoma (1); Renal cell carcinoma, granular cell type (2)  
Pennsylvania (Magee Women's Hospital) - Oncocytoma  
Pennsylvania (Mt. Nittany Medical Center) - Oncocytoma  
Pennsylvania (Pennsylvania Hospital Pathology Residents) - Renal cell carcinoma, papillary type  
Puerto Rico (University of Puerto Rico) - Oncocytoma  
Texas, Lubbock - Oncocytoma  
Texas (ProPath Associates) - Chromophobe renal cell carcinoma (2)  
Texas (Scott & White Memorial Hospital) - Oncocytoma  
Texas, Temple - Oncocytoma  
West Virginia (Greenbrier Valley Medical Center) - Renal cell carcinoma, chromophobe type  
Wisconsin (Bellin Health) - Oncocytoma  
Wisconsin (Meriter Hospital) - Renal cell carcinoma  
Australia (Royal Prince Alfred Hospital) - Renal cell carcinoma, unclassified  
Australia (North Queensland Pathology) - Type 2 papillary carcinoma  
Brazil (UNIFESP/EPM) - Metastatic thyroid carcinoma (2)  
Canada (Foothills Hospital) - Oncocytoma  
Canada (Woodstock General Hospital) - Chromophobe renal cell carcinoma, eosinophilic type  
Germany, Hamburg - Oncocytoma  
Hong Kong (Hong Kong Baptist Hospital) - Oncocytoma  
Netherlands, Amsterdam - Renal oncocytoma  
Qatar - Renal cell carcinoma with oncocytic features

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

Renal cell carcinoma with oncocytic features, kidney  
 T-71000, M-82903



#### Case 4 - References:

- Veloso JD, Solis OG, Barada JH, et al. DNA Ploidy of Oncocytic-Granular Renal Cell Carcinomas and Renal Oncocytomas by Image Analysis. *Arch Pathol Lab Med* 1992; 116(2):154-158.
- van den Berg E, van der Hout AH, Oosterhuis JW, et al. Cytogenetic Analysis of Epithelial Renal-Cell Tumors. Relationship with a New Histopathological Classification. *Int J Cancer* 1993; 55(2):223-227.
- Reutzel D, Mende M, Naumann S, et al. Genomic Imbalances in 61 Renal Cancers From the Proximal Tubulus Detected by Comparative Genomic Hybridization. *Cytogenet Cell Genet* 2001; 93(3-4):221-227.
- Chu PG and Weiss LM. Cytokeratin 14 Immunoreactivity Distinguishes Oncocytic Tumour From Its Renal Mimics. An Immunohistochemical Study of 63 Cases. *Histopathol* 2001; 39(5):455-462.
- Avery AK, Beckstead J, Renshaw AA, et al. Use of Antibodies to RCC and CD10 in the Differential Diagnosis of Renal Neoplasms. *Am J Surg Pathol* 2000; 24(2):203-210.

#### Case No. 5, Accession No. 29935

April 2005

- Alameda (Alameda County Medical Center) - Multilocular cystic renal cell carcinoma
- Baldwin Park (Kaiser Permanente) - Renal cell carcinoma, cystic type (3)
- Fontana (Kaiser Permanente) - Cystic renal cell carcinoma
- Hayward/Fremont (St. Rose Hospital) - Medullary cystic disease, possibly acquired
- Laguna (South Coast Medical Center) - Multilocular cystic renal cell carcinoma
- Loma Linda (Loma Linda University Residents) - Benign multilocular renal cyst
- Long Beach (Lakewood Regional Medical Center) - Collecting duct renal cell carcinoma (BELLINI) (8)
- Monterey Park (Garfield Medical Center) - Cystic nephroma
- Monterey Park (Monterey Peninsula Pathologists) - Cystic nephroma
- Mountain View (El Camino Pathology Group) - Multilocular renal cyst vs. cystic renal cell carcinoma
- San Diego (Naval Medical Center) - Cystic nephroma
- San Francisco (San Francisco General Hospital) - Cystic nephroma
- Santa Barbara (Cottage Hospital) - Cystic nephroma
- Santa Rosa (Santa Rosa Memorial Hospital) - Collecting duct carcinoma (1); Renal cell carcinoma, collecting duct type (1); Multilocular cystic renal cell carcinoma (1)
- Orange (Orange County Medical Group) - Cystic nephroma
- Sacramento (UC Davis Medical Center Residents) - Multicystic nephroma
- Arizona (Maryvale Medical Center) - Multilocular cyst
- Florida (Baptist Hospital) - Renal cell carcinoma, collecting duct type (3); Cystic renal cell carcinoma (2)
- Florida, Tallahassee - Cystadenoma
- Florida (Winter Haven Hospital) - Collecting duct carcinoma
- Illinois (Northwestern Memorial Hospital) - Multilocular cystic renal cell carcinoma
- Indiana (Ball Memorial Hospital) - Cystic nephroma
- Louisiana (Louisiana State University Medical Center) - Cystic nephroma
- Maryland (Johns Hopkins Hospital Residents) - Cystic nephroma (2)
- Maryland (National Naval Medical Center) - Renal cell carcinoma
- Maryland (University of Maryland) - Cystic clear cell carcinoma of kidney
- Massachusetts (New England Medical Center Boston) - Cystic nephroma
- Michigan (Oakwood Hospital) - Multilocular cystic renal cell carcinoma
- Michigan (Pathology Services of West Michigan) - Renal cell carcinoma, multilocular variant
- Minnesota (Fairview Ridges Hospital) - Low grade, collecting duct carcinoma
- Minnesota (Fairview Southdale Hospital) - Renal cell carcinoma
- New York (Long Island Jewish Medical Center) - Cystic nephroma
- New York (Nassau University Medical Center) - Cystic nephroma
- New York (Stony Brook University Hospital) - Cystic transformation of metanephric adenoma
- New York (Westchester Medical Center) - Cystic renal cell carcinoma
- North Carolina (Mountain Area Pathology) - Collecting duct carcinoma (3); Collecting duct-type renal cell carcinoma (1); Tubulocystic renal cell carcinoma (1)
- Ohio (Medical College of Ohio) - Collecting duct carcinoma

Ohio (McCullough Hyde Memorial Hospital) - Multilocular cystic renal cell carcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Cystic nephroma  
Pennsylvania (Drexel University College of Medicine) - Multilocular cystic renal cell carcinoma  
Pennsylvania (Lehigh Valley Hospital) - Cystic nephroma (1); Collecting duct carcinoma (1); Renal cell carcinoma, collecting duct type (1)  
Pennsylvania (Magee Women's Hospital) - Multilocular cystic renal cell carcinoma  
Pennsylvania (Mt. Nittany Medical Center) - Multilocular cyst (cystic nephroma)  
Pennsylvania (Pennsylvania Hospital Pathology Residents) - Cystic nephroma  
Puerto Rico (University of Puerto Rico) - Multilocular cystic renal cell carcinoma  
Texas, Lubbock - Cystic mesonephroma  
Texas (Propath Associates) - Cystic nephroma (2)  
Texas (Scott & White Memorial Hospital) - Collecting duct carcinoma  
Texas, Temple - Cystic nephroma-negative for papillary renal cell carcinoma  
West Virginia (Greenbrier Valley Medical Center) - Renal cell carcinoma, collecting duct type  
Wisconsin (Bellin Health) - Cystic renal cell carcinoma  
Wisconsin (Meriter Hospital) - Multilobular cyst  
Australia (Royal Prince Alfred Hospital) - Cystic nephroma  
Australia (North Queensland Pathology) - Cystic nephroma  
Brazil (UNIFESP/EPM) - Multicystic nephroma (2)  
Canada (Foothills Hospital) - Cystic nephroma (multilocular cyst of kidney)  
Canada (Woodstock General Hospital) - Cystic nephroma  
Germany, Hamburg - Multilocular cystic renal cell carcinoma  
Hong Kong (Hong Kong Baptist Hospital) - Cystic nephroma  
Italy, Naples - Multicystic renal cell carcinoma  
Netherlands, Amsterdam - Multilocular cystic nephroma  
Qatar - Multicystic nephroma

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

Renal cell carcinoma, "collecting duct type" (collecting duct carcinoma), kidney  
 T-71000, M-83123

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

Fleming S and Lewis HJ. Collecting Duct Carcinoma of the Kidney. *Histopathol* 1986; 10(11):1131-1141.  
 Cromie WJ, Davis CT and De Ture FA. Atypical Carcinoma of Kidney, Possibly Originating From Collecting Duct Epithelium. *Urol* 1979; 13:315-317.  
 Kennedy S, Merino M, Linehan WM, et al. Collecting Duct Carcinoma of the Kidney. *Hum Pathol* 1990; 21(4):449-456.  
 Kurada N, Toi M, Hiroi M, et al. Review of Collecting Duct Carcinoma with Focus on Clinical and Pathological Aspects. *Histo Histopathol* 2002; 17(4):1329-1334.  
 Polascik TJ, Bostwick DG and Cairns P. Molecular Genetics and Histopathologic Features of Adult Distal Nephron Tumors. *Urol* 2002; 60(6):941-946.  
 Yip D, Steer C, al-Nawab M, et al. Collecting Duct Carcinoma of the Kidney Associated with the Sickle Cell Trait. *Int J Clin Pract* 2001; 55(6):415-417.

#### **Case No. 6, Accession No. 29949**

**April 2005**

Alameda (Alameda County Medical Center) - Medullary renal cell carcinoma  
Baldwin Park (Kaiser Permanente) - Medullary renal carcinoma  
Fontana (Kaiser Permanente) - Medullary carcinoma  
Hayward/Fremont (St. Rose Hospital) - Renal medullary carcinoma  
Laguna (South Coast Medical Center) - Collecting duct carcinoma  
Loma Linda (Loma Linda University Residents) - Renal medullary carcinoma  
Long Beach (Lakewood Regional Medical Center) - Medullary renal cell carcinoma (8)

Monterey Park (Garfield Medical Center) - Poorly differentiated adenocarcinoma, probably collecting duct origin  
Monterey Park (Monterey Peninsula Pathologists) - Renal medullary carcinoma  
Mountain View (El Camino Pathology Group) - Medullary carcinoma  
San Diego (Naval Medical Center) - Medullary carcinoma  
San Francisco (San Francisco General Hospital) - Medullary carcinoma  
Santa Barbara (Cottage Hospital) - Medullary renal cell carcinoma  
Santa Rosa (Santa Rosa Memorial Hospital) - Renal medullary carcinoma  
Orange (Orange County Medical Group) - Renal medullary carcinoma  
Sacramento (UC Davis Medical Center Residents) - Medullary cell carcinoma  
Arizona (Maryvale Medical Center) - Renal medullary carcinoma  
Florida (Baptist Hospital) - Sarcomatoid renal cell carcinoma (1); Renal medullary carcinoma (4)  
Florida, Tallahassee - Renal medullary carcinoma  
Florida (Winter Haven Hospital) - Poorly differentiated carcinoma  
Illinois (Northwestern Memorial Hospital) - Medullary/collecting duct carcinoma  
Indiana (Ball Memorial Hospital) - Medullary carcinoma  
Louisiana (Louisiana State University Medical Center) - Medullary carcinoma  
Maryland (Johns Hopkins Hospital Residents) - Medullary carcinoma (2)  
Maryland (National Naval Medical Center) - Medullary carcinoma  
Maryland (University of Maryland) - Renal medullary carcinoma  
Massachusetts (New England Medical Center Boston) - Medullary carcinoma  
Michigan (Oakwood Hospital) - Renal medullary carcinoma  
Michigan (Pathology Services of West Michigan) - Renal cell carcinoma, medullary variant  
Minnesota (Fairview Ridges Hospital) - Renal medullary carcinoma  
Minnesota (Fairview Southdale Hospital) - Renal medullary carcinoma  
New York (Long Island Jewish Medical Center) - Medullary carcinoma (renal)  
New York (Nassau University Medical Center) - Medullary carcinoma  
New York (Stony Brook University Hospital) - Renal medullary carcinoma  
New York (Westchester Medical Center) - Medullary renal cell carcinoma  
North Carolina (Mountain Area Pathology) - Medullary renal cell, clear cell (5)  
Ohio (Medical College of Ohio) - Medullary renal cell carcinoma  
Ohio (McCullough Hyde Memorial Hospital) - Medullary carcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Renal medullary carcinoma  
Pennsylvania (Drexel University College of Medicine) - Renal medullary carcinoma  
Pennsylvania (Lehigh Valley Hospital) - Renal medullary carcinoma (3)  
Pennsylvania (Magee Women's Hospital) - Renal cell carcinoma, medullary type  
Pennsylvania (Mt. Nittany Medical Center) - Medullary renal cell carcinoma  
Pennsylvania (Pennsylvania Hospital Pathology Residents) - Renal cell carcinoma, medullary type  
Puerto Rico (University of Puerto Rico) - Renal medullary carcinoma  
Texas, Lubbock - Collecting duct carcinoma  
Texas (Propath Associates) - Medullary carcinoma of kidney (2)  
Texas (Scott & White Memorial Hospital) - Medullary carcinoma  
Texas, Temple - Renal medullary carcinoma  
West Virginia (Greenbrier Valley Medical Center) - Renal cell carcinoma, medullary type  
Wisconsin (Bellin Health) - Medullary carcinoma  
Wisconsin (Meriter Hospital) - Medullary carcinoma  
Australia (Royal Prince Alfred Hospital) - Renal medullary carcinoma  
Australia (North Queensland Pathology) - Renal cell carcinoma, medullary type associated with sickle cell disease  
Brazil (UNIFESP/EPM) - Renal medullary carcinoma (2)  
Canada (Foothills Hospital) - Medullary carcinoma of kidney  
Canada (Woodstock General Hospital) - Collecting duct carcinoma  
Germany, Hamburg - Renal medullary carcinoma  
Hong Kong (Hong Kong Baptist Hospital) - Renal medullary carcinoma  
Italy, Naples - Renal cell carcinoma, medullary type

Netherlands, Amsterdam - Renal medullary carcinoma

Qatar - Renal medullary carcinoma

**Case 6 - Diagnosis:**

Renal cell carcinoma, medullary type (medullary carcinoma) associated with sickle cell trait/disease, kidney  
T-71000, M-85103

**Case 6 - References:**

Choyke PL. Imaging of Hereditary Renal Cancer. *Radiol Clin North Am* 2003; 41(5):1037-1051.

Dimashkieh H, Choe J and Mutema G. Renal Medullary Carcinoma. A Report of 2 Cases and Review of the Literature. *Arch Pathol Lab Med* 2003; 127(3):135-138.

Swartz MA, Karth J, Schneider DT, Rodriguez R, et al. Renal Medullary Carcinoma, Clinical, Pathologic, Immunohistochemical, and Genetic Analysis with Pathogenetic Implications. *Urol* 2002; 60(6):1083-1089.

Hoenig JD, Husain AN and Waters BW. Pathologic Quiz Case. Gross Hematuria in a 20-Year-Old Black Woman with Sickle Cell Trait. Renal Medullary Carcinoma. *Arch Pathol Lab Med* 2002; 126(5):627-629.

Khan A, Thomas N, Costello B, et al. Renal Medullary Carcinoma. Sonographic, Computed Tomography, Magnetic Resonance and Angiographic Findings. *Eur J Radiol* 2000; 35(1):1-7.

**Case No. 7, Accession No. 29933**

**April 2005**

Alameda (Alameda County Medical Center) - Renal cell carcinoma, sarcomatoid type

Baldwin Park (Kaiser Permanente) - Renal cell carcinoma, sarcomatoid (2); Sarcoma carcinoma, clear cell type, high grade (1)

Fontana (Kaiser Permanente) - Sarcomatoid renal cell carcinoma

Hayward/Fremont (St. Rose Hospital) - Renal cell carcinoma, sarcomatoid and clear cell patterns

Laguna (South Coast Medical Center) - High grade renal cell carcinoma with sarcomatoid component

Loma Linda (Loma Linda University Residents) - Sarcomatoid renal cell carcinoma

Long Beach (Lakewood Regional Medical Center) - Renal cell carcinoma (8)

Monterey Park (Garfield Medical Center) - Clear cell carcinoma

Monterey Park (Monterey Peninsula Pathologists) - Sarcomatoid carcinoma

Mountain View (El Camino Pathology Group) - Sarcomatoid renal cell carcinoma

San Diego (Naval Medical Center) - Sarcomatoid renal cell carcinoma

San Francisco (San Francisco General Hospital) - Collecting duct carcinoma

Santa Barbara (Cottage Hospital) - Renal cell carcinoma with focal sarcomatoid change

Santa Rosa (Santa Rosa Memorial Hospital) - Renal cell carcinoma, clear cell type (3)

Orange (Orange County Medical Group) - Renal cell carcinoma, clear cell type

Sacramento (UC Davis Medical Center Residents) - Sarcomatoid renal cell carcinoma

Arizona (Maryvale Medical Center) - Sarcomatoid renal cell carcinoma

Florida (Baptist Hospital) - Sarcomatoid renal cell carcinoma (5)

Florida, Tallahassee - Sarcomatoid renal carcinoma with rhabdoid features

Florida (Winter Haven Hospital) - Renal cell carcinoma consistent with sarcomatoid features

Illinois (Northwestern Memorial Hospital) - Clear cell renal cell carcinoma with extensive necrosis

Indiana (Ball Memorial Hospital) - Sarcomatoid renal cell carcinoma

Louisiana (Louisiana State University Medical Center) - Renal cell carcinoma

Maryland (Johns Hopkins Hospital Residents) - Sarcomatoid renal cell carcinoma (1); Malignant sarcomatoid neoplasm, favor sarcomatoid renal cell carcinoma vs. inflammatory malignant fibrous histiocytoma (1)

Maryland (National Naval Medical Center) - Sarcomatoid renal cell carcinoma

Maryland (University of Maryland) - Sarcomatoid renal cell carcinoma

Massachusetts (New England Medical Center Boston) - Renal cell carcinoma ? subclassification chromophobe vs. clear cell variant

Michigan (Oakwood Hospital) - Clear cell renal carcinoma with sarcomatoid growth

Michigan (Pathology Services of West Michigan) - Renal cell carcinoma, chromophobe variant

Minnesota (Fairview Ridges Hospital) - Renal cell carcinoma, clear cell type

Minnesota (Fairview Southdale Hospital) - Renal cell carcinoma, clear cell type with necrosis

New York (Long Island Jewish Medical Center) - Renal cell carcinoma, clear cell type

New York (Nassau University Medical Center) - Sarcomatoid renal cell carcinoma  
New York (Stony Brook University Hospital) - Sarcomatoid renal cell carcinoma  
New York (Westchester Medical Center) - Sarcomatoid renal cell carcinoma with rhabdoid features  
North Carolina (Mountain Area Pathology) - Renal cell carcinoma, clear cell  
Ohio (Medical College of Ohio) - Rhabdoid tumor  
Ohio (McCullough Hyde Memorial Hospital) - Sarcomatoid renal cell carcinoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Sarcomatoid renal cell carcinoma  
Pennsylvania (Drexel University College of Medicine) - Renal cell carcinoma with rhabdoid features  
Pennsylvania (Lehigh Valley Hospital) - Clear cell carcinoma, pseudopapillary (1); Sarcomatoid renal cell carcinoma (2)  
Pennsylvania (Magee Women's Hospital) - Sarcomatoid carcinoma with rhabdoid features  
Pennsylvania (Mt. Nittany Medical Center) - Cystic renal cell carcinoma, clear cell type, Fuhrman grade III/IV with focal sarcomatoid differentiation  
Pennsylvania (Pennsylvania Hospital Pathology Residents) - Rhabdoid tumor  
Puerto Rico (University of Puerto Rico) - Renal cell carcinoma with rhabdoid features  
Texas, Lubbock - Medullary carcinoma  
Texas (ProPath Associates) - Grade IV renal cell carcinoma with rhabdoid features (2)  
Texas (Scott & White Memorial Hospital) - Sarcomatoid renal cell carcinoma  
Texas, Temple - Sarcomatoid renal cell carcinoma  
West Virginia (Greenbrier Valley Medical Center) - Renal cell carcinoma, unclassified  
Wisconsin (Bellin Health) - Renal cell carcinoma  
Wisconsin (Meriter Hospital) - Sarcomatoid renal cell carcinoma  
Australia (Royal Prince Alfred Hospital) - Renal cell carcinoma, clear cell type, sarcomatoid dedifferentiation, Fuhrman 4  
Australia (North Queensland Pathology) - Sarcomatoid renal cell carcinoma  
Brazil (UNIFESP/EPM) - Sarcomatoid carcinoma (2)  
Canada (Foothills Hospital) - Sarcomatoid renal cell carcinoma (some "rhabdoid" areas)  
Canada (Woodstock General Hospital) - Cystic clear cell renal cell carcinoma  
Germany, Hamburg - Anaplastic carcinoma  
Hong Kong (Hong Kong Baptist Hospital) - Clear cell renal cell carcinoma  
Italy, Naples - Renal cell carcinoma, sarcomatoid type  
Netherlands, Amsterdam - Sarcomatoid renal cell carcinoma  
Qatar - Conventional renal cell carcinoma

#### **Case 7 - Diagnosis:**

Mixed renal cell carcinoma, clear cell and sarcomatoid, kidney

Director's note: Tumor phenotype varied from region to region...drc

T-71000, M-83123

#### **Case 7 - References:**

Deitchman B and Sidhu GS. Ultrastructural Study of a Sarcomatoid Variant of a Renal Cell Carcinoma. *Cancer* 1980; 46(5):1152-1157.

Bertoni F, Ferri C, Benati A, et al. Sarcomatoid Carcinoma of the Kidney. *J Urol* 1987; 137 (1):25-28.

de Peralta-Venturina M, Amin M, Moch H, et al. Sarcomatoid Differentiation in Renal Cell Carcinoma. A Study of 101 Cases. *Am J Surg Pathol* 2001; 25(3):275-284.

Baer SC, Ro JY, Ordonez NG, et al. Sarcomatoid Collecting Duct Carcinoma. A Clinicopathologic and Immunohistochemical Study of Five Cases. *Hum Pathol* 1993; 24(9):1017-1022.

#### **Case No. 8, Accession No. 29945**

**April 2005**

Alameda (Alameda County Medical Center) - Angiosarcoma

Baldwin Park (Kaiser Permanente) - Angiosarcoma (3)

Fontana (Kaiser Permanente) - Sarcoma

Hayward/Fremont (St. Rose Hospital) - Angiosarcoma

Laguna (South Coast Medical Center) - Renal perivascular epithelial cell tumor (PECOMA) vs. high grade sarcoma, NOS

Loma Linda (Loma Linda University Residents) - Angiosarcoma (epithelioid)  
Long Beach (Lakewood Regional Medical Center) - High grade epithelioid angiosarcoma (8)  
Monterey Park (Garfield Medical Center) - Epithelioid angiosarcoma  
Monterey Park (Monterey Peninsula Pathologists) - Angiosarcoma  
Mountain View (El Camino Pathology Group) - Epithelioid angiosarcoma, high grade  
San Diego (Naval Medical Center) - Angiosarcoma  
San Francisco (San Francisco General Hospital) - Angiosarcoma  
Santa Barbara (Cottage Hospital) - Angiosarcoma  
Santa Rosa (Santa Rosa Memorial Hospital) - Epithelioid angiosarcoma (2); Angiosarcoma (1)  
Orange (Orange County Medical Group) - Angiosarcoma  
Sacramento (UC Davis Medical Center Residents) - Angiosarcoma  
Arizona (Maryvale Medical Center) - Angiosarcoma  
Florida (Baptist Hospital) - Epithelioid angiosarcoma (5)  
Florida, Tallahassee - Hemangioendothelioma, angiosarcoma  
Florida (Winter Haven Hospital) - Sarcoma  
Illinois (Northwestern Memorial Hospital) - High grade angiosarcoma  
Indiana (Ball Memorial Hospital) - Angiosarcoma  
Louisiana (Louisiana State University Medical Center) - Sarcoma (high grade), NOS  
Maryland (Johns Hopkins Hospital Residents) - High grade malignant neoplasm (1); Angiosarcoma, grade 3/3 (1)  
Maryland (National Naval Medical Center) - Angiosarcoma  
Maryland (University of Maryland) - Sarcoma, ? angiosarcoma  
Massachusetts (New England Medical Center Boston) - Poorly differentiated sarcoma suggestive of vascular origin  
Michigan (Oakwood Hospital) - Angiosarcoma  
Michigan (Pathology Services of West Michigan) - Angiosarcoma  
Minnesota (Fairview Ridges Hospital) - Angiosarcoma  
Minnesota (Fairview Southdale Hospital) - Angiosarcoma  
New York (Long Island Jewish Medical Center) - Angiosarcoma  
New York (Nassau University Medical Center) - Epithelioid sarcoma-like hemangioendothelioma  
New York (Stony Brook University Hospital) - Angiosarcoma  
New York (Westchester Medical Center) - Epithelioid angiosarcoma arising in angiomyolipoma  
North Carolina (Mountain Area Pathology) - Renal angiosarcoma (5)  
Ohio (Medical College of Ohio) - Epithelioid angiosarcoma  
Ohio (McCullough Hyde Memorial Hospital) - Angiosarcoma  
Pennsylvania (Conemaugh Memorial Medical Center) - Angiosarcoma  
Pennsylvania (Drexel University College of Medicine) - Angiosarcoma of the kidney  
Pennsylvania (Lehigh Valley Hospital) - Anaplastic carcinoma (1); Angiosarcoma (2)  
Pennsylvania (Magee Women's Hospital) - Angiosarcoma  
Pennsylvania (Mt. Nittany Medical Center) - Angiosarcoma  
Pennsylvania (Pennsylvania Hospital Pathology Residents) - Epithelioid angiosarcoma  
Puerto Rico (University of Puerto Rico) - Angiosarcoma  
Texas, Lubbock - Clear cell sarcoma  
Texas (ProPath Associates) - Angiosarcoma (2)  
Texas (Scott & White Memorial Hospital) - Epithelioid angiosarcoma  
Texas, Temple - Angiosarcoma  
West Virginia (Greenbrier Valley Medical Center) - Angiosarcoma  
Wisconsin (Bellin Health) - Angiosarcoma  
Wisconsin (Meriter Hospital) - Angiosarcoma  
Australia (Royal Prince Alfred Hospital) - Angiosarcoma of kidney  
Australia (North Queensland Pathology) - Epithelioid angiosarcoma  
Brazil (UNIFESP/EPM) - Angiosarcoma (2)  
Canada (Foothills Hospital) - Angiosarcoma (epithelioid variant)  
Canada (Woodstock General Hospital) - Epithelioid angiosarcoma  
Germany, Hamburg - Angiosarcoma

Hong Kong (Hong Kong Baptist Hospital) - Poorly differentiated angiosarcoma  
Italy, Naples - Angiosarcoma  
Netherlands, Amsterdam - Angiosarcoma  
Qatar - Angiosarcoma

**Case 8 - Diagnosis:**

Epithelioid angiosarcoma, kidney and retroperitoneum  
T-08580, T-71010, M-91203

**Case 8 – References:**

Higgins JP, Montgomery K, Wang L, et al. Expression of FKBP12 in Benign and Malignant Vascular Endothelium. An Immunohistochemical Study on Conventional Sections and Tissue Microarrays. *Am J Surg Pathol* 2003; 27(1):58-64.  
Wehrli BM, Janzen DL, Shokeir O, et al. Epithelioid Angiosarcoma Arising in a Surgically Constructed Arteriovenous Fistula. A Rare Complications of Chronic Immunosuppression in the Setting of Renal Transplantation. *Am J Surg Pathol* 1998; 22(9):1154-1159.

**Case No. 9, Accession No. 29255**

**April 2005**

Alameda (Alameda County Medical Center) - Synovial sarcoma  
Baldwin Park (Kaiser Permanente) - Leiomyosarcoma (2); Low grade sarcoma (1)  
Fontana (Kaiser Permanente) - Low grade spindle cell sarcoma  
Hayward/Fremont (St. Rose Hospital) - Monophasic synovial sarcoma  
Laguna (South Coast Medical Center) - Solitary fibrous tumor  
Loma Linda (Loma Linda University Residents) - Leiomyosarcoma vs. synovial sarcoma of the kidney  
Long Beach (Lakewood Regional Medical Center) - Monophasic spindle cell synovial sarcoma (8)  
Monterey Park (Garfield Medical Center) - Solitary fibrous tumor  
Monterey Park (Monterey Peninsula Pathologists) - Synovial sarcoma vs. solitary fibrous tumor  
Mountain View (El Camino Pathology Group) - Solitary fibrous tumor  
San Diego (Naval Medical Center) - Solitary fibrous tumor vs. synovial sarcoma  
San Francisco (San Francisco General Hospital) - Leiomyosarcoma  
Santa Barbara (Cottage Hospital) - Solitary fibrous tumor  
Santa Rosa (Santa Rosa Memorial Hospital) - Monophasic spindle cell synovial sarcoma (3)  
Orange (Orange County Medical Group) - Solitary fibrous tumor  
Sacramento (UC Davis Medical Center Residents) - Sarcoma, clear cell sarcoma vs. synovial sarcoma  
Arizona (Maryvale Medical Center) - Synovial sarcoma  
Florida (Baptist Hospital) - Monophasic synovial sarcoma (5)  
Florida, Tallahassee - Synovial sarcoma  
Florida (Winter Haven Hospital) - Fibrosarcoma  
Illinois (Northwestern Memorial Hospital) - Solitary fibrous tumor despite negative CD34 immunostain  
Indiana (Ball Memorial Hospital) - Angiomyolipoma  
Louisiana (Louisiana State University Medical Center) - Solitary fibrous tumor  
Maryland (Johns Hopkins Hospital Residents) - Synovial sarcoma (2)  
Maryland (National Naval Medical Center) - Synovial sarcoma  
Maryland (University of Maryland) - Solitary fibrous tumor, focally malignant  
Massachusetts (New England Medical Center Boston) - Spindle cell neoplasm favoring monophasic synovial sarcoma  
Michigan (Oakwood Hospital) - Monophasic synovial sarcoma  
Michigan (Pathology Services of West Michigan) - Adult mesoblastic nephroma  
Minnesota (Fairview Ridges Hospital) - Synovial sarcoma  
Minnesota (Fairview Southdale Hospital) - Synovial sarcoma  
New York (Long Island Jewish Medical Center) - Synovial sarcoma  
New York (Nassau University Medical Center) - Synovial sarcoma  
New York (Stony Brook University Hospital) - Synovial sarcoma  
New York (Westchester Medical Center) - Spindle cell sarcoma, favor synovial sarcoma

North Carolina (Mountain Area Pathology) - Renal synovial sarcoma (1); Solitary fibrous tumor (4)  
Ohio (Medical College of Ohio) - Monophasic fibrous synovial sarcoma  
Ohio (McCullough Hyde Memorial Hospital) - Solitary fibrous tumor  
Pennsylvania (Conemaugh Memorial Medical Center) - Solitary fibrous tumor  
Pennsylvania (Drexel University College of Medicine) - Synovial sarcoma of the kidney  
Pennsylvania (Lehigh Valley Hospital) - Leiomyoma (1); Synovial sarcoma (1); Monophasic synovial sarcoma (1)  
Pennsylvania (Magee Women's Hospital) - Synovial sarcoma  
Pennsylvania (Mt. Nittany Medical Center) - Monophasic synovial sarcoma  
Pennsylvania (Pennsylvania Hospital Pathology Residents) - Synovial sarcoma  
Puerto Rico (University of Puerto Rico) - Synovial sarcoma  
Texas, Lubbock - Solitary fibrous tumor  
Texas (Propath Associates) - Cellular leiomyoma (2)  
Texas (Scott & White Memorial Hospital) - Solitary fibrous tumor  
Texas, Temple - Smooth muscle neoplasm, leiomyoma vs. medullary fibrous  
West Virginia (Greenbrier Valley Medical Center) - Synovial sarcoma  
Wisconsin (Bellin Health) - Synovial sarcoma  
Wisconsin (Meriter Hospital) - Solitary fibrous tumor  
Australia (Royal Prince Alfred Hospital) - Solitary fibrous tumor  
Australia (North Queensland Pathology) - Solitary fibrous tumor ? malignant  
Brazil (UNIFESP/EPM) - Monophasic synovial sarcoma (2)  
Canada (Foothills Hospital) - Synoviosarcoma, monophasic  
Canada (Woodstock General Hospital) - Solitary fibrous tumor  
Germany, Hamburg - Solitary fibrous tumor  
Hong Kong (Hong Kong Baptist Hospital) - Solitary fibrous tumor  
Italy, Naples - Synovial sarcoma  
Netherlands, Amsterdam - Solitary fibrous tumor  
Qatar - Low grade spindle cell sarcoma, probably synovial sarcoma

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

Low grade spindle cell neoplasm (NOS), probably variant of solitary fibrous tumor, kidney  
 Directors Note: Positive CD99 and BCL-2 staining suggests SFT (but CD34) was negative.  
 T-71000, M-88003

#### **Case 9 – References:**

Gupta OP and Dube MK. Rare Primary Renal Sarcoma. *Br J Urol* 1971; 43(5):546-571.  
 Srinivas V, Sogani PC, Hajdu SI, et al. Sarcomas of the Kidney 1984; *J Urol* 132(1):13-36.

#### **Case No. 10, Accession No. 29240**

**April 2005**

Alameda (Alameda County Medical Center) - Metastatic endometrial stromal sarcoma  
Baldwin Park (Kaiser Permanente) - Endometrial stromal sarcoma, metastatic to kidney (3)  
Fontana (Kaiser Permanente) - Uterine stromal sarcoma  
Hayward/Fremont (St. Rose Hospital) - Low grade endometrial stromal sarcoma, metastatic  
Laguna (South Coast Medical Center) - Metastatic high grade undifferentiated uterine sarcoma  
Loma Linda (Loma Linda University Residents) - Metastatic carcinoma (favor endometrial vs. ovarian)  
Long Beach (Lakewood Regional Medical Center) - Metastatic endometrial stromal sarcoma (8)  
Monterey Park (Garfield Medical Center) - Hemangiopericytoma  
Monterey Park (Monterey Peninsula Pathologists) - Endometrial stromal sarcoma  
Mountain View (El Camino Pathology Group) - Low grade stromal sarcoma, uterine origin  
San Diego (Naval Medical Center) - Endometrial stromal sarcoma  
San Francisco (San Francisco General Hospital) - Mixed epithelial and stromal tumor  
Santa Barbara (Cottage Hospital) - Sarcoma possible synovial sarcoma or endometrial stromal sarcoma



Santa Rosa (Santa Rosa Memorial Hospital) - Low-grade stromal sarcoma of endometrium (endolymphatic stromal myosis) (1); Low-grade sarcoma, possible metastatic endometrial stromal sarcoma (1); Consistent with metastatic endometrial stromal sarcoma (1)

Orange (Orange County Medical Group) - Uterine stromal sarcoma

Sacramento (UC Davis Medical Center Residents) - Metastatic synovial sarcoma

Arizona (Maryvale Medical Center) - Endometrial stromal sarcoma, metastatic

Florida (Baptist Hospital) - Rhabdomyosarcoma (1); Metastatic endometrial stromal sarcoma (3); Endometrial stromal sarcoma (1)

Florida, Tallahassee - Sarcomatoid renal cell carcinoma, endometrial stromal sarcoma

Florida (Winter Haven Hospital) - Synovial sarcoma

Illinois (Northwestern Memorial Hospital) - Stromal sarcoma (what about CD10?)

Indiana (Ball Memorial Hospital) - Endometrial stromal sarcoma

Louisiana (Louisiana State University Medical Center) - Endometrial stromal sarcoma vs. carcinosarcoma

Maryland (Johns Hopkins Hospital Residents) - Sarcoma, NOS (1); Endometrial stromal sarcoma (1)

Maryland (National Naval Medical Center) - Stromal sarcoma

Maryland (University of Maryland) - Metastatic endometrial stromal tumor

Massachusetts (New England Medical Center Boston) - Sarcoma differential, sarcomatoid renal cell carcinoma and endometrial stromal sarcoma

Michigan (Oakwood Hospital) - Metastatic endometrial stromal sarcoma

Michigan (Pathology Services of West Michigan) - Renal cell carcinoma, sarcomatoid variant

Minnesota (Fairview Ridges Hospital) - Metastatic low-grade endometrial stromal sarcoma vs. variant of mixed epithelial stromal tumor

Minnesota (Fairview Southdale Hospital) - Mixed epithelial and stromal tumor

New York (Long Island Jewish Medical Center) - Metastatic endometrial stromal sarcoma

New York (Nassau University Medical Center) - Endometrioid stromal sarcoma

New York (Stony Brook University Hospital) - Metastatic endometrial stromal sarcoma

New York (Westchester Medical Center) - Endometrial stromal sarcoma vs. meningioma

North Carolina (Mountain Area Pathology) - Endometrial stromal sarcoma (5)

Ohio (Medical College of Ohio) - Low grade endometrial stromal sarcoma

Pennsylvania (Conemaugh Memorial Medical Center) - Stromal sarcoma

Pennsylvania (Drexel University College of Medicine) - Metastatic endometrial stromal sarcoma

Pennsylvania (Lehigh Valley Hospital) - Endometrial stromal sarcoma metastatic (3)

Pennsylvania (Magee Women's Hospital) - Endometrial stromal sarcoma, low-grade, metastatic in kidney

Pennsylvania (Mt. Nittany Medical Center) - Metastatic endometrial stromal sarcoma

Pennsylvania (Pennsylvania Hospital Pathology Residents) - Sarcomatoid carcinoma

Puerto Rico (University of Puerto Rico) - Endometrial stromal sarcoma, metastatic

Texas, Lubbock - Leiomyosarcoma

Texas (ProPath Associates) - Metastatic mixed mesodermal tumor (metastatic) (2)

Texas (Scott & White Memorial Hospital) - Endometrial stromal sarcoma

Texas, Temple - Mixed epithelial and stromal tumor of the kidney

West Virginia (Greenbrier Valley Medical Center) - Metastatic endometrial stromal sarcoma

Wisconsin (Bellin Health) - Mixed epithelial and stromal tumor

Wisconsin (Meriter Hospital) - Endometrial stromal sarcoma

Australia (Royal Prince Alfred Hospital) - Metastatic endometrial stromal sarcoma

Australia (North Queensland Pathology) - Malignant epithelial and stromal tumor

Brazil (UNIFESP/EPM) - Metastatic low grade endometrial stromal sarcoma (2)

Canada (Foothills Hospital) - Endometrial stromal sarcoma, likely recurrent

Canada (Woodstock General Hospital) - Metastatic endometrial stromal sarcoma vs. desmoplastic small round cell tumor

Germany, Hamburg - Metastases from stromal cell sarcoma of the uterus

Hong Kong (Hong Kong Baptist Hospital) - Endometrial stromal sarcoma

Netherlands, Amsterdam - Metastatic stromal cell sarcoma

Qatar - Endometrial stromal sarcoma

**Case 10 - Diagnosis:**

Small cell sarcoma, (NOS), intermediate grade, kidney

Directors Note: Possible origins include intrarenal synovial sarcoma, embryonal sarcoma, and endometrial stromal sarcoma. A CD10 might have been helpful to rule out endometrial stromal sarcoma...drc  
T-71000, M-88033

Consultation: Bruce Beckwith, M.D., LLUMC. "Small cell sarcoma, intermediate grade, and undetermined histiogenesis".

**Case 10 - References:**

Titu B, Ro JY, Ayala AG, et al. Small Cell Carcinoma of the Kidney. A Clinicopathologic, Immunohistochemical and Ultrastructural Study. *Cancer* 1987;60(8): 1809-1814.

Capella C, Eusebi V and Rosai J. Primary Oat Cell Carcinoma of the Kidney. *Am J Surg Pathol* 1984; 8(11):855-861.