

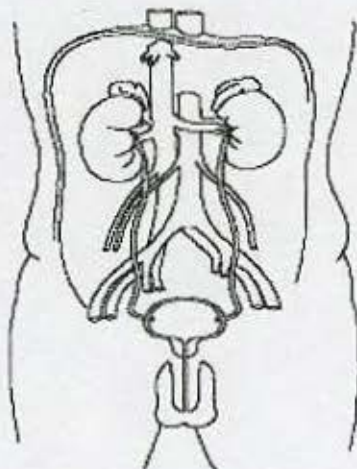


CALIFORNIA
TUMOR TISSUE REGISTRY

“TUMORS OF THE KIDNEY & BLADDER”

Study Cases, Subscription A

February 2007



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

Target audience:

Practicing pathologists and pathology residents.

Goal:

To acquaint the participant with the histologic features of a variety of benign and malignant neoplasms and tumor-like conditions.

Objectives:

The participant will be able to recognize morphologic features of a variety of benign and malignant neoplasms and tumor-like conditions and relate those processes to pertinent references in the medical literature.

Educational methods and media:

Review of representative glass slides with associated histories.
Feedback on consensus diagnoses from participating pathologists.
Listing of selected references from the medical literature.

Principal faculty:

Donald R. Chase, MD

CME Credit:

Loma Linda University School of Medicine designates this continuing medical education activity for up to 2 hours of Category I of the Physician's Recognition Award of the American Medical Association.
CME credit is offered for the subscription year only.

Accreditation:

Loma Linda University School of Medicine is accredited by the Accreditation Council for Continuing Medical Education (ACCME) to sponsor continuing medical education for physicians.

**Contributor: Carol Solomon, M.D.
San Diego, CA**

Case No. 1 - February 2007 A

Tissue from: Urinary Bladder

Accession #30272

Clinical Abstract:

A 57 year old man presented with a six month history of intermittent hematuria. Cystoscopy showed a large tumor within the bladder.

Gross Pathology:

The 15.5 x 13.7 x 9.5 cm bladder was filled by an 8.0 x 4.3 x 3.7 cm fungating papillary tan-pink mass, circumferentially adherent to the lower two-thirds of the posterior and anterior bladder walls.

**Contributor: Loma Linda Pathology Group (np)
Loma Linda, CA**

Case No. 2 - February 2007 A

Tissue from: Urinary Bladder

Accession #30203

Clinical Abstract:

This 83 year old man presented with gross painless hematuria. He had no elevation of his PSA. Cystoscopy showed a large tumor within the urinary bladder.

Gross Pathology:

The specimen consisted of an 8 x 6 x 1.5 cm aggregate of transurethraly removed tumor chips.

Contributor: Lester Thompson, M.D.
Woodland Hills, CA

Case No. 3 - February 2007 A

Tissue from: Urinary Bladder

Accession #30250

Clinical Abstract:

This 32 year old woman presented with vague lower abdominal pain, associated with a history of urinary tract infection. Antibiotics failed to resolve the symptoms and urinalysis showed microscopic hematuria. Colonoscopy was normal and intraoperative evaluation of ovaries, uterus and appendix showed no abnormalities.

Gross Pathology:

Not available.

Contributor: Mark Janssen, M.D.
Anaheim, CA

Case No. 4 - February 2007 A

Tissue from: Right kidney

Accession #30147

Clinical Abstract:

After two months of worsening right flank pain, this 73 year old woman was found on CT scan to have a right renal mass. She had had no hematuria or weight loss.

Gross Pathology:

The kidney resection specimen was received in fragments. In addition to grossly apparent renal parenchyma, several of the pieces, ranging from 2.7 to 3.2 cm in greatest diameter, had firm tan-white cut surfaces. Other fragments were largely fatty and yellow.

Special Studies:

Tumor cells positive: vimentin, smooth muscle actin, muscle specific actin, desmin, HMB45
Tumor cells negative: pankeratin

Contributor: Jin Wang, M.D.
Hangzhou, People's Republic of China

Case No. 5 - February 2007 A

Tissue from: Right kidney

Accession #30115

Clinical Abstract:

A 35 year old woman presented with vague pain in the right lumbar region and a 20 day history of low grade fever. Work-up found a right kidney mass.

Gross Pathology:

The kidney resection specimen was 14 x 8 x 8 cm and contained a 9 x 7 cm well-defined mass in the lower pole. The cut surface was variable, ranging from gray, to pink-tan to dark red. There was extensive necrosis.

Special Studies:

Strongly positive: Desmin, SMA, vimentin
Focally positive: Actin
Negative: Cytokeratin, EMA, MyoD-1

Contributor: Anne Drejet, M.D.
Santa Barbara, CA

Case No. 6 - February 2007 A

Tissue from: Kidney

Accession #30289

Clinical Abstract:

A 58 year old woman was found to have cystic masses involving the right kidney and adrenal gland.

Gross Pathology:

Not available.

Contributor: Michele Cosgrove, M.D.
Glendale, CA

Case No. 7 - February 2007 A

Tissue from: Left Kidney

Accession #30364

Clinical Abstract:

Follow up of a 51 year old diabetic man in renal failure revealed a mass in his left kidney.

Gross Pathology:

In the mid portion of the 190 gram kidney was a 4.3 x 4.0 x 3.0 cm well-circumscribed hard pale tan mass.

Special Studies:

Positive: CD99, CD34, Vimentin
Negative: AE1/AE3, CD117, Desmin, actin

Contributor: Anne Drejet, M.D.
Santa Barbara, CA

Case No. 8 - February 2007 A

Tissue from: Kidney

Accession #30290

Clinical Abstract:

A 41 year old woman had a right kidney mass.

Gross Pathology:

The right kidney resection specimen with perinephric fat was 1210 grams. It was distorted by a 14 x 12 x 10 cm tumor which left a thin rim of kidney at one pole. The tumor penetrated the renal capsule, extending into surrounding fat. The cut surface was lobulated dense white parenchyma with focal yellow necrosis.

Special Studies:

Positive: CD99, vimentin, SMA (focal), CD10
Negative: CK-7, CK-20, CAM5.2, EMA, Ber-EP4, myo-D1, CD56, HMB-45, FLI-1, S-100, desmin, CD23, CD117, Estrogen & Progesterone receptors

Contributor: Phillip Gordon, M.D.
Winter Haven, FL

Case No. 9 - February 2007 A

Tissue from: Left kidney

Accession #30185

Clinical Abstract:

A 69 year old woman had a left renal mass.

Gross Pathology:

The 244 gram resection specimen included a 2.5 x 2.3 x 1.5 cm fleshy dark red-brown mass in the upper pole of the kidney, filling one of the calyces. The mass was diffusely hemorrhagic, well encapsulated and confined to the kidney.

Contributor: Dawn Ellerson, M.D.
San Luis Obispo, CA

Case No. 10 - February 2007 A

Tissue from: Kidney

Accession #30233

Clinical Abstract:

An 86 year old woman presented with hematuria. Imaging studies showed a right renal pelvic mass involving the collecting system extending into the mid portion of the kidney.

Gross Pathology:

The 284 gram kidney contained a 5 x 4 x 3.5 cm ill-defined infiltrating mass that extended nearly to the renal capsule.



CALIFORNIA
TUMOR TISSUE REGISTRY

*TUMORS OF THE KIDNEY AND BLADDER
PATHOLOGY*

Minutes – Subscription A

February, 2007



SUGGESTED READING (General Topics from Recent Literature):

- Lymphoma Is the Most Common Malignancy of the Ocular Adnexa. Ferry JA, Fung CY, et al. *Am J Surg Pathol* 2007; 31:170-184.
- Women More Likely to Have New or Missed CRC After Colonoscopy. Bressler B, Paszat LF, et al. *Gastroenterol* 2007; 132:96-102.
- Mammaglobin Is a Specific Marker for Breast Cancer. Sasaki E, Tsunoda N, et al. *Mod Pathol* 2006; 22.
- TLE1 Is a Sensitive & Specific Marker for Synovial Sarcomas. Terry J, Saito T, et al. *Am J Surg Pathol* 2007; 31:240-246.
- Clear Cell Sarcoma. Clinical Features, Therapy, & Prognosis. Kawai A, Hosono A, et al. *Cancer* 2007; 109:109-116.

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

(Preferably submitted on website at www.cctr.org. Click "subscriptions", then submit answers".)

CTTR Subscription A

February, 2007

Case 1:

Papillary urothelial carcinoma, bladder
T-71000, M-80503

Case 2:

Carcinosarcoma (sarcomatoid high grade urothelial carcinoma with chondrosarcoma and osteosarcoma, bladder
T-77100, M-92203

Case 3:

Mucinous adenocarcinoma, bladder
T-71000, M-81403

Case 4:

Angiomyolipoma, kidney
T-71000, M-88600

Case 5:

Leiomyosarcoma, kidney
T-71000, M-88903

Case 6:

Mixed epithelial and stromal tumor, kidney
T-71000, M-81003

Case 7:

Solitary fibrous tumor, kidney
T-71000, M-90510

Case 8:

High grade sarcoma, (NOS), kidney
T-71000, M-88103

Case 9:

Renal cell carcinoma with papillary and tubulocystic features, kidney
T-71000, M-83123

Case 10:

Collecting duct carcinoma, kidney
T-71000, M-83123

- Alameda (Alameda County Medical Center) - Papillary urothelial carcinoma, low grade
- Fontana (Kaiser Permanente) - Transitional cell carcinoma, grade 2/3
- Granada Hills - Invasive transitional cell carcinoma, no muscle involvement
- Long Beach - Invasive papillary urothelial carcinoma, high grade
- Long Beach (Long Beach Veterans Hospital) - Papillary urothelial carcinoma, WHO 2/3
- Los Angeles - Transitional cell carcinoma
- Monterey (Community Hospital of Monterey Peninsula) - Papillary urothelial carcinoma, high grade (2); Low grade (1)
- Oakland - Low grade papillary carcinoma
- Orange (Orange County Pathology Medical Group) - Papillary transitional cell carcinoma, low grade
- Oxnard (St. John's Regional Medical Center) - Papillary transitional cell carcinoma, grade I/II, low grade papillary carcinoma (1); Papillary transitional cell carcinoma (2)
- San Diego - Papillary transitional cell carcinoma, focally invasive, grade I, bladder
- San Diego (Naval Medical Center San Diego) - Infiltrating urothelial carcinoma
- San Diego (Scripps Health) - Low grade papillary urothelial carcinoma
- San Diego (UCSD) - Papillary and sessile urothelial carcinoma, low grade
- San Francisco (San Francisco General Hospital) - Low grade urothelial carcinoma
- Santa Barbara - Low grade papillary urothelial carcinoma
- Santa Rosa (Santa Rosa Memorial Hospital) - Transitional cell carcinoma (1); Papillary urothelial carcinoma, low grade (1)
Papillary transitional cell carcinoma, low grade (papillary urothelial tumor) (1)
- Woodland Hills (Kaiser Permanente) - Non-invasive papillary urothelial carcinoma, low grade
- Woodland Hills (Suda's Soldiers) - Urothelial carcinoma, grade 2, (non-invasive)
- Arkansas (University of Arkansas for Medical Sciences) - Non-invasive papillary urothelial carcinoma, high grade, urinary bladder
- Georgia, Decatur - Papillary urothelial carcinoma
- Illinois, Burr Ridge - Papillary urothelial carcinoma (1); Urothelial carcinoma, grade I-II, non-invasive or microinvasive (1)
- Illinois (Loyola University Medical Center) - Diffuse large B-cell lymphoma
- Indiana (Howard Regional Medical Center) - Low grade papillary neoplasm
- Maryland (Northwest Hospital Center) - High grade papillary urothelial carcinoma
- Maryland (University of Maryland) - Infiltrating urothelial carcinoma, high grade
- Massachusetts (Berkshire Medical Center) - Papillary carcinoma, non-invasive
- Massachusetts (Beverly Hospital) - Non-invasive low grade papillary urothelial carcinoma
- Michigan (Oakwood Hospital) - Papillary urothelial carcinoma, non-invasive
- Minnesota (Fairview Ridges Hospital) - Papillary urothelial carcinoma, low-grade
- Nebraska (Creighton University School of Medicine) - Low grade papillary urothelial carcinoma
- New Mexico (University of New Mexico) - Papillary urothelial carcinoma
- New York (Long Island Jewish Medical Center) - Invasive low grade papillary urothelial carcinoma
- New York (Nassau University Medical Center) - Urothelial carcinoma, papillary
- New York (Stony Brook University Hospital) - Transitional cell carcinoma, carcinoma in-situ
- New York (SUNY Downstate Medical Center) - Papillary transitional cell carcinoma
- North Carolina (Mountain Area Pathology) - High grade papillary transitional cell carcinoma (1); Transitional cell carcinoma, low grade (1)
- Ohio (McCullough-Hyde Memorial Hospital) - Papillary urothelial carcinoma
- Oklahoma, Tulsa - Papillary urothelial carcinoma, low grade
- Pennsylvania (Drexel University College of Medicine) - Non-invasive papillary urothelial carcinoma, low grade
- Pennsylvania (Lehigh Valley Hospital) - Papillary transitional cell carcinoma, grade II/III
- Pennsylvania (Magee Women's Hospital) - Low grade papillary urothelial carcinoma, non-invasive
- Pennsylvania (Mt. Nittany Medical Center) - Low grade papillary urothelial carcinoma
- Pennsylvania (Pennsylvania Hospital Residents) - Low grade transitional carcinoma
- Puerto Rico (University of Puerto Rico) - Invasive urothelial carcinoma, high grade
- South Dakota (University of South Dakota Residents) - Papillary urothelial carcinoma, grade III
- Tennessee, Kingsport - Low grade, superficially invasive papillary transitional cell carcinoma
- Texas (Scott & White Memorial Hospital) - Low grade papillary urothelial carcinoma
- Texas, Houston - Papillary transitional carcinoma, high grade
- Texas, Lubbock - Low grade papillary urothelial carcinoma in-situ
- Washington (Madigan Army Medical Center) - Papillary urothelial carcinoma, low grade (9); High grade (3)
- West Virginia (Greenbrier Valley Medical Center) - Papillary non-infiltrative urothelial carcinoma
- Australia (Royal Hobart Hospital) - Low grade papillary urothelial carcinoma with a partially inverted growth pattern
- Australia (Royal Prince Alfred Hospital) - Non-invasive papillary urothelial carcinoma, low grade
- Australia (Sullivan Nicolaides Pathology) - Papillary urothelial carcinoma, low grade
- Brazil (Laboratorio Anatomia Patologica Ecitologia) - Papillary urothelial lesion of low grade potential

Brazil, Sao Paulo - Papillary urothelial carcinoma, high grade
Canada (Pasqua Hospital) - Inverted papilloma
Canada, Saskatoon - Papillary urothelial (transitional cell carcinoma) carcinoma, low grade
Canada (Sherbrooke University Hospital) - Low grade papillary invasive carcinoma
India, Karnataka - Papillary urothelial neoplasm of low malignant potential
Ireland (Kerry General Hospital) - Transitional cell carcinoma of bladder
Jamaica (The University of West Indies) - Low grade urothelial carcinoma
Japan (Kyoto University Hospital) - Urothelial carcinoma, non-invasive, papillary, low grade
Oman (Khoula Hospital) - Non invasive papillary urothelial carcinoma, low grade
Qatar (Hamad Medical Corporation) - Papillary urothelial carcinoma, low grade, non-invasive
Saudi Arabia (King Fahad National Guard Hospital) - Non-invasive papillary urothelial carcinoma (low-grade)
Saudi Arabia (Maternity and Children's Hospital) - Papillary urothelial carcinoma, low grade
The Netherlands, Amstelveen - Low grade urothelial cell carcinoma
United Kingdom (Oxford Study Group) - Low grade papillary urothelial carcinoma

Case 1 - Diagnosis:

Papillary urothelial carcinoma, bladder
 T-71000, M-80503

Case 1 - References:

Choi YL, Lee SH, Kwon GY, et al. Overexpression of CD24. Association with Invasiveness in Urothelial Carcinoma of the Bladder. *Arch Pathol Lab Med* 2007; 131(2):275-281.
 Malkowicz SB, van Poppel H, Mickisch G, et al. Muscle-Invasive Urothelial Carcinoma of the Bladder. *Urol* 2007; 69:3-16.
 Raghavan D, Shipley WU, Garnick MB, et al. Biology and Management of Bladder Cancer. *N Eng J Med* 1990; 322:1129-1138.
 Hrabon RH, Vanderriet P, Erozom YS, et al. Brief Report. Molecular Biology and Early Detection of Carcinoma of the Bladder. The Case of Hubert Humphrey. *N Eng J Med* 1994; 330:1276-1278.
 Mostofi FK and Sesterhenn IA. Pathology of Epithelial Tumors and Carcinoma In-Situ of the Bladder. *Prog Clin Biol Res*; 1984; 162A:55-74.

Case No. 2, Accession No. 30203

February 2007

Alameda (Alameda County Medical Center) - Infiltrating urothelial carcinoma, sarcomatoid variant, with heterologous elements
Fontana (Kaiser Permanente) - Sarcoma vs. carcinosarcoma
Granada Hills - Carcinosarcoma vs. leiomyosarcoma
Long Beach - Carcinosarcoma with cartilagenous elements
Long Beach (Long Beach Veterans Hospital) - Carcinosarcoma
Los Angeles - Undifferentiated urothelial carcinoma
Monterey (Community Hospital of Monterey Peninsula) - Sarcomatoid urothelial carcinoma
Oakland - Carcinosarcoma
Orange (Orange County Pathology Medical Group) - Invasive high-grade urothelial/metaplastic carcinoma
Oxnard (St. John's Regional Medical Center) - High grade transitional cell carcinoma (2); Papillary transitional cell carcinoma (1)
San Diego - Urothelial carcinoma, sarcomatoid, bladder
San Diego (Naval Medical Center San Diego) - High grade sarcoma
San Diego (Scripps Health) - Carcinosarcoma
San Diego (UCSD) - Sarcomatoid carcinoma
San Francisco (San Francisco General Hospital) - Rhabdomyosarcoma
Santa Barbara - Poorly differentiated small cell carcinoma
Santa Rosa (Santa Rosa Memorial Hospital) - Carcinosarcoma (3)
Woodland Hills (Kaiser Permanente) - High grade urothelial carcinoma, sarcomatoid variant (with heterologous elements)
Woodland Hills (Suda's Soldiers) - Carcinosarcoma (chondrosarcoma)
Arkansas (University of Arkansas for Medical Sciences) - Urothelial carcinoma, sarcomatoid variant (heterologous), urinary bladder
Georgia, Decatur - Urothelial carcinoma with sarcomatoid change
Illinois, Burr Ridge - Urothelial carcinoma, high grade with sarcomatoid features (1); Infiltrating urothelial carcinoma, grade III (1)
Illinois (Loyola University Medical Center) - Medullary thyroid carcinoma
Indiana (Howard Regional Medical Center) - High grade papillary urothelial carcinoma

Maryland (Northwest Hospital Center) - Sarcomatoid urothelial carcinoma

Maryland (University of Maryland) - Sarcomatoid carcinoma with high grade urothelial carcinoma component

Massachusetts (Berkshire Medical Center) - Sarcomatoid and small cell carcinoma with heterologous elements (chondrosarcoma and osteosarcoma)

Massachusetts (Beverly Hospital) - Carcinosarcoma vs. pure sarcoma with sarcoma elements of chondrosarcoma

Michigan (Oakwood Hospital) - Sarcomatoid carcinoma, with background transitional cell in-situ

Minnesota (Fairview Ridges Hospital) - Urothelial carcinoma, high grade, with sarcomatoid differentiation

Nebraska (Creighton University School of Medicine) - Carcinosarcoma

New Mexico (University of New Mexico) - Sarcomatoid variant of urothelial carcinoma with heterologous elements

New York (Long Island Jewish Medical Center) - Sarcomatoid transitional cell carcinoma with heterologous elements

New York (Nassau University Medical Center) - Urothelial carcinoma, sarcomatoid

New York (Stony Brook University Hospital) - Transitional cell carcinoma (high grade)

New York (SUNY Downstate Medical Center) - Sarcomatoid carcinoma vs. sarcoma with rhabdoid differentiation

North Carolina (Mountain Area Pathology) - High grade transitional cell carcinoma and CIS (1); Sarcomatoid carcinoma (1)

Ohio (McCullough-Hyde Memorial Hospital) - Chondrosarcoma

Oklahoma, Tulsa - Urothelial carcinoma heterologous sarcomatoid type (carcinosarcoma)

Pennsylvania (Drexel University College of Medicine) - Sarcomatoid (spindle cell) carcinoma of bladder with chondrosarcomatous differentiation (carcinosarcoma)

Pennsylvania (Lehigh Valley Hospital) - Sarcomatoid carcinoma

Pennsylvania (Magee Women's Hospital) - Sarcomatoid carcinoma

Pennsylvania (Mt. Nittany Medical Center) - Urothelial carcinoma, heterologous sarcomatoid type

Pennsylvania (Pennsylvania Hospital Residents) - Carcinosarcoma

Puerto Rico (University of Puerto Rico) - Sarcomatoid (metaplastic) carcinoma

South Dakota (University of South Dakota Residents) - Carcinosarcoma

Tennessee, Kingsport - Renal sarcomatoid carcinoma

Texas (Scott & White Memorial Hospital) - Carcinosarcoma

Texas, Houston - Spindle cell carcinoma, poorly differentiated

Texas, Lubbock - Metaplastic urothelial carcinoma

Washington (Madigan Army Medical Center) - Urothelial carcinoma with heterologous sarcomatous elements (12)

West Virginia (Greenbrier Valley Medical Center) - Infiltrative carcinomatoid urothelial carcinoma

Australia (Royal Hobart Hospital) - Sarcomatoid variant of urothelial carcinoma with heterologous differentiation (chondrosarcoma)

Australia (Royal Prince Alfred Hospital) - Urothelial carcinoma, sarcomatoid variant with heterologous elements

Australia (Sullivan Nicolaides Pathology) - Metaplastic carcinoma

Brazil (Laboratorio Anatomia Patologica Ecitologia) - High grade sarcoma (osteosarcoma?)

Brazil, Sao Paulo - High grade urothelial carcinoma, sarcomatoid variant, with heterologous elements (chondrosarcoma)

Canada (Pasqua Hospital) - Carcinosarcoma vs. sarcoma

Canada, Saskatoon - Papillary urothelial (transitional cell) carcinoma, high grade

Canada (Sherbrooke University Hospital) - Sarcomatoid carcinoma with heterologous elements

India, Karnataka - Carcinosarcoma

Ireland (Kerry General Hospital) - Transitional cell carcinoma of bladder

Jamaica (The University of West Indies) - Sarcomatoid renal cell carcinoma

Japan (Kyoto University Hospital) - Invasive urothelial carcinoma, sarcomatoid variant, with heterologous elements

Oman (Khoulou Hospital) - Infiltrating urothelial carcinoma, sarcomatoid variant with heterologous element

Qatar (Hamad Medical Corporation) - Invasive transitional cell carcinoma, high grade with sarcomatoid areas

Saudi Arabia (King Fahad National Guard Hospital) - Sarcomatoid carcinoma of the urinary bladder with heterologous differentiation

Saudi Arabia (Maternity and Children's Hospital) - Sarcomatoid (metaplastic) carcinoma

The Netherlands, Amstelveen - Sarcomatoid variant of an urothelial cell carcinoma

United Kingdom (Oxford Study Group) - Carcinosarcoma bladder

Case 2 - Diagnosis:

Carcinosarcoma (sarcomatoid high grade urothelial carcinoma with chondrosarcoma and osteosarcoma), bladder

T-77100, M-92203

Case 2 - References:

- Hoshi S, Sasaki M, Muto A, et al. Case of Carcinosarcoma of Urinary Bladder Obtained a Pathologically Complete Response by Neoadjuvant Chemoradiotherapy. *Int J Urol* 2007; 14(1):79-81.
- Shah SK, Lui PD, Baldwin DD, et al. Urothelial Carcinoma After External Beam Radiation Therapy for Prostate Cancer. *J Urol* 2006; 175(6):2063-2066.
- Rogers CG, Palapattu GS, Shariat SF, et al. Clinical Outcomes Following Radical Cystectomy for Primary Nontransitional Cell Carcinoma of the Bladder Compared to Transitional Cell Carcinoma of the Bladder. *J Urol* 2006; 175(6):2048-2053.
- Jayamohan Y, Urs L, Rowland RG, et al. Periurethral Carcinosarcoma. A Report of 2 Cases with a Review of the Literature. *Arch Pathol Lab Med* 2005; 129(4):e91-93.
- McKenney JK. An Approach to the Classification of Spindle Cell Proliferations in the Urinary Bladder. *Adv in Anat Pathol* 2005; 12(6):312-323.

Case No. 3, Accession No. 30250

February 2007

- Alameda (Alameda County Medical Center) - Adenocarcinoma, mucinous type
- Fontana (Kaiser Permanente) - Urachal adenocarcinoma
- Granada Hills - Mucinous adenocarcinoma
- Long Beach - Mucinous adenocarcinoma with signet rings
- Long Beach (Long Beach Veterans Hospital) - Mucinous adenocarcinoma with signet ring cells
- Los Angeles - Mucinous signet ring cell carcinoma
- Monterey (Community Hospital of Monterey Peninsula) - Mucinous (colloid) carcinoma
- Oakland - Signet ring mucinous carcinoma
- Orange (Orange County Pathology Medical Group) - Adenocarcinoma
- Oxnard (St. John's Regional Medical Center) - Mucinous adenocarcinoma (4)
- San Diego - Adenocarcinoma, mucinous, bladder
- San Diego (Naval Medical Center San Diego) - Mucinous adenocarcinoma
- San Diego (Scripps Health) - Poorly differentiated signet ring cell adenocarcinoma
- San Diego (UCSD) - Mucinous adenocarcinoma
- San Francisco (San Francisco General Hospital) - Mucinous carcinosarcoma
- Santa Barbara - Mucinous adenocarcinoma
- Santa Rosa (Santa Rosa Memorial Hospital) - Mucin secreting adenocarcinoma (colloid carcinoma) (1); Mucinous/colloid adenocarcinoma (1); Colloid carcinoma (1)
- Woodland Hills (Kaiser Permanente) - Mucinous adenocarcinoma
- Woodland Hills (Suda's Soldiers) - Mucinous adenocarcinoma (colloid carcinoma)
- Arkansas (University of Arkansas for Medical Sciences) - Urachal carcinoma, mucinous type, urinary bladder
- Georgia, Decatur - Mucinous adenocarcinoma
- Illinois, Burr Ridge - Mucinous carcinoma, signet cell (1); Adenocarcinoma with signet ring features and prominent mucin accumulation, rule out GI origin (1)
- Illinois (Loyola University Medical Center) - Insular carcinoma
- Indiana (Howard Regional Medical Center) - Mucinous adenocarcinoma (signet ring)
- Maryland (Northwest Hospital Center) - Mucinous adenocarcinoma
- Maryland (University of Maryland) - Mucinous adenocarcinoma
- Massachusetts (Berkshire Medical Center) - Mucinous adenocarcinoma with signet ring features
- Massachusetts (Beverly Hospital) - Adenocarcinoma, mucinous variant
- Michigan (Oakwood Hospital) - Mucinous adenocarcinoma
- Minnesota (Fairview Ridges Hospital) - Mucinous adenocarcinoma, urachal
- Nebraska (Creighton University School of Medicine) - Mucinous adenocarcinoma
- New Mexico (University of New Mexico) - Urachal carcinoma
- New York (Long Island Jewish Medical Center) - Mucinous adenocarcinoma
- New York (Nassau University Medical Center) - Mucinous adenocarcinoma
- New York (Stony Brook University Hospital) - Urachal carcinoma (mucinous adenocarcinoma)

New York (SUNY Downstate Medical Center) - Mucinous adenocarcinoma, primary
North Carolina (Mountain Area Pathology) - Mucinous adenocarcinoma, urachal origin (2)
Ohio (McCullough-Hyde Memorial Hospital) - Adenocarcinoma, mucinous type
Oklahoma, Tulsa - Mucinous adenocarcinoma, urachal origin
Pennsylvania (Drexel University College of Medicine) - Mucinous adenocarcinoma (urachal carcinoma)
Pennsylvania (Lehigh Valley Hospital) - Mucinous adenocarcinoma, bladder
Pennsylvania (Magee Women's Hospital) - Adenocarcinoma, mucinous type
Pennsylvania (Mt. Nittany Medical Center) - Adenocarcinoma, mucinous and signet ring type
Pennsylvania (Pennsylvania Hospital Residents) - Mucinous adenocarcinoma
Puerto Rico (University of Puerto Rico) - Mucinous adenocarcinoma/signet-ring cell adenocarcinoma
South Dakota (University of South Dakota Residents) - Mucinous adenocarcinoma
Tennessee, Kingsport - Metastatic mucinous (colloid) carcinoma
Texas (Scott & White Memorial Hospital) - Mucinous adenocarcinoma
Texas, Houston - Mucinous adenocarcinoma
Texas, Lubbock - Mucinous adenocarcinoma
Washington (Madigan Army Medical Center) - Mucinous adenocarcinoma of the bladder (12)
West Virginia (Greenbrier Valley Medical Center) - Mucinous production urothelial adenocarcinoma
Australia (Royal Hobart Hospital) - Mucinous adenocarcinoma, probably urachal
Australia (Royal Prince Alfred Hospital) - Adenocarcinoma (mucinous variant)
Australia (Sullivan Nicolaides Pathology) - Mucinous adenocarcinoma of bladder
Brazil (Laboratorio Anatomia Patologica Fcitolgia) - Mucinous adenocarcinoma of the bladder
Brazil, Sao Paulo - Mucinous adenocarcinoma (moderately differentiated) likely to be urachal adenocarcinoma
Canada (Pasqua Hospital) - Colloid carcinoma
Canada, Saskatoon - Vesical adenocarcinoma
Canada (Sherbrooke University Hospital) - Invasive mucinous adenocarcinoma
India, Karnataka - Mucinous carcinoma
Ireland (Kerry General Hospital) - Mucinous adenocarcinoma
Jamaica (The University of West Indies) - Urothelial adenocarcinoma
Japan (Kyoto University Hospital) - Mucinous adenocarcinoma
Oman (Khoula Hospital) - Adenocarcinoma (mucinous type) urachal carcinoma
Qatar (Hamad Medical Corporation) - Mucinous/colloid adenocarcinoma
Saudi Arabia (King Fahad National Guard Hospital) - Mucinous adenocarcinoma, primary
Saudi Arabia (Maternity and Children's Hospital) - Adenocarcinoma
The Netherlands, Amstelveen - Mucinous adenocarcinoma (depending upon localization, urachal or nonurachal type)
United Kingdom (Oxford Study Group) - Bladder mucinous adenocarcinoma

Case 3 - Diagnosis:

Mucinous adenocarcinoma, bladder
T-71000, M-81403

Case 3 - References:

- Lauretti S, Mosca A, D'Alfonso V, et al. Primitive Mucinous Adenocarcinoma of the Bladder. A Case Report. *Arch Ital Urol Androl* 2006; 78(1):32-34.
- Zaghloul MS, Nouh A, Nazmy M, et al. Long-Term Results of Primary Adenocarcinoma of the Urinary Bladder. A Report on 192 Patients. *Urol Oncol* 2006; 24(1):13-20.
- Taylor S, Bacchini P and Bertoni F. An Isolated Vertebral Metastasis of Urachal Adenocarcinoma. *Arch Pathol Lab Med* 2004; 128(9):1043-1045.
- Mazzucchelli R, Scarpelli M and Montironi R. Mucinous Adenocarcinoma with Superficial Stromal Invasion and Villous Adenoma of Urachal Remnants. A Case Report. *J Clin Pathol* 2003; 56(6):465-467.

Case No. 4, Accession No. 30147

February 2007

Alameda (Alameda County Medical Center) - Angiomyolipoma

Fontana (Kaiser Permanente) - Angiomyolipoma
Granada Hills - Angiomyolipoma
Long Beach - Angiomyolipoma
Long Beach (Long Beach Veterans Hospital) - Angiomyolipoma
Los Angeles - Angiomyolipoma
Monterey (Community Hospital of Monterey Peninsula) - Angiomyolipoma
Oakland - Angiomyolipoma
Orange (Orange County Pathology Medical Group) - Angiomyolipoma
Oxnard (St. John's Regional Medical Center) - Angiomyolipoma (4)
San Diego - Angiomyolipoma, kidney
San Diego (Naval Medical Center San Diego) - Angiomyolipoma
San Diego (Scripps Health) - Angiomyolipoma
San Diego (UCSD) - Angiomyolipoma
San Francisco (San Francisco General Hospital) - Angiomyolipoma
Santa Barbara - Angiomyolipoma
Santa Rosa (Santa Rosa Memorial Hospital) - Angiomyolipoma (3)
Woodland Hills (Kaiser Permanente) - Angiomyolipoma
Woodland Hills (Suda's Soldiers) - Angiomyolipoma
Arkansas (University of Arkansas for Medical Sciences) -- Angiomyolipoma, kidney
Georgia, Decatur - Angiomyolipoma
Illinois, Burr Ridge - Angiomyolipoma (2)
Illinois (Loyola University Medical Center) - Moderately-differentiated neuroendocrine tumor
Indiana (Howard Regional Medical Center) - Spindle cell sarcoma (?lei)
Maryland (Northwest Hospital Center) - Angiomyolipoma
Maryland (University of Maryland) - Angiomyolipoma
Massachusetts (Berkshire Medical Center) - Angiomyolipoma
Massachusetts (Beverly Hospital) - Angiomyolipoma
Michigan (Oakwood Hospital) - Angiomyolipoma
Minnesota (Fairview Ridges Hospital) - Angiomyolipoma
Nebraska (Creighton University School of Medicine) - Angiomyolipoma
New Mexico (University of New Mexico) - Angiomyolipoma
New York (Long Island Jewish Medical Center) - Angiomyolipoma
New York (Nassau University Medical Center) - Cellular leiomyoma
New York (Stony Brook University Hospital) - Angiomyolipoma
New York (SUNY Downstate Medical Center) - Angiomyolipoma
North Carolina (Mountain Area Pathology) - Angiomyolipoma (2)
Ohio (McCullough-Hyde Memorial Hospital) - Leiomyoma vs. leiomyosarcoma
Oklahoma, Tulsa - Angiomyolipoma
Pennsylvania (Drexel University College of Medicine) - Angiomyolipoma
Pennsylvania (Lehigh Valley Hospital) - Angiomyolipoma
Pennsylvania (Magee Women's Hospital) - Angiomyolipoma
Pennsylvania (Mt. Nittany Medical Center) - Angiomyolipoma
Pennsylvania (Pennsylvania Hospital Residents) - Angiomyolipoma
Puerto Rico (University of Puerto Rico) - Angiomyolipoma
South Dakota (University of South Dakota Residents) - Angiomyolipoma
Tennessee, Kingsport - Angiomyolipoma
Texas (Scott & White Memorial Hospital) - Angiomyolipoma
Texas, Houston - Angiomyolipoma
Texas, Lubbock - Leiomyosarcoma
Washington (Madigan Army Medical Center) - Angiomyolipoma (12)
West Virginia (Greenbrier Valley Medical Center) - Angiomyolipoma
Australia (Royal Hobart Hospital) - Angiomyolipoma, kidney
Australia (Royal Prince Alfred Hospital) - Angiomyolipoma
Australia (Sullivan Nicolaides Pathology) - Angiomyolipoma
Brazil (Laboratorio Anatomia Patologica Ecitologia) - Angiomyolipoma, smooth muscle predominant
Brazil, Sao Paulo - Angiomyolipoma
Canada (Pasqua Hospital) - Angiomyolipoma
Canada, Saskatoon - Angiomyolipoma
Canada (Sherbrooke University Hospital) - Angiomyolipoma
India, Karnataka - Angiomyolipoma
Ireland (Kerry General Hospital) - Angiomyolipoma
Jamaica (The University of West Indies) - Renal angiomyolipoma
Japan (Kyoto University Hospital) - Angiomyolipoma

Oman (Khoula Hospital) - Angiomyolipoma
Qatar (Hamad Medical Corporation) - Angiomyolipoma
Saudi Arabia (King Fahad National Guard Hospital) - Angiomyolipoma
Saudi Arabia (Maternity and Children's Hospital) - Angiomyolipoma
The Netherlands, Amstelveen - Angiomyolipoma of the kidney, nonurachal type
United Kingdom (Oxford Study Group) - Angiomyolipoma

Case 4 - Diagnosis:

Angiomyolipoma, kidney
T-71000, M-88600

Case 4 - References:

Bahrani A, Schwartz MR, Ayala AG, et al. Concurrent Angiomyolipoma and Two Oncocytomas in the Same Kidney. *Ann Diagn Pathol* 2007; 11(2):132-136.
Roma AA, Magi-Galluzzi C and Zhou M. Differential Expression of Melanocytic Markers in Myoid, Lipomatous, and Vascular Components of Renal Angiomyolipomas. *Arch Pathol Lab Med* 2007; 131(1):122-125.
Khan MS, Iram S, O'Brien TS, et al. Renal Perivascular Epithelioid Cell-Omas'. *BJU Int* 2006; 98(6):1146-1147.
Gould Rothberg BE, Grooms MC and Dharmidharka VR. Rapid Growth of a Kidney Angiomyolipoma After Initiation of Oral Contraceptive Therapy. *Obstet Gynecol* 2006; 108(3 Pt 2):734-736.

Case No. 5, Accession No. 30115

February 2007

Alameda (Alameda County Medical Center) - Leiomyosarcoma
Fontana (Kaiser Permanente) - Leiomyosarcoma
Granada Hills - Leiomyoma
Long Beach - Degenerating leiomyoma
Long Beach (Long Beach Veterans Hospital) - Leiomyoma with degenerative changes
Los Angeles - Leiomyosarcoma
Monterey (Community Hospital of Monterey Peninsula) - Leiomyoma (2); Leiomyosarcoma (1)
Oakland - Leiomyoma sarcoma
Orange (Orange County Pathology Medical Group) - Leiomyosarcoma
Oxnard (St. John's Regional Medical Center) - Angiomyolipoma (4)
San Diego - Leiomyosarcoma, kidney rule out angiomyolipoma
San Diego (Naval Medical Center San Diego) - Leiomyosarcoma
San Diego (Scripps Health) - Leiomyosarcoma
San Diego (UCSD) - Smooth muscle tumor of uncertain malignant potential (STUMP)
San Francisco (San Francisco General Hospital) - Partially infarcted cellular leiomyoma
Santa Barbara - Leiomyoma
Santa Rosa (Santa Rosa Memorial Hospital) - Leiomyosarcoma (3)
Woodland Hills (Kaiser Permanente) - Leiomyosarcoma
Woodland Hills (Suda's Soldiers) - Leiomyosarcoma
Arkansas (University of Arkansas for Medical Sciences) - Leiomyoma, kidney
Georgia, Decatur - Leiomyosarcoma
Illinois, Burr Ridge - Leiomyoma (1); Leiomyosarcoma (1)
Illinois (Loyola University Medical Center) - Well-differentiated neuroendocrine tumor
Indiana (Howard Regional Medical Center) - Leiomyosarcoma
Maryland (Northwest Hospital Center) - Leiomyosarcoma
Maryland (University of Maryland) - Leiomyosarcoma
Massachusetts (Berkshire Medical Center) - Leiomyosarcoma
Massachusetts (Beverly Hospital) - Leiomyosarcoma
Michigan (Oakwood Hospital) - Leiomyosarcoma
Minnesota (Fairview Ridges Hospital) - Leiomyosarcoma
Nebraska (Creighton University School of Medicine) - Leiomyosarcoma
New Mexico (University of New Mexico) - Leiomyosarcoma
New York (Long Island Jewish Medical Center) - Leiomyosarcoma
New York (Nassau University Medical Center) - Leiomyosarcoma
New York (Stony Brook University Hospital) - Inflammatory (pseudotumor) myofibroblastic tumors
New York (SUNY Downstate Medical Center) - Leiomyoma
North Carolina (Mountain Area Pathology) - Angiomyolipoma (1); Leiomyoma (1)
Ohio (McCullough-Hyde Memorial Hospital) - Angiomyolipoma
Oklahoma, Tulsa - Leiomyoma

Pennsylvania (Drexel University College of Medicine) - Leiomyoma with infarction
Pennsylvania (Lehigh Valley Hospital) - Smooth muscle neoplasm favor low grade leiomyosarcoma
Pennsylvania (Magee Women's Hospital) - Mesoblastic nephroma
Pennsylvania (Mt. Nittany Medical Center) - Leiomyosarcoma
Pennsylvania (Pennsylvania Hospital Residents) - Leiomyosarcoma
Puerto Rico (University of Puerto Rico) - Leiomyosarcoma
South Dakota (University of South Dakota Residents) - Leiomyosarcoma
Tennessee, Kingsport - Leiomyosarcoma
Texas (Scott & White Memorial Hospital) - Leiomyoma
Texas, Houston - Leiomyosarcoma
Texas, Lubbock - Leiomyosarcoma
Washington (Madigan Army Medical Center) - Leiomyoma (5); Smooth muscle tumor, unknown malignant (4); Leiomyosarcoma (3)
West Virginia (Greenbrier Valley Medical Center) - Sarcomatoid renal cell carcinoma
Australia (Royal Hobart Hospital) - Leiomyosarcoma, kidney
Australia (Royal Prince Alfred Hospital) - Smooth muscle tumour of uncertain malignant potential (angiomyolipoma)
Australia (Sullivan Nicolaides Pathology) - Leiomyoma
Brazil (Laboratorio Anatomia Patologica Ecitologia) - Leiomyosarcoma, renal
Brazil, Sao Paulo - Smooth muscle tumor, leiomyosarcoma vs. angiomyolipoma vs leiomyoma
Canada (Pasqua Hospital) - Leiomyosarcoma
Canada, Saskatoon - Leiomyosarcoma
Canada (Sherbrooke University Hospital) - Angiomyolipoma with predominant leiomyomatous component
India, Karnataka - Inflammatory myofibroblastic tumor/leiomyosarcoma
Ireland (Kerry General Hospital) - Leiomyosarcoma
Jamaica (The University of West Indies) - Chronic pyelonephritis, malakoplakis, (differential diagnosis, leiomyosarcoma)
Japan (Kyoto University Hospital) - Leiomyosarcoma
Oman (Khoula Hospital) - Leiomyosarcoma
Qatar (Hamad Medical Corporation) - Leiomyoma
Saudi Arabia (King Fahad National Guard Hospital) - Leiomyoma with infarction
Saudi Arabia (Maternity and Children's Hospital) - Inflammatory myofibroblastic tumor
The Netherlands, Amstelveen - Leiomyosarcoma
United Kingdom (Oxford Study Group) - Leiomyoma

Case 5 - Diagnosis:

Leiomyosarcoma, kidney
 T-71000, M-88903

Case 5 - References:

Kendal WS. The Comparative Survival of Renal Leiomyosarcoma. *Can J Urol* 2007; 14(1):3435-3442.
 Sharma D, Pradhan S, Aryya NC, et al. Leiomyosarcoma of Kidney. A Case Report with Long Term Result After Radiotherapy and Chemotherapy. *Int Urol Nephrol* 2007.
 Kartsanis G, Douros K, Zolota V, et al. Case Report. Leiomyosarcoma of the Renal Pelvis. *Int Urol Nephrol* 2006; 38(2):211-213.
 Komiyama M. A Case of Leiomyosarcoma Involving the Renal Hilus. *Jpn J Clin Oncol* 2006; 36(2):122.

Case No. 6, Accession No. 30289

February 2007

Alameda (Alameda County Medical Center) - Multilocular cyst (cystic nephroma)
Fontana (Kaiser Permanente) - Mixed epithelial, stromal tumor of kidney
Granada Hills - Cystic nephroma
Long Beach - Benign polycystic disease
Long Beach (Long Beach Veterans Hospital) - Polycystic disease, benign
Monterey (Community Hospital of Monterey Peninsula) - Cystic nephroma
Oakland - Multicystic nephroma
Orange (Orange County Pathology Medical Group) - Cystic nephroma
Oxnard (St. John's Regional Medical Center) - Multicystic nephroma (4)
San Diego - Chronic pyelonephritis, spindle cell lesion leg. solitary fibrous tumor
San Diego (Naval Medical Center San Diego) - Cystic nephroma
San Diego (Scripps Health) - Benign multilocular cyst
San Diego (UCSD) - Cystic nephroma
San Francisco (San Francisco General Hospital) - Adult polycystic disease
Santa Barbara - Cystic nephroma

Santa Rosa (Santa Rosa Memorial Hospital) - Cystic nephroma (2); Multilocular renal cyst (cystic nephroma, "multicystic nephroma") (1)

Woodland Hills (Kaiser Permanente) - Cystic nephroma

Woodland Hills (Suda's Soldiers) - Cystic nephroma

Arkansas (University of Arkansas for Medical Sciences) - Cystic nephroma, kidney

Georgia, Decatur - Mixed epithelial and stromal tumor

Illinois, Burr Ridge - Cystic nephroma (2)

Illinois (Loyola University Medical Center) - Small cell carcinoma

Indiana (Howard Regional Medical Center) - Multicystic nephroma

Maryland (Northwest Hospital Center) - Renal cystic disease vs. cystic nephroma

Maryland (University of Maryland) - Cystic nephroma

Massachusetts (Berkshire Medical Center) - Cystic nephroma (multilocular cyst)

Massachusetts (Beverly Hospital) - Cystic kidney disease

Michigan (Oakwood Hospital) - Mixed epithelial and stromal tumor

Minnesota (Fairview Ridges Hospital) - Mixed epithelial stromal tumor of kidney

Nebraska (Creighton University School of Medicine) - Multilocular cyst (cystic nephroma)

New Mexico (University of New Mexico) - Cystic nephroma

New York (Long Island Jewish Medical Center) - Cystic nephroma

New York (Nassau University Medical Center) - Cystic nephroma

New York (Stony Brook University Hospital) - Dysplastic kidney

New York (SUNY Downstate Medical Center) - Multicystic nephroma vs. benign cystic disease

North Carolina (Mountain Area Pathology) - Multicystic nephroma (2)

Ohio (McCullough-Hyde Memorial Hospital) - Cystic nephroma

Oklahoma, Tulsa - Polycystic kidney disease

Pennsylvania (Drexel University College of Medicine) - Cystic nephroma

Pennsylvania (Lehigh Valley Hospital) - Mixed epithelial stromal tumor of kidney

Pennsylvania (Magee Women's Hospital) - Multicystic nephroma

Pennsylvania (Mt. Nittany Medical Center) - Medullary sponge kidney

Pennsylvania (Pennsylvania Hospital Residents) - Solitary multilocular cyst

Puerto Rico (University of Puerto Rico) - Cystic nephroma

South Dakota (University of South Dakota Residents) - Cystic nephroma

Tennessee, Kingsport - Multicystic nephroma (multilocular cyst)

Texas (Scott & White Memorial Hospital) - Renal multilocular cyst

Texas, Houston - Polycystic kidney disease

Texas, Lubbock - Cystic renal cell carcinoma

Washington (Madigan Army Medical Center) - Multilocular cyst (12)

West Virginia (Greenbrier Valley Medical Center) - Adult type renal polycystic disease

Australia (Royal Hobart Hospital) - Cystic nephroma

Australia (Royal Prince Alfred Hospital) - Cystic nephroma

Australia (Sullivan Nicolajides Pathology) - Multicystic nephroma

Brazil (Laboratorio Anatomia Patologica Ecitologia) - Mixed epithelial and stromal cell tumor of kidney

Brazil, Sao Paulo - Cystic nephroma

Canada (Pasqua Hospital) - Multilocular cyst

Canada, Saskatoon - Mixed epithelial and stromal tumor

Canada (Sherbrooke University Hospital) - Endometriose

India, Karnataka - Cystic nephroma

Ireland (Kerry General Hospital) - Cystic nephroma

Jamaica (The University of West Indies) - Inherited renal cystic disease VHL, type 2

Japan (Kyoto University Hospital) - Cystic nephroma

Orman (Khoula Hospital) - Cystic nephroma

Qatar (Hamad Medical Corporation) - Cystic nephroma (4); Mixed epithelial and stromal tumor (4)

Saudi Arabia (King Fahad National Guard Hospital) - Cystic nephroma

Saudi Arabia (Maternity and Children's Hospital) - Cystic nephroma

The Netherlands, Amstelveen - Multilocular cystic renal cell carcinoma

United Kingdom (Oxford Study Group) - Multicystic nephroma

Case 6 - Diagnosis:

Mixed epithelial and stromal tumor, kidney
T-71000, M-81003

Consultation: Stanford University, Richard Kempson, M.D., "Mixed Epithelial and Stromal Tumor of Kidney".

Case 6 - References:

- Bisceglia M, Galliani CA, Senger C, et al. Renal Cystic Diseases. A Review. *Adv in Anat Pathol* 2006; 13(1):26-56.
- Antic T, Perry KT, Harrison K, et al. Mixed Epithelial and Stromal Tumor of the Kidney and Cystic Nephroma Share Overlapping Features. Reappraisal of 15 Lesions. *Arch of Pathol & Lab Med* 2006; 130(1):80-85.
- Michal M, es O, Bisceglia M, et al. Mixed Epithelial and Stromal Tumors of the Kidney. A Report of 22 Cases. *Virchows Archiv* 2004; 445(4):359-367.
- Pierson CR, Schober MS, Wallis T, et al. Mixed Epithelial and Stromal Tumor of the Kidney Lacks the Genetic Alterations of Cellular Congenital Mesoblastic Nephroma. *Hum Pathol* 2001; 32(5):513-520.
- Adsay NV, Eble JN, Srigley JR, et al. Unique Identified. Mixed Epithelial and Stromal Tumor of the Kidney. *Am J of Surg Pathol* 2000; 24(7):958-970.
- Michal M and Syrucek M. Benign Mixed Epithelial and Stromal Tumor of the Kidney. *Pathol, Res & Prac* 1998; 194(6):445-448.

Case No. 7, Accession No. 30364

February 2007

- Alameda (Alameda County Medical Center) - Solitary fibrous tumor
- Fontana (Kaiser Permanente) - Solitary fibrous tumor
- Granada Hills - Sclerosing hemangioma
- Long Beach - Solitary fibrous tumor
- Long Beach (Long Beach Veterans Hospital) - Solitary fibrous tumor
- Los Angeles - Sclerosing fibrous tumor, NOS
- Monterey (Community Hospital of Monterey Peninsula) - Solitary fibrous tumor
- Oakland - Solitary fibrous tumor
- Orange (Orange County Pathology Medical Group) - Solitary fibrous tumor
- Oxnard (St. John's Regional Medical Center) - Angiomyolipoma (4)
- San Diego - Solitary fibrous tumor, kidney
- San Diego (Naval Medical Center San Diego) - Solitary fibrous tumor
- San Diego (Scripps Health) - Solitary fibrous tumor
- San Diego (UCSD) - Solitary fibrous tumor
- San Francisco (San Francisco General Hospital) - Endstage kidney with reactive fibrosis
- Santa Barbara - Solitary fibrous tumor
- Santa Rosa (Santa Rosa Memorial Hospital) - Solitary fibrous tumor (3)
- Woodland Hills (Kaiser Permanente) - Solitary fibrous tumor
- Woodland Hills (Suda's Soldiers) - Solitary fibrous tumor (amyloid in kidney)
- Arkansas (University of Arkansas for Medical Sciences) - Solitary fibrous tumor
- Georgia, Decatur - Solitary fibrous tumor
- Illinois, Burr Ridge - Solitary fibrous tumor (2)
- Illinois (Loyola University Medical Center) - Well-differentiated neuroendocrine tumor
- Indiana (Howard Regional Medical Center) - Old infarct with pseudosarcomatous reaction
- Maryland (Northwest Hospital Center) - Renomedullary interstitial cell tumor
- Maryland (University of Maryland) - Solitary fibrous tumor
- Massachusetts (Berkshire Medical Center) - Solitary fibrous tumor
- Massachusetts (Beverly Hospital) - Solitary fibrous tumor
- Michigan (Oakwood Hospital) - Solitary fibrous tumor
- Minnesota (Fairview Ridges Hospital) - Solitary fibrous tumor
- Nebraska (Creighton University School of Medicine) - Solitary fibrous tumor
- New Mexico (University of New Mexico) - Solitary fibrous tumor
- New York (Long Island Jewish Medical Center) - Solitary fibrous tumor
- New York (Nassau University Medical Center) - Solitary fibrous tumor
- New York (Stony Brook University Hospital) - Solitary fibrous tumor
- New York (SUNY Downstate Medical Center) - Solitary fibrous tumor vs. desmoplastic nests spindle cell tumor
- North Carolina (Mountain Area Pathology) - Solitary fibrous tumor (2)
- Ohio (McCullough-Hyde Memorial Hospital) - Solitary fibrous tumor
- Oklahoma, Tulsa - Renomedullary interstitial cell tumor
- Pennsylvania (Drexel University College of Medicine) - Solitary fibrous tumor
- Pennsylvania (Lehigh Valley Hospital) - Solitary fibrous tumor
- Pennsylvania (Magee Women's Hospital) - Solitary fibrous tumor
- Pennsylvania (Mt. Nittany Medical Center) - Solitary fibrous tumor
- Pennsylvania (Pennsylvania Hospital Residents) - Solitary fibrous tumor
- Puerto Rico (University of Puerto Rico) - Solitary fibrous tumor
- South Dakota (University of South Dakota Residents) - Solitary fibrous tumor
- Tennessee, Kingsport - Solitary fibrous tumor
- Texas (Scott & White Memorial Hospital) - Solitary fibrous tumor
- Texas, Houston - Inflammatory myofibroblastic pseudotumor

Texas, Lubbock - Solitary fibrous tumor
Washington (Madigan Army Medical Center) - Solitary fibrous tumor (12)
West Virginia (Greenbrier Valley Medical Center) - Solitary fibrous tumor
Australia (Royal Hobart Hospital) - Solitary fibrous tumor
Australia (Royal Prince Alfred Hospital) - Solitary fibrous tumor
Australia (Sullivan Nicolaides Pathology) - Solitary fibrous tumor
Brazil (Laboratorio Anatomia Patologica Ecitologia) - Solitary fibrous tumor of the kidney
Brazil, Sao Paulo - Solitary fibrous tumor
Canada (Pasqua Hospital) - Solitary fibrous tumor
Canada, Saskatoon - Medullary fibroma (renomedullary interstitial cell tumor)
Canada (Sherbrooke University Hospital) - Solitary fibrous tumor
India, Karnataka - Solitary fibrous tumor
Ireland (Kerry General Hospital) - Solitary fibrous tumour
Jamaica (The University of West Indies) - Chronic pyelonephritis
Japan (Kyoto University Hospital) - Solitary fibrous tumor
Oman (Khoula Hospital) - Solitary fibrous tumour
Qatar (Hamad Medical Corporation) - Solitary fibrous tumor
Saudi Arabia (King Fahad National Guard Hospital) - Inflammatory pseudotumor
Saudi Arabia (Maternity and Children's Hospital) - Kaposi sarcoma
The Netherlands, Amstelveen - Solitary fibrous tumor
United Kingdom (Oxford Study Group) - Solitary fibrous tumor

Case 7 – Diagnosis:

Solitary fibrous tumor, kidney
 T-71000, M-90510

Case 7 – References:

Gengler C and Guillou L. Solitary Fibrous Tumour and Haemangiopericytoma. Evolution of a Concept. *Histopathol* 2006; 48(1):63-74.
 Fine SW, McCarthy DM, Chan TY, et al. Malignant Solitary Fibrous Tumor of the Kidney. A Report of a Case and Comprehensive Review of the Literature. *Arch Pathol Lab Ed* 2006; 130(6):857-861.
 Kohl SK, Mathews K and Baker J. Renal Hilar Mass in an 85-Year-Old Woman. Solitary Fibrous Tumor. *Arch Pathol Lab Med* 2006; 130(1):117-119.
 Yamaguchi T, Takimoto T, Yamashita T, et al. Fat-Containing Variant of Solitary Fibrous Tumor (Lipomatous Hemangiopericytoma) Arising on Surface of Kidney. *Urol* 2005; 65(1):175.
 Wang J, Arber DA, Frankel K, et al. Large Solitary Fibrous Tumor of the Kidney. Report of Two Cases and Review of the Literature. *Am J Surg Pathol* 2001; 25(9):1194-1199.

Case No. 8, Accession No. 30290

February 2007

Alameda (Alameda County Medical Center) - Primitive neuroectodermal tumor
Fontana (Kaiser Permanente) - Ewing sarcoma/PNET
Granada Hills - Sarcomatoid renal cell carcinoma
Long Beach - Adults Wilms' tumor
Long Beach (Long Beach Veterans Hospital) - Adult Wilms' tumor (2); Mesoblastic nephroma (1)
Los Angeles - Primitive neuroectodermal tumor
Monterey (Community Hospital of Monterey Peninsula) - Synovial sarcoma
Oakland - Primitive neuroectodermal tumor vs. rhabdomyosarcoma
Orange (Orange County Pathology Medical Group) - Synovial sarcoma
Oxnard (St. John's Regional Medical Center) - Leiomyosarcoma (4)
San Diego - Small blue cell tumor (metanephric stromal tumor vs. mesoplastic nephroma)
San Diego (Naval Medical Center San Diego) - Small round blue cell tumor; Ewings sarcoma (3); Wilms' tumor (1)
San Diego (Scripps Health) - Monophasic synovial sarcoma
San Diego (UCSD) - Primitive neuroectodermal tumor (PNET)
San Francisco (San Francisco General Hospital) - Adult Wilms' tumor
Santa Barbara - Leiomyosarcoma
Santa Rosa (Santa Rosa Memorial Hospital) - Ewing's sarcoma (PNET) (1); Primitive neuroectodermal tumor (2)
Woodland Hills (Kaiser Permanente) - Primitive neuroectodermal tumor/Ewing's sarcoma
Woodland Hills (Suda's Soldiers) - Primitive neuroectodermal tumor
Arkansas (University of Arkansas for Medical Sciences) - Synovial sarcoma, kidney
Georgia, Decatur - Suggestive of metastatic endometrial stromal sarcoma

Illinois, Burr Ridge - Primitive neuroectodermal tumor (1); Synovial sarcoma (1)
Illinois (Loyola University Medical Center) - Pheochromocytoma
Indiana (Howard Regional Medical Center) - Solitary fibrous tumor
Maryland (Northwest Hospital Center) - Primitive neuroectodermal tumor
Maryland (University of Maryland) - Solitary fibrous tumor, malignant
Massachusetts (Berkshire Medical Center) - Wilms' tumor, blastema predominant (vs. endometrial stromal sarcoma vs. metanephric stromal tumor vs. monophasic synovial sarcoma)
Massachusetts (Beverly Hospital) - Primitive neuroectodermal tumor
Michigan (Oakwood Hospital) - Sarcoma, favor monophasic synovial sarcoma
Minnesota (Fairview Ridges Hospital) - Synovial sarcoma
Nebraska (Creighton University School of Medicine) - Undifferentiated neoplasm (probably sarcoma)
New Mexico (University of New Mexico) - Synovial sarcoma
New York (Long Island Jewish Medical Center) - Monophasic synovial sarcoma
New York (Nassau University Medical Center) - Primitive neuroectodermal tumor
New York (Stony Brook University Hospital) - Synovial sarcoma
New York (SUNY Downstate Medical Center) - Monophasic synovial sarcoma vs. endometrial stromal sarcoma
North Carolina (Mountain Area Pathology) - Cellular mesoblastic nephroma (2)
Ohio (McCullough-Hyde Memorial Hospital) - Synovial sarcoma
Oklahoma, Tulsa - Primitive neuroectodermal tumor/Ewing's
Pennsylvania (Drexel University College of Medicine) - Synovial sarcoma
Pennsylvania (Lehigh Valley Hospital) - Monophasic synovial sarcoma
Pennsylvania (Magee Women's Hospital) - Blastema dominant Wilms' tumor
Pennsylvania (Mt. Nittany Medical Center) - Primitive neuroectodermal tumor
Pennsylvania (Pennsylvania Hospital Residents) - Spindle cell sarcoma
Puerto Rico (University of Puerto Rico) - Endometrial stromal sarcoma
South Dakota (University of South Dakota Residents) - PNET
Tennessee, Kingsport - Metastatic endometrial stromal sarcoma
Texas (Scott & White Memorial Hospital) - Monophasic synovial sarcoma
Texas, Houston - Spindle cell neoplasm
Texas, Lubbock - Sarcomatoid renal cell carcinoma
Washington (Madigan Army Medical Center) - Synovial sarcoma (12)
West Virginia (Greenbrier Valley Medical Center) - Fibrosarcoma
Australia (Royal Hobart Hospital) - Monophasic synovial sarcoma
Australia (Royal Prince Alfred Hospital) - Monophasic synovial sarcoma
Australia (Sullivan Nicolaides Pathology) - Synovial sarcoma
Brazil (Laboratorio Anatomia Patologica Ecitologia) - Monophasic synovial sarcoma of the kidney
Brazil, Sao Paulo - Stromal endometrial sarcoma; DDX: Synovial sarcoma
Canada (Pasqua Hospital) - Synovial sarcoma
Canada, Saskatoon - Endometrial stromal sarcoma metastatic to the kidney
Canada (Sherbrooke University Hospital) - High grade sarcoma (synovial sarcoma)
India, Karnataka - Primitive synovial sarcoma, kidney
Ireland (Kerry General Hospital) - Primitive neuroectodermal tumour
Jamaica (The University of West Indies) - Cellular mesoblastic nephroma (adult) vs. solitary fibroid tumour, MEST
Japan (Kyoto University Hospital) - Synovial sarcoma
Oman (Khoula Hospital) - Synovial sarcoma
Qatar (Hamad Medical Corporation) - Synovial sarcoma (4); Leiomyosarcoma (4)
Saudi Arabia (King Fahad National Guard Hospital) - Monophasic synovial sarcoma
Saudi Arabia (Maternity and Children's Hospital) - Primitive neuroectodermal tumor
The Netherlands, Amstelveen - Stromal cell sarcoma
United Kingdom (Oxford Study Group) - Synovial sarcoma

Case 8 - Diagnosis:

High grade sarcoma (NOS), kidney
 T-71000, M-88103

Directors Note: "Tumor has striking similarity to monophasic synovial sarcoma, but is keratin negative. Molecular studies were not done." (drc)

Consultation: Stanford University, Anne E. Drejet, M.D., "High Grade Sarcoma, NOS"

Case 8 - References:

- Dotan ZA, Tal R, Golijanin D, Snyder ME, et al. Adult Genitourinary Sarcoma. The 25-Year Memorial Sloan-Kettering Experience. *J Urol* 2006; 176(5):2033-2038.
- Dall'Oglio MF, Lieberknecht M, Gouveia V, et al. Sarcomatoid Differentiation in Renal Cell Carcinoma. Prognostic Implications. *Int Braz J Urol* 2005; 31(1):10-16.
- Deyrup AT, Montgomery E and Fisher C. Leiomyosarcoma of the Kidney. A Clinicopathologic Study. *Am J Surg Pathol* 2004; 28(2):178-182.
- Chen PC, Chang YH, Yen CC, et al. Primary Renal Synovial Sarcoma with Inferior Vena Cava and Right Atrium Invasion. *Int J Urol* 2003; 10(12):657-660.

Case No. 9, Accession No. 30185

February 2007

- Alameda (Alameda County Medical Center) - Renal cell carcinoma
- Fontana (Kaiser Permanente) - Renal cell carcinoma, chromophobe type
- Granada Hills - Oncocytoma
- Long Beach - Oncocytoma
- Long Beach (Long Beach Veterans Hospital) - Oncocytic neoplasm, favor oncocytoma
- Los Angeles - Oncocytoma
- Monterey (Community Hospital of Monterey Peninsula) - Papillary renal cell carcinoma
- Oakland - Oncocytoma
- Orange (Orange County Pathology Medical Group) - Oncocytoma
- Oxnard (St. John's Regional Medical Center) - Renal cell carcinoma (4)
- San Diego - Oncocytoma vs. renal cell carcinoma
- San Diego (Naval Medical Center San Diego) - Papillary renal cell carcinoma
- San Diego (Scripps Health) - Renal cell carcinoma, papillary type
- San Diego (UCSD) - Papillary renal cell carcinoma, type 2
- San Francisco (San Francisco General Hospital) - Eosinophilic chromophobe renal carcinoma
- Santa Barbara - Oncocytoma
- Santa Rosa (Santa Rosa Memorial Hospital) - Oncocytoma (3)
- Woodland Hills (Kaiser Permanente) - Oncocytoma
- Woodland Hills (Suda's Soldiers) - Oncocytoma
- Arkansas (University of Arkansas for Medical Sciences) - Oncocytoma, kidney
- Georgia, Decatur - Tubulocystic carcinoid
- Illinois, Burr Ridge - Papillary carcinoma (2)
- Illinois (Loyola University Medical Center) - Paraganglioma
- Indiana (Howard Regional Medical Center) - Papillary renal carcinoma
- Maryland (Northwest Hospital Center) - Papillary renal cell carcinoma
- Maryland (University of Maryland) - Papillary renal cell carcinoma, oncocytic variant
- Massachusetts (Beverly Hospital) - Renal oncocytoma
- Michigan (Oakwood Hospital) - Renal cell carcinoma, clear cell type
- Minnesota (Fairview Ridges Hospital) - Renal cell carcinoma, papillary
- Nebraska (Creighton University School of Medicine) - Renal cell carcinoma, oncocytic type
- New Mexico (University of New Mexico) - Renal cell carcinoma, clear cell or classical type
- New York (Long Island Jewish Medical Center) - Chromophobe renal cell carcinoma, eosinophilic variant
- New York (Nassau University Medical Center) - Renal cell carcinoma
- New York (Stony Brook University Hospital) - Oncocytoma
- New York (SUNY Downstate Medical Center) - Papillary renal carcinoma, type II vs. renal oncocytoma
- North Carolina (Mountain Area Pathology) - Oncocytoma (2)
- Ohio (McCullough-Hyde Memorial Hospital) - Oncocytoma
- Oklahoma, Tulsa - Renal cell carcinoma, granular cell type
- Pennsylvania (Drexel University College of Medicine) - Renal cell papillary carcinoma, oncocytic type
- Pennsylvania (Lehigh Valley Hospital) - Oncocytoma
- Pennsylvania (Magee Women's Hospital) - Oncocytoma
- Pennsylvania (Mt. Nittany Medical Center) - Oncocytoma with hemorrhage
- Pennsylvania (Pennsylvania Hospital Residents) - Papillary renal cell carcinoma
- Puerto Rico (University of Puerto Rico) - Papillary renal cell carcinoma
- South Dakota (University of South Dakota Residents) - Oncocytoma
- Tennessee, Kingsport - Oncocytoma
- Texas (Scott & White Memorial Hospital) - Oncocytoma
- Texas, Houston - Renal cell carcinoma
- Texas, Lubbock - Renal cell carcinoma, oncocytic type
- Washington (Madigan Army Medical Center) - Papillary renal cell (10); Oncocytoma (2)
- West Virginia (Greenbrier Valley Medical Center) - Chromophobe renal cell carcinoma

Australia (Royal Hobart Hospital) - Papillary renal cell carcinoma, type 2
Australia (Royal Prince Alfred Hospital) - Papillary renal cell carcinoma
Australia (Sullivan Nicolaides Pathology) - Renal oncocytoma
Brazil (Laboratorio Anatomia Patologica Ecitologia) - Papillary renal cell carcinoma, type 2
Brazil, Sao Paulo - Renal cell carcinoma, type 2 /papillary variant
Canada (Pasqua Hospital) - Papillary renal cell carcinoma
Canada, Saskatoon - Hemangioma
Canada (Sherbrooke University Hospital) - Oncocytoma
India, Karnataka - Papillary renal cell carcinoma
Ireland (Kerry General Hospital) - Papillary renal cell carcinoma, type 2
Jamaica (The University of West Indies) - Papillary renal cell carcinoma
Japan (Kyoto University Hospital) - Oncocytoma
Oman (Khoula Hospital) - Oncocytoma
Qatar (Hamad Medical Corporation) - Renal cell carcinoma
Saudi Arabia (King Fahad National Guard Hospital) - Papillary renal cell carcinoma
Saudi Arabia (Maternity and Children's Hospital) - Oncocytoma
The Netherlands, Amstelveen - Oncocytoma
United Kingdom (Oxford Study Group) - Oncocytoma

Case 9 – Diagnosis:

Renal cell carcinoma with papillary and tubulocystic features, kidney
T-71000, M-83123

Case 9 – References:

Mizutani Y, Nakanishi H, Li YN, et al. Overexpression of XIAP Expression in Renal Cell Carcinoma Predicts a Worse Prognosis. *Int J Oncol* 2007; 30(4):919-925.
 Antonelli A, Cozzoli A, Zani D, et al. The Follow-Up Management of Non-Metastatic Renal Cell Carcinoma. Definition of a Surveillance Protocol. *BJU Int* 2007; 99(2):296-300.
 MacLennan GT and Bostwick DG. Tubulocystic Carcinoma, Mucinous Tubular and Spindle Cell Carcinoma and Other Recently Described Rare Renal Tumors. *Clin in Lab Med* 2005; 25(2):393-416.

Case No. 10, Accession No. 30233

February 2007

Alameda (Alameda County Medical Center) - Collecting duct carcinoma
Fontana (Kaiser Permanente) - Mucinous tubular and spindle cell carcinoma of kidney
Granada Hills - Collecting duct carcinoma
Long Beach - Invasive urothelial carcinoma, high grade
Long Beach (Long Beach Veterans Hospital) - Collecting duct carcinoma (2); High grade transitional (urothelial) carcinoma (1)
Los Angeles - Carcinosarcoma
Monterey (Community Hospital of Monterey Peninsula) - Urothelial cell carcinoma (2); Carcinoma of collecting duct of Bellini (1)
Oakland - Alveolar rhabdomyosarcoma
Orange (Orange County Pathology Medical Group) - Invasive high grade urothelial carcinoma
Oxnard (St. John's Regional Medical Center) - Sarcomatoid carcinoma (1); Collecting duct carcinoma (3)
San Diego - Renal cell carcinoma, collecting duct type
San Diego (Naval Medical Center San Diego) - Transitional cell carcinoma of the renal pelvis
San Diego (Scripps Health) - Collecting duct carcinoma
San Diego (UCSD) - Collecting duct carcinoma
San Francisco (San Francisco General Hospital) - Collecting duct carcinoma
Santa Barbara - Collecting duct renal cell carcinoma
Santa Rosa (Santa Rosa Memorial Hospital) - Transitional cell carcinoma (2); Urothelial carcinoma, invading kidney (1)
Woodland Hills (Kaiser Permanente) - Sarcomatoid renal cell carcinoma
Woodland Hills (Suda's Soldiers) - Synovial sarcoma vs. collecting duct carcinoma
Arkansas (University of Arkansas for Medical Sciences) - Collecting duct carcinoma, kidney
Georgia, Decatur - Collecting duct carcinoma
Illinois, Burr Ridge - Collecting duct carcinoma (1); Mucinous tubular and spindle cell carcinoma (1)
Illinois (Loyola University Medical Center) - Merkel cell tumor
Maryland (Northwest Hospital Center) - Collecting duct tumor
Maryland (University of Maryland) - Collecting duct carcinoma
Massachusetts (Beverly Hospital) - Collecting duct renal cell carcinoma
Michigan (Oakwood Hospital) - Invasive urothelial carcinoma, high grade
Minnesota (Fairview Ridges Hospital) - Collecting duct carcinoma

Nebraska (Creighton University School of Medicine) - Collecting duct carcinoma
New Mexico (University of New Mexico) - Carcinoma of the collecting ducts of Bellini
New York (Long Island Jewish Medical Center) - Carcinoma of the collecting duct of Bellini
New York (Nassau University Medical Center) - Urothelial carcinoma, high grade, invasive
New York (Stony Brook University Hospital) - Carcinoma of the collecting ducts of Bellini
New York (SUNY Downstate Medical Center) - Angiosarcoma vs. collecting duct carcinoma
North Carolina (Mountain Area Pathology) - Collecting duct carcinoma (2)
Ohio (McCullough-Hyde Memorial Hospital) - Collecting duct renal cell carcinoma
Oklahoma, Tulsa - Urothelial carcinoma, high grade
Pennsylvania (Drexel University College of Medicine) - Mucinous tubular spindle cell carcinoma
Pennsylvania (Lehigh Valley Hospital) - Collecting duct carcinoma
Pennsylvania (Magee Women's Hospital) - Sarcomatoid variant of transitional cell carcinoma
Pennsylvania (Mt. Nittany Medical Center) - Xanthogranulomatous pyelonephritis
Pennsylvania (Pennsylvania Hospital Residents) - Collecting duct carcinoma
Puerto Rico (University of Puerto Rico) - Collecting duct carcinoma
South Dakota (University of South Dakota Residents) - Collecting duct carcinoma
Tennessee, Kingsport - Collecting duct carcinoma
Texas (Scott & White Memorial Hospital) - Mucinous tubular and spindle cell carcinoma
Texas, Houston - Sarcomatoid renal cell carcinoma
Texas, Lubbock - High grade urothelial carcinoma
Washington (Madigan Army Medical Center) - Collecting duct carcinoma (12)
West Virginia (Greenbrier Valley Medical Center) - Collecting duct renal cell carcinoma
Australia (Royal Hobart Hospital) - High grade invasive urothelial carcinoma
Australia (Royal Prince Alfred Hospital) - Invasive urothelial carcinoma
Australia (Sullivan Nicolaides Pathology) - Collecting duct carcinoma
Brazil (Laboratorio Anatomia Patologica Ecitologia) - High grade urothelial carcinoma
Brazil, Sao Paulo - High grade urothelial carcinoma vs. carcinoma of the collecting ducts
Canada (Pasqua Hospital) - Urothelial carcinoma
Canada, Saskatoon - Collecting duct renal cell carcinoma
Canada (Sherbrooke University Hospital) - Collecting duct carcinoma
India, Karnataka - Urothelial carcinoma renal pelvis
Ireland (Kerry General Hospital) - Collecting duct carcinoma
Jamaica (The University of West Indies) - Collecting duct carcinoma
Japan (Kyoto University Hospital) - Collecting duct carcinoma
Oman (Khoula Hospital) - Infiltrating urothelial carcinoma, high grade
Qatar (Hamad Medical Corporation) - Collecting duct carcinoma
Saudi Arabia (King Fahad National Guard Hospital) - Collecting duct carcinoma
Saudi Arabia (Maternity and Children's Hospital) - Metanephric adenosarcoma
The Netherlands, Amstelveen - Collecting duct carcinoma
United Kingdom (Oxford Study Group) - Collecting duct carcinoma

Case 10 - Diagnosis:

Collecting duct carcinoma, kidney
 T-71000, M-83123

Case 10 - References:

- Swartz MA, Karth J, Schneider DT, et al. Renal Medullary Carcinoma. Clinical, Pathologic, Immunohistochemical and Genetic Analysis with Pathogenetic Implications. *Urol* 2002; 60(6):1083-1089.
 Steele EL and MacLennan GT. Renal Medullary Carcinoma. *J of Urol* 2005; 174(4 Pt 1):1449.
 Assad L, Resetkova E, Oliveira VL, et al. Cytologic Features of Renal Medullary Carcinoma. *Cancer* 2005; 105(1):28-34.
 Vargas-Gonzalez R, Sotelo-Avila C and Coria AS. Renal Medullary Carcinoma in A Six-Year-Old Boy with Sickle Cell Trait. *Pathol Oncol Res* 2003; 9(3):193-195.
 Peyromaure M, Thiounn N, Scotte F, et al. Collecting Duct Carcinoma of the Kidney. A Clinicopathological Study of 9 Cases. *J of Urol* 2003; 170(4 Pt 1):1138-1140.
 Polascik TJ, Bostwick DG and Cairns P. Molecular Genetics and Histopathologic Features of Adult Distal Nephron Tumors. *Urol* 2002; 60(6):941-946.