

**Kidney Case 1**  
**SURGICAL PATHOLOGY REPORT**

Surgical Pathology Report  
February 9, 2007

**Clinical History:**

This 45 year old woman was found to have a left renal mass. CT urography with reconstruction revealed a 2 cm medial mass which appears to be posterior to the renal pelvis probably in the renal sinus. Diagnosis: Left renal mass in left renal sinus - renal cell carcinoma, size 2 cm in diameter.

**Specimen:**

Mass – left renal mass

**Gross Description:**

Received in formalin is an ovoid encapsulated nodule, which measures 2 cm in greatest diameter with cystic consistency. The capsule is intact and the cut surface reveals solid granular reddish brown tissue. The entire specimen is submitted in 2 blocks.

**Final Diagnosis:**

Renal cell carcinoma, papillary and clear cell type, left kidney, laparoscopic resection. Tumor measures 2 cm in diameter and is encapsulated. Tumor has nuclear grade II/IV.

**END Kidney Case 1**

**Kidney Case 2**  
**SURGICAL PATHOLOGY REPORT**

Surgical Pathology Report  
November 3, 2007

Clinical History: This is a 59 year old male who was found to have an enlarging exophytic, solid left renal mass. It has grown from 2 to 3 cm over the last six months. He is here for laparoscopic partial nephrectomy.

Specimen:  
Kidney partial nephrectomy, left

Gross Description:  
The specimen is a segment of kidney weighing 10 grams and measuring 4.5 x 3 x 3 cm. Capsule is not intact. There is a bulging tumor mass on the surface measuring 2.5 cm in diameter. It is torn in several places. Cut surfaces have a hemorrhagic appearance.

Microscopic Description:  
Sections of the kidney reveal an encapsulated neoplasm with a torn capsule. It consists of nests of clear cells mixed with fusiform cells. The approximate component of clear cells is 30%. Nuclei are of different sizes and contain prominent nucleoli. A few mitotic figures are present. There are foci of hemorrhage. The renal parenchyma adjacent to the tumor has a normal appearance. The renal margins of resection are free of neoplasm. Vascular invasion is not identified.

Final Diagnosis:  
Portion of left kidney (partial nephrectomy) showing renal cell carcinoma, sarcomatoid type with a 30% component of clear cell type  
Tumor Size: 2.5 cm in diameter.  
Nuclear Grade: 3  
Tumor is confined to the kidney  
Vascular invasion is not identified  
The renal margins of resection are free of neoplasm  
Invasion beyond the capsule cannot be assessed due to fragmented nature of the tumor in the specimen.  
AJCC stage: pT1a pNx pMx

**END Kidney Case 2**

**Kidney Case 3**  
**SURGICAL PATHOLOGY REPORT**

Surgical Pathology Report  
March 6, 2007

Clinical History: Patient is a 45 year old African-American male known to the urology service with history of right partial nephrectomy in January 2007. This was a right-sided cystic renal mass. Partial nephrectomy showed a cystic renal cell carcinoma, clear cell type, nuclear grade I, and 1.8 x 1.6 x 1.1 cm in size. The surgical margins were negative at that time. Patient also has a solid left renal mass with encroachment to the renal sinus and renal pelvis and is here for definitive renal surgery.

Specimen: Left kidney

Gross Description:

Specimen is received fresh labeled with the patient's identification and "left kidney". It consists of one kidney and attached perirenal fat measuring 18.3 x 10.9 x 4.0 cm and weighing 405.7 grams. The capsule of the kidney is smooth and unremarkable. Sectioning reveals a round, well-circumscribed, encapsulated mass measuring 4.3 x 3.8 x 3.2 cm. The mass is surrounded by a white-tan capsule which measures 0.1 cm in thickness. The cut surface of this mass is tan-pink and soft with minimal hemorrhage, but no necrosis. The tumor is located in the superior pole of the kidney and grossly does not appear to involve the ureter or renal pelvis. The mass grossly appears to abut, but not extend through the renal capsule. The uninvolved kidney cortex is brown-pink, smooth, and unremarkable with no lesions. The medulla is light pink-white-tan and also unremarkable. The cortex measures 0.6 cm in average thickness. The adrenal gland is not identified.

Final Diagnosis:

Left kidney, nephrectomy: Renal cell carcinoma

Tumor size: 4.3 x 3.8 x 3.2 cm

Confined within kidney: Yes

Extends to margin of perinephric fat: No

Histologic Information: Renal cell carcinoma

Subtype: Clear cell (non-papillary)

Grade: 2

Perinephric fat penetration: No

Renal vein spread: No

Surgical margins: Free of tumor

Lymph Node Metastases: Not applicable

**END Kidney Case 3**

**Kidney Case 4**  
**SURGICAL PATHOLOGY REPORT**

Surgical Pathology Report  
August 14, 2007

**Final Diagnosis:**

Left kidney, radical nephrectomy: renal cell carcinoma with the following features:

Size of tumor: 11.8 x 7.2 x 6.8 cm

Location: Tumor in the central region

Tumor Architecture: Alveolar and acinar

Cell Type: Clear

Fuhrman Nuclear Grade: 3/4

Local invasion: Tumor is confined within the renal capsule. No definite renal vein invasion noted; angiolymphatic tumor invasion identified. Satellite focus of tumor at ureteropelvic junction

Surgical Margins: All surgical margins are free of tumor.

Ureter with hydronephrosis

Tumor and non-neoplastic kidney with necrosis

Adrenal gland showing no significant changes

Left periaortic lymph node: benign lymph node with hyperplastic features

Left periaortic lymph node chain: four benign lymph nodes with hyperplastic features

**END Kidney Case 4**

**Kidney Case 5**  
**SURGICAL PATHOLOGY REPORT**

Surgical Pathology Report  
May 16, 2007

Clinical History: This is a 3-year-old Caucasian male, who was diagnosed with Wilms tumor; stage V in February 2007. He is status post radical right nephrectomy at that time with 3 months of postoperative chemotherapy. Follow-up scans have revealed that the patient has had a stable hypodense mass in the posterior mid pole of the left kidney consistent with his known Wilms tumor, and has not completely responded to chemotherapy. Thus, he presents for a partial left nephrectomy for resection of this mass.

Specimen: Left partial nephrectomy

Gross Description:

Specimen A is received fresh for frozen section labeled "Left partial nephrectomy" and consists of one ovoid gray-tan piece of cortical kidney, measuring 2.5 x 2.1 x 0.9 cm, with an attached yellow-pink piece of perirenal fat. The cut surface reveals a circumscribed homogenous mass measuring 1.6 x 1.5 x 1.2 cm which grossly abuts the surgical margin. The surgical margin is inked black and representative sections are frozen. The remainder of the specimen is submitted in toto for permanent sections.

Final Diagnosis:

Left kidney, left partial nephrectomy: Wilms tumor. Resection margin is negative.

**END Kidney Case 5**

**Kidney Case 6**  
**SURGICAL PATHOLOGY REPORT**

Surgical Pathology Report  
May 21, 2007

Clinical History: left lower pole renal mass

Final Diagnosis:

Left Kidney, lower pole mass, wedge resection: Renal cell carcinoma

Tumor Size: 2.1 cm.

Architecture:

    Dominant Pattern: solid

    Minor Pattern: papillary

Fuhrman nuclear grade: Grade III of IV

Angiolymphatic Space Invasion: Not identified

Extension: Carcinoma confined to the renal parenchyma without extension through the renal capsule. Tumor capsule extends focally to inked excision margin. Also present is associated fibrofatty connective tissue with no identifiable lymph nodes and no evidence of malignancy.

**END Kidney Case 6**

**Kidney Case 7**  
**SURGICAL PATHOLOGY REPORT**

Surgical Pathology Report  
September 1, 2007

Final Diagnosis:

Left Kidney – radical nephrectomy

Multifocal renal cell carcinoma: Clear cell (conventional) type, with sarcomatoid features

Fuhrman Grade 4/4

Tumor Size: 7.8 cm

Multifocal with satellite nodules up to 1.1 cm

Extension: Carcinoma focally extends through renal capsule into perinephric adipose tissue at hilum. Large-vessel venous invasion present.

Margins: Carcinoma is present at soft tissue surgical margin adjacent to hilar vessel

No adrenal gland identified

Left Tibia, Biopsy: Clear cell carcinoma, consistent with metastasis from the patient's known renal cell carcinoma primary.

**END Kidney Case 7**

**Kidney Case 8**  
**SURGICAL PATHOLOGY REPORT**

Surgical Pathology Report  
August 8, 2007

Specimen Type: Right radical nephrectomy

Specimen is received fresh for frozen section, subsequently fixed in formalin, labeled with the patient's identification and 'right kidney'. It consists of one kidney measuring 1.5 cm from superior to inferior, 6.2 cm from medial to lateral, and 3.3 cm from anterior to posterior, and weighing 175.2 grams. The anterior aspect of the superior pole of the specimen displays an ill defined fungating lesion measuring 3.5 x 2.4 cm in greatest dimensions. The renal capsule is smooth and normally granular.

Microscopic:

Histologic Type: Papillary renal cell carcinoma, solid variant.

Histologic Grade (Fuhrman Nuclear Grade): G3

Pathologic Staging: pT1a – Tumor 4 cm or less in greatest dimension, limited to the kidney

Regional Lymph Nodes: pNX – Cannot be assessed

Distant Metastasis: pMX – Cannot be assessed

Margins: Margins uninvolved by invasive carcinoma

Venous (Large Vessel) Invasion: Absent

Lymphatic (Small Vessel) Invasion: Absent

Final Diagnosis:

Right kidney, biopsy: Renal epithelial neoplasm

Right kidney, total nephrectomy: Residual renal cell carcinoma, papillary type, solid variant

**END Kidney Case 8**



**Kidney Case 9**  
**SURGICAL PATHOLOGY REPORT**

Surgical Pathology Report  
June 4, 2007

Specimen: Left renal mass

**Gross Description:**

Received is a specimen labeled "left renal mass" and consisting of a portion of renal parenchyma measuring 4 x 5 x 4 cm. Noted on the surface is a 2.6 x 2.4-cm whitish mass. The renal parenchyma surface is inked black. This specimen is serially sectioned revealing a cystic lesion that is at least 1 mm. from the nephrectomy margin.

**Intraoperative Diagnosis:**

Kidney, left, partial nephrectomy: Renal cell carcinoma, margins negative.

**Final Diagnosis:**

Kidney, left, partial nephrectomy: Mucinous, tubular and spindle cell carcinoma, forming a 2.6-cm mass. Margins of excision are negative.

**Comments:**

This case was sent in consultation to concur with the above diagnosis which is a newly described kidney carcinoma of low grade. Immunohistochemical stains are performed but show the tumor cells are positive for several epithelial markers including CAM5.2, CK7 and keratin AE1/AE3. They are negative for synaptophysin and chromogranin. The remaining markers tested were non-contributory.

**END Kidney Case 9**