



LABORATORY MEDICINE PROGRAM

ICD-0-3

Carcinoma, Adrenal Cortical  
8370/3  
Site: (B) Adrenal Gland, Cortex  
0740

Surgical Pathology Consultation Report

9/10/13

Patient Name:

MRN:

DOB:

Gender:

HCN:

Ordering MD:

Copy To:

Service:

Visit #:

Location:

Facility:

Accession #:

Collected:

Received:

Reported:

**Specimen(s) Received**

1. Adrenal: ADRENAL MASS WITH ADRENAL GLAND
2. Gallbladder
3. Surgical Waste
4. Liver: Liver segment 5

**Diagnosis**

1. Angioinvasive low grade adrenal cortical carcinoma, 10.0 cm: Adrenal (side not specified) adrenalectomy specimen. See Comment and Microscopic Description.
2. No pathological diagnosis: Gallbladder, cholecystectomy specimen.
3. No pathological diagnosis: Fibroadipose tissue, (site listed as "surgical waste") excision.
4. Focal nodular hyperplasia; no evidence of metastatic disease; macrovesicular steatosis (10%): Liver (segment 5), segmentectomy specimen. See Microscopic Description.

**Comment**

The mitotic activity is very low (2/50HPF); the presence of angioinvasion, atypical mitosis, increased p53 expression (15%), paucity of clear cells and diffuse architecture are consistent with an angioinvasive low grade adrenal cortical carcinoma.

The adrenal tumor has been seen in consultation with  
and diagnosis.

and they agree with the interpretation

**Synoptic Data**

Tumor Site:	Adrenal structure
Adrenal Gland Received:	Fresh
Procedure:	Adrenalectomy, total
Specimen Integrity:	Intact
Specimen Size:	Greatest dimension: 11.5 cm
	Additional dimension: 8.2 cm
	Additional dimension: 5.8 cm
Specimen Laterality:	Other: Right side based on imaging
Tumor Size:	Greatest dimension: 10.0 cm
	Additional dimension: 5.7 cm
	Additional dimension: 5.2 cm

## Surgical Pathology Consultation Report

Histologic Type:	Tumor gland weight: 156 g
Margins:	Adrenal cortical carcinoma
Tumor Description:	Margins uninvolved by tumor
Lymph-Vascular Invasion:	Invasion, Vessels
Perineural Invasion:	Present
Lymph Nodes, Extranodal Extension:	Not identified
TNM Descriptors:	Not applicable
Primary Tumor (pT):	pT2: Tumor greater than 5 cm, no extra-adrenal invasion
Regional Lymph Nodes (pN):	pNX: Cannot be assessed
	Number of Nodes examined: 0
	Number of Nodes involved: 0
Distant Metastasis (pM):	Not applicable
Additional Pathologic Findings:	Degenerative changes, Hemorrhage
	Other: Nontumorous adrenal with lipid depletion consistent with stress effect.
	Liver segment 5 resection with focal nodular hyperplasia.

\*Pathologic Staging is based on AJCC/UICC TNM, 7th Edition

Electronically verified by:

### Gross Description

1. The specimen labeled with the patient's name and as "adrenal mass with adrenal gland", contains a tan fatty grossly enlarged adrenal gland which is received fresh. The specimen weighs 290.9 g in the fresh state. The specimen has overall measurements of 11.5 x 8.2 x 5.8 cm. The surrounding fat is removed and the adrenal gland weighs 156 g. At specimen preparation, the specimen has not been painted prior to sectioning. Sectioning of the specimen reveals a distorted tan-yellow adrenal gland measuring 10.0 x 7.0 x 5.2 cm. Adjacent to the adrenal gland is a solid and partially cystic tan hemorrhagic mass which measures 10.0 x 5.7 x 5.2 cm. There is a tan-white fibrous capsule over the surface of the mass measuring 0.1 cm in thickness. Photographs are taken. Representative tissue is submitted frozen. Representative tissue is submitted for electron microscopy.

1A-T multiple representative sections of mass including adrenal gland and capsule

Additional blocks

1U- 1AL additional representative sections of the mass

2. The specimen labeled with the patient's name and as "gallbladder", contains a gallbladder that is unremarkable. It measures 6.0 cm long, with an open circumference of 4.8 cm, and an average wall thickness of 0.2 cm. It contains green bile, no gallstones are grossly identified. The duct is patent. The cystic duct lymph node is not grossly identified.

2A representative sections submitted

3. The specimen labeled with the patient's name and as "surgical waste", contains 1 piece of tissue in 10% buffered formalin. The tissue consists of a fragment of adipose measuring 4.5 x 4.0 x 2.0 cm. No gross abnormalities are identified.

3A -3B representative sections submitted

4. The specimen container is received labeled with the patient's name and as "liver segment 5". The specimen consists of a segment of liver, received fresh with a weight of 132.2 g. The capsule is pale tan and smooth except for two areas, a linear area defect measuring 5-cm length which is consistent with cautery and a dark tan spot on the surface measuring 1.2 cm diameter which is adjacent to the tumor mass. The surgical excision margin is painted with green ink. The cut surface demonstrates a single tan fibrotic mass as follows:

Nodule #1. 1.8 x 1.0 x 0.9 cm: Distance from margin: 1.1 cm

There is no large vessel invasion or extrahepatic extension. The hilar vessels and ducts, and the hepatic vein outflow tracts cannot be identified. There is no gallbladder grossly identified.

## Surgical Pathology Consultation Report

Representative tissue is stored frozen

Photographs are taken.

Representative sections:

4A Mass with inked excision margin

4B-4C further representative sections of mass

4D section a cauterized capsular surface

4E representative section of background liver away from mass.

ADDITIONAL BLOCKS:

4F-4H remainder of the mass and liver directly adjacent to mass submitted in toto.

### Microscopic Description

1. The tumor is an encapsulated 10.0 cm neoplasm which arises from the adrenal (slide 1F). The tumor shows a paucity of clear cells and diffuse architecture. The mitotic rate is low (2/50 HPF) but atypical mitoses, including "tripolar figures" are identified (slide 1E). There is no unequivocal evidence of capsular invasion. However, angioinvasion, with tumor cells associated with thrombus inside vascular channels, is identified (slide 1AK). There is no necrosis, and no high grade Fuhrman nuclei. The tumor appears to be completely excised.

Histopathological summary:

1. High nuclear grade (Fuhrman criteria): ABSENT

2. >5 mitoses per 50 HPF: ABSENT

3. Atypical mitotic figures: PRESENT

4. <25% of tumor cells are clear cells: PRESENT

5. Diffuse architecture: PRESENT

6. Necrosis: ABSENT

7. Venous Invasion: PRESENT (Tumor cells associated with thrombus; slide 1AK)

8. Sinusoidal Invasion: ABSENT

9. Capsular Invasion: ABSENT

10. Immunohistochemistry: The tumor stains positive for SF-1, and AE1/AE3 cytokeratin. It shows variable positivity for low molecular weight cytokeratin (CAM5.2), and p53 (up to 15% of tumor). The tumor is negative for EMA, chromogranin, HEPAR-1, and vimentin. Beta catenin shows regional loss of membranous staining. The MIB-1 proliferation marker stains 5% of tumor cells. The overall morphological and immunohistochemical features are those of a low grade adrenal cortical carcinoma.

4. The liver shows a solitary benign hepatocellular lesion composed of hepatocytes with normal N/C ratio, traversed with fibrous septa containing large vessels, mild lymphoid infiltrate and ductular reaction. The features are those of focal nodular hyperplasia. The lesion is negative for SF-1. CK7 stains the bile ductular reaction. CD34 shows patchy staining of sinusoidal endothelial cells around fibrous septa, consistent with focal nodular hyperplasia. There is no evidence of metastatic disease. The background liver shows no fibrosis (trichrome). There is mild macrovesicular steatosis (10%). PASD shows no evidence of alpha-1 antitrypsin globules. Iron staining is negative.

The liver was seen in consultation with

(liver pathology), and she agrees with the interpretation and diagnosis.

Criteria	Yes	No
Diagnosis Discrepancy		✓
Primary Tumor Site Discrepancy		✓
HIPAA Discrepancy		✓
Prior Malignancy History		✓
Dual/Synchronous Primary Noted		✓
Case is (circle): QUALIFIED / DISQUALIFIED		
Reviewer Initials	Date Reviewed: 12/28/12	