

Breast Practice Case

SURGICAL PATHOLOGY REPORT #1

December 17, 2007

Specimen: Breast biopsy, left, stereotactic

Final Diagnosis:

Ductal carcinoma in situ (DCIS), high grade (comedo type), stereotactic needle biopsies of upper inner quadrant left breast. ER negative, PR negative, and HER-2/neu amplified, 9.2 by FISH.

SURGICAL PATHOLOGY REPORT #2

December 28, 2007

Specimen:

- A. Breast mass-left, retroareolar needle localization
- B. Breast mass-left, between two previous areas (retroareolar)
- C. Breast mass-left, needle localization
- D. Breast mass-left, needle localization 10:00

Final Diagnosis: Ductal carcinoma in situ (DCIS), left breast. DCIS is present in all specimens. DCIS is high grade solid, cribriform and papillary type. DCIS is dispersed. Surgical margins in many fragments are involved by DCIS.

SURGICAL PATHOLOGY REPORT #3

January 11, 2008

Specimen: Breast-left-simple mastectomy

Final Diagnosis: Left breast from simple mastectomy with residual foci of high grade ductal carcinoma in situ and lobular carcinoma in situ in the immediate vicinity of biopsy cavities. Carcinoma is not identified in the sections of breast away from the biopsy cavities.

END Breast Practice Case

Breast Case 1

SURGICAL PATHOLOGY REPORT

April 29, 2007

Specimen:

- A. Right breast tissue
- B. Right sentinel node #1
- C. Right sentinel node #2
- D. Right sentinel node #3
- E. Right breast inferior flap

Final Diagnosis:

1. Right breast tissue: Invasive ductal carcinoma (margins negative). Ductal carcinoma in situ. Intermediate nuclear grade. Micropapillary and cribriform patterns with necrosis and calcification present in one slide. Margins negative for DCIS. Lobular carcinoma in situ. Background breast tissue with fibrosis, sclerosing adenosis, intraductal papillary, apocrine metaplasia, duct ectasia and cysts.
2. Eight axillary lymph nodes negative for carcinoma (0/8)
3. Right sentinel node #1: One lymph node with tumor present consistent with metastatic carcinoma (1/1). Tumor focus is greater than 0.2 cm in diameter.
4. Right sentinel node #2: Two lymph nodes negative for metastatic carcinoma (0/2). Cytokeratin CAM 5.2 is confirmatory.
5. Right sentinel node #3: One small lymph node (0.4 cm) negative for metastatic carcinoma (0/1). Cytokeratin CAM 5.2 is confirmatory.
6. Right breast inferior flap: Benign fibroadipose tissue only. Negative for carcinoma.

END Breast Case 1

Breast Case 2

HISTORY AND PHYSICAL

February 1, 2007

History of Present Illness: This is a patient who had a recent finding on her yearly mammogram of an abnormality in the left breast. Stereotactic biopsy was performed January 27, 2007 which demonstrated invasive ductal carcinoma with tubular features grade 1. Hormone receptors were positive. HER-2 was not done.

SURGICAL PATHOLOGY REPORT #1

February 1, 2007

Specimen

- A. Left axillary sentinel lymph node #1
- B. Sentinel node #2
- C. Left breast tissue

Final Diagnosis:

- A. Left axillary sentinel lymph node #1, excision: Metastatic, well differentiated ductal carcinoma (+1/1).
- B. Left axillary sentinel lymph node #2, excision: No neoplasm identified (0/1).
- C. Left breast, excisional biopsy: Well differentiated invasive ductal carcinoma (Nottingham grade 1) adjacent to a previous breast biopsy site with contained suture material. Separate, approximately 0.4 cm tubulolobular carcinoma (Nottingham grade 1) near deep margin at medial edge of biopsy specimen, with extension of carcinoma to within less than 1 mm of the inked deep (posterior) specimen margin.

SURGICAL PATHOLOGY REPORT #2

03/10/2007

Specimen

- A. Left axillary contents
- B. Left breast tissue, bed of previous excision

Final Diagnosis:

- A. Left axillary contents: Axillary lymph nodes (9), negative for malignancy. Remaining fibrofatty tissue showing area of scarring and fat necrosis with foreign body giant cell reaction.
- B. Left breast tissue, bed of previous excision: Mammary tissue including previous biopsy site showing areas of fat necrosis, reactive reparative changes and fibrocystic mastopathy with moderate ductal hyperplasia without atypical and foci of calcification. A single focus of atypical lobular hyperplasia is identified 6 mm from the inferior margin. No residual in situ or invasive malignancy is seen.

END Breast Case 2

Breast Case 3

SURGICAL PATHOLOGY REPORT #1

September 1, 2007

Final Diagnosis: Right breast biopsy: Ductal carcinoma in situ (DCIS), comedo-carcinoma type. No evidence of invasive carcinoma.

Histologic Grade: High grade with central necrosis in comedo-carcinoma pattern, with cribriform and solidly cellular architecture.

Extent of Tumor: DCIS is scattered throughout the biopsy fragments.

Margins of Resection: DCIS directly involves one (1) margin and is very close to but clear of several other margins.

Non-Neoplastic Breast Tissue: Benign lobular fibrosis and adenosis and duct ectasia.

Estrogen Receptor: Positive

Progesterone Receptor: Positive

Her-2/NEU: Positive (+2)

Proliferation Index KI 67 (MIB-1): <10% (favorable), in the invasive foci, and approximately 20% (unfavorable) in the intraductal tumor.

SURGICAL PATHOLOGY REPORT #2

September 13, 2007

Final Diagnosis: Segment of right breast tissue (lumpectomy): Several (4) small foci of invasive ductal carcinoma, well differentiated, tubular and cribriform type, located in the mid lateral portion of the lumpectomy specimen. Extensive residual intraductal carcinoma, mainly cribriform type focal central necrosis (grade II), mainly in the lateral half of the lumpectomy specimen. Right axillary sentinel lymph nodes: Two lymph nodes with reactive lymphoid hyperplasia and sinus histiocytosis, with no granuloma and no metastatic tumor.

SURGICAL PATHOLOGY REPORT #3

September 29, 2007

Final Diagnosis: Left breast (simple mastectomy): Benign adenosis, lobular fibrosis, and duct ectasia with small cyst formation. Congo-red. No evidence of epithelial proliferative features, atypia, or malignancy.

Right breast (simple mastectomy, post-initial biopsy and subsequent lumpectomy): Invasive duct carcinoma and ductal carcinoma in situ (DCIS) as multiple separate residual foci.

Size of Tumor: Invasive carcinoma is present as six (6) scattered foci 3-7 millimeters maximum dimension each, in parenchyma surrounding biopsy cavity. Ductal carcinoma in situ (DCIS is present as 12 scattered foci in the lower inner quadrant, upper inner quadrant, and surrounding the biopsy cavity.

Histologic Grade: Grade 2 (Nottingham score 6).

Extent of Tumor: Tumor is multifocal, DCIS representing about 50% of the tumor.

Margins of Resection: Tumor is well clear of the India ink-marked margins.

Lymph Nodes: Not applicable this mastectomy (see lumpectomy S05-5984 of 9/13/06 showing 2 negative right axillary sentinel lymph nodes).

Additional Tumor Features: No evidence of lymphatic or venous invasion.

Tumor Markers: Positive ER, PR, and HER-2/NEU.

END Breast Case 3

Breast Case 4

SURGICAL PATHOLOGY REPORT #1

May 6, 2007

Specimen:

- A. Right breast biopsy 12:00
- B. Right breast biopsy 9:00

Final Diagnosis: Right breast, 12 o'clock (core biopsy): Infiltrating ductal carcinoma with cribriform features. 0.4 cm in great dimension. Right breast, 9 o'clock (core biopsy): Benign breast tissue with fibrocystic change and focal intraductal and periductal hemosiderin deposition.

SURGICAL PATHOLOGY REPORT #2

June 28, 2007

Specimen:

- A. Left breast tissue
- B. Right breast tissue
- C. Additional nodes

Microscopic Description:

A. Sections from the left breast show a microscopic foci of intermediate grade ductal carcinoma in situ within multiple random sections from the upper inner quadrant. The size of the DCIS is difficult to determine with certainty, but small foci are seen within several tissue blocks from this quadrant. No invasive malignancy is seen. Previous biopsy site changes are present including an area of fibrosis and hemosiderin deposition with histiocytes. Skin, nipple and deep margin of resection are negative for malignancy.

B. Breast: Right mastectomy

Site within breast: Three areas of invasive carcinoma; Identified, lesion 1 at junction of upper outer and upper inner quadrants, lesion 2 within the upper inner quadrant, and lesion 3 at junction of upper and lower outer quadrants.

Size of largest focus of infiltrating carcinoma: 2.3 cm (gross measurement)

Sizes of additional of infiltrating carcinoma: 2.2 cm (gross measurement) and 0.6 cm.

The smallest tumor has a histologic appearance similar to tumor two.

Nipple retraction by tumor: DCIS focally involves a nipple duct, but no invasion into the stroma of the nipple is seen. Multicentric, given the different histologic appearances between tumor one and tumor two (Multicentricity defined as tumors separated by 5 cm or more uninvolved tissue, tumors present in different breast quadrants, or tumors of different histology).

Axillary node involvement: Carcinoma metastatic to one of five lymph nodes. The involved lymph node is a sentinel lymph node with count 544. The sentinel nodes are examined per sentinel lymph node protocol with cytokeratin Immunohistochemical stains and levels.

C. Six additional right lymph nodes are examined and all are negative for malignancy.

Final Diagnosis:

Left breast (simple mastectomy): Ductal carcinoma in situ, intermediate cytologic grade, identified within random sections from upper inner quadrant. No invasive malignancy identified. Previous biopsy site changes. Skin, nipple and deep margin of resection are negative for malignancy.

Right breast (modified radical mastectomy with axillary lymph nodes): Three foci of infiltrating ductal carcinoma, no special type. The largest area has a gross measurement of 2.3 cm and a low combined histologic grade. The intermediate sized focus measures 2.2 cm in greatest gross dimension and has an intermediate combined histologic grade. Associated non-comedo ductal carcinoma in situ, intermediate histologic grade identified. Ductal carcinoma in situ focally involves a nipple duct, but no invasive carcinoma is seen within the nipple.

One of five axillary lymph nodes positive for micrometastasis (micrometastatic tumor measures slightly less than 0.1 cm), no extracapsular extension of tumor identified.

Right axilla, additional lymph nodes (lymph node dissection): Six additional lymph nodes all negative for malignancy.

Additional findings/comments:

Right Breast: Tumor 1 and tumor 2 have different histologic appearances. Tumor one has a low combined histologic grade with a prominent invasive cribriform component while tumor two has an intermediate combined histologic grade and a more solid appearance. A section from the intervening breast tissue shows a minute area of ductal carcinoma in situ and a tiny area of possible invasion which would appear to represent the end of tumor. The majority of the section from this intervening area appears negative for malignancy.

END Breast Case 4

Breast Case 5

SURGICAL PATHOLOGY REPORT #1

April 11, 2007

Specimen: Mass, left axillary

Final Diagnosis: Left axillary mass, excision: Malignant neoplasm
Flow cytometry analysis: Negative for lymphoma

Comment: Based upon the routine microscopic findings, differential consideration includes metastatic carcinoma (probable primary site: breast, lung or melanoma). Routine microscopy/H&E stain preparation reveals a markedly enlarged lymph node with almost complete loss of nodal architecture by diffuse proliferation of large epithelioid neoplastic cells with prominent nucleoli and abundant cytoplasm. A few non-neoplastic residual lymphoid follicles are present.

SURGICAL PATHOLOGY REPORT #2

April 19, 2007

Specimen: Left breast

Final Diagnosis:

Left breast, simple mastectomy:

1. Invasive carcinoma with signet ring features.
2. Focal atypical lobular hyperplasia, no lobular or ductal carcinoma in situ identified.
3. The precise tumor size cannot be determined due to lack of discrete mass.
4. Nipple skin and deep surgical margin – negative for carcinoma.
5. Incidental finding – benign intraductal papilloma, intraglandular microcalcifications. No lymph node is identified.
6. Additional skin tissue with seborrheic keratosis.

Comments: The patient's left axillary mass removed in April of 2007 revealed metastatic carcinoma. The case was submitted for consultation/immunohistochemistry. The final diagnosis was reported as metastatic mammary carcinoma. In light of the prior findings of the left axillary mass the present findings are most consistent with invasive lobular carcinoma with signet ring features. Recommend clinical correlation and follow up as appropriate.

END Breast Case 5

STOP

****DO NOT PROCEED TO CASE 6 UNTIL INSTRUCTED****

Breast Case 6

SURGICAL PATHOLOGY REPORT #1

May 19, 2007

Specimen: Left upper outer quadrant breast, core biopsy

Final Diagnosis:

Ultrasound needle core biopsy of left breast mass (upper outer quadrant at 2:00): Tubular carcinoma. Focal microcalcifications are present.

SURGICAL PATHOLOGY REPORT #2

July 28, 2007

Specimen:

1. Left axillary sentinel lymph node biopsy
2. Left breast tissue
3. Mid inferior new margin, left breast

Final Diagnosis:

Lymph node, left axillary, sentinel node biopsy: Negative for metastatic carcinoma on H&E and pancytokeratin (0/1)

Breast, left upper outer quadrant, needle localization lumpectomy: Tubular Carcinoma. Nottingham Grade 1 (Tubular G1, Nuclear G1, Mitotic G1). Maximum tumor dimensions 9 mm. Tumor 9 mm from inked margins. ER, PR, HER-2, K167 submitted on block C. Negative for angiolymphatic invasion. Lobular carcinoma in situ.

Breast, left, re-excision: Extensive lobular carcinoma in situ.
LCIS extends close to the new inked margin.

Comment: Final margin negative for tubular carcinoma and LCIS.

END Breast Case 6

Breast Case 7

SURGICAL PATHOLOGY REPORT #1

March 15, 2007

Specimen: Left Breast 4:00

Final Diagnosis: Left breast, 4 o'clock, core biopsy: infiltrating duct carcinoma

Discussion: Breast cancer prognostic panel was assessed. The results show ER 69% positive (Favorable), PR 68% positive (Favorable) and Her2/neu staining intensity 0.6 (Normal Limit).

Specimen: Right Breast 10:00

Final Diagnosis: Right Breast, Core Biopsy: Invasive lobular carcinoma ductal carcinoma in situ, high-grade. See comment.

Comment: The histologic appearance of the infiltrating tumor is that of a lobular carcinoma. However, there is ductal carcinoma-in situ present, predominantly high-grade.

SURGICAL PATHOLOGY REPORT #2

June 23, 2007

Specimen:

- A. Left breast scar
- B. Left breast
- C. Right breast

Final Diagnosis:

- A. Skin, left breast, excision: Scar. Suture granuloma. No evidence of malignancy.
- B. Left breast, mastectomy: No evidence of residual in situ or invasive carcinoma. Multiple intraductal papillomas. Fibrocystic changes. Changes consistent with previous biopsy/excision site.
- C. Right breast, mastectomy: Infiltrating lobular carcinoma. Lobular carcinoma in situ. Multiple intraductal papillomas. Changes consistent with previous biopsy site.

END Breast Case 7

Breast Case 8

HISTORY AND PHYSICAL

August 20, 2013

This is a female who has prior history of intraductal carcinoma of the left breast, diagnosed in February 2007, for which she underwent a lumpectomy and left axillary node dissection. She was found to have 7 to 21 lymph nodes positive for metastatic disease. She was ER PR negative, and subsequently underwent chemotherapy and radiation therapy. She has done regular self-breast examinations, and has had regular annual mammography over the interval years, and has had no discernible changes in the left breast regarding architecture, size, skin surface or palpable nodules. In May of this year she did notice some changes in the architecture with increasing sense of firmness in the periareolar and nipple area of the left breast with some retraction of the nipple surface. Subsequent mammography showed no evidence of mass or malignancy, nor were there any suspicious lymph nodes or changes within the breasts.

On August 12, 2013 she noted continued increasing firmness and skin retraction in the periareolar with increasing size, with three small satellite nodules which were firm, fixed, in the 6 o'clock position, 7 and 9 o'clock positions of the left breast, laterally. There was no erythema, warmth or tenderness. There were palpable nodules present, measuring approximately 4 to 5 mm in diameter, in the 6, 7 and 9 o'clock positions of the left breast, approximately 4 cm from the areolar edge. There were no suspicious lymph nodes. The patient was subsequently referred to surgeon. She had an outpatient needle biopsy of the left breast and this returned with malignant cells. She presents today for mastectomy, left, and further decision making regarding management of the recurrent breast cancer.

IMPRESSION: Recurrent breast cancer, left breast.

SURGICAL PATHOLOGY REPORT

August 22, 2013

Specimen: Left simple mastectomy

Final Diagnosis: Moderately-differentiated infiltrating ductal carcinoma, 4.8 cm in maximum dimension, involving overlying skin with dermal lymphatic invasion. Margins free of tumor.

Specimen type: simple mastectomy.

Size of invasive component (greatest dimension): 4.8 cm.

Histologic type: invasive ductal carcinoma.

Histologic grade (nottingham score): grade 2 (total score=6 points).

Pathologic staging: pt4 (tumor involves skin).

MEDICAL ONCOLOGY CONSULTATION

August 24, 2013

Oncology Consult/Assessment and Plan: Inflammatory breast cancer based on the diagnosis of dermal lymphatic invasion. It would be my plan to treat her relatively quickly with additional chemotherapy. I want to give her three cycles of Adriamycin and Cytoxan at 60/m2 of the Adriamycin. She had a recent echocardiogram here showing ejection fraction estimated at 45% with global hypokinesia so will have to monitor after each dose of anthracycline. We will then follow that with Taxol. If she is Her2 positive will consider adding Herceptin. Will also consider additional radiation to the chest wall. All of that adding risk in for congestive heart failure, but given the inflammatory breast cancer, the risk of relapse and death is fairly excessive in the setting. The patient is aware of the high-risk nature of her disease. She will follow up with me in September. Will need central venous access for chemotherapy.

END Breast Case 8

Breast Case 9

SURGICAL PATHOLOGY REPORT #1

January 12, 2007

Specimen:

1. Left breast masses

Final Diagnosis:

1. Left breast, Biopsy: Malignant adenomyoepithelial tumor, grossly 3.9 cm, extensively necrotic, focally present at the inked anterior margin. There is also an invasive ductal carcinoma with apocrine features (invasive apocrine carcinoma) spanning 0.9 cm microscopically, present 0.1 cm from the inked anterior margin.

SURGICAL PATHOLOGY REPORT #2

March 10, 2007

Specimen

- A. Left axillary sentinel lymph node

Final Diagnosis:

- A. Left axillary sentinel lymph node, biopsy: One lymph node identified, no evidence of metastatic carcinoma, by sentinel lymph node protocol (0/1).

SURGICAL PATHOLOGY REPORT #3

March 15, 2007

Specimen:

- A. Left breast, tie lateral

Final Diagnosis:

- A. Left breast mastectomy: Residual malignant adenomyoepithelial tumor, 0.6 cm in greatest dimension, associated with central necrosis. Focal atypical ductal proliferation with apocrine feature, consistent with ductal carcinoma in situ (DCIS). No residual invasive ductal carcinoma seen.

END Breast Case 9

Breast Case 10

SURGICAL PATHOLOGY REPORT

November 29, 2007

Specimen: Right breast

Final Diagnosis: Right breast, simple mastectomy: Two simultaneous primary breast carcinomas, showing the following features:

Central superior tumor, 0.8 cm diameter. Infiltrating ductal carcinoma, with ductal carcinoma in situ (DCIS). Histologic grade I (Nottingham). Moderate tubule formation. Intermediate nuclear grade. Low mitotic rate. Associated DCIS, solid/cribriform type, intermediate nuclear grade, representing 40% of tumor.

Angiolymphatic invasion: Not identified. Negative resection margins. Estrogen receptor: Positive (100%, invasive carcinoma and DCIS). Progesterone receptor: Positive (100%, invasive carcinoma and DCIS). C-erbB-2: pending.

Upper outer quadrant, superolateral lesion, 1.0 cm diameter (previously biopsied).

Infiltrating ductal carcinoma, without ductal carcinoma in situ. Histologic grade II (Nottingham). Moderate tubule formation. Intermediate nuclear grade. Intermediate mitotic rate (6/10 hpf).

Angiolymphatic invasion: Not identified. Negative resection margins. Estrogen receptor status: Positive (100%, result from previous biopsy). Progesterone receptor status: Positive (greater than 90%, previous biopsy). HER-2/neu status: Negative for amplification (FISH, previous biopsy).

END Breast Case 10