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 RB	Date Reviewed: 9.29.11 10/21/11	

UUID:D0269758-EFAE-4EBA-8CCF-4A6CF4D4B35A
TCGA-A1-A0SN-01A-PR Redacted

ICD-O-3
carcinoma, infiltrating duct, NOS 8500/3
Site: breast, NOS C50.9 lw 10/21/11

Final Pathologic Diagnosis:

A. Lymph node, left axillary sentinel node #1, excision: No metastatic carcinoma in one lymph node (0/1).

B. Lymph node, left axillary sentinel node #2, excision: Metastatic carcinoma in one lymph node with extension into peri-nodal fat (1/1).

C. Lymph node, left axillary sentinel node #3, excision: Metastatic carcinoma in one lymph node (1/1).

D. Lymph node, left axillary non-sentinel node #1, excision: Metastatic carcinoma in one lymph node (1/1).

E. Lymph node, left axillary non-sentinel node #2, excision: Metastatic carcinoma in one lymph node (1/1).

F. Breast, left, partial mastectomy:
1. Infiltrative ductal carcinoma, SBR grade 2, 1.1 cm in maximum dimension, margins negative; see comment.
2. Ductal carcinoma in situ, high-grade, solid and comedo types, 1.1 cm in maximum dimension, intermixed with invasive ductal carcinoma, margins negative.

G. Breast, left lateral anterior, excision: Benign breast tissue, no carcinoma identified.

H. Breast, medial superior anterior, excision: Benign breast tissue, no carcinoma identified.

I. Lymph node, left axillary contents, excision: No metastatic carcinoma in eight lymph nodes (0/8).

Note: *Breast Tumor Synoptic Comment*
- Laterality: Left.
- Invasive tumor type: Invasive ductal carcinoma.
- Invasive tumor size: 1.1 cm maximum diameter.
- Invasive tumor grade (modified Bloom-Richardson): 2.
  Nuclear grade: 3, 3 points.
  Mitotic count: <10 mitotic figures/10 HPF, 1 point.
  Tubule/papilla formation: <10%, 3 points.
  Total points and overall grade = 7 points = grade 2.
- Lymphatic-vascular invasion: Extensive lymphatic-vascular invasion is noted with intra-lymphatic metastasis noted in lymphatics at least 1 cm from the main tumor.
- Perineural invasion: Not present.
- Resection margins for invasive tumor:
  - Deep margin: Negative; (tumor is 0.2 cm away, on slide F6).
  - Medial margin: Negative; (tumor is greater than 1 cm).
  - Lateral margin: Negative; (tumor is greater than 1 cm).
  - Anterior/superior margin: Negative; (tumor is 0.2 cm away, on slide F6).
  - Anterior/inferior margin: Negative; (tumor is 0.3 cm away, on slide F4).

- Ductal carcinoma in situ (DCIS) type: Comedo and solid.
- Ductal carcinoma in situ size: 1.1 cm, intermixed with invasive ductal carcinoma.
- Ductal carcinoma in situ nuclear grade: High-grade.
- Necrosis in DCIS: Comedonecrosis.
- Microcalcifications: Not identified.
- Resection margins for ductal carcinoma in situ:
  - Deep margin: Negative; (tumor is 0.6 cm away, on slide F6).
  - Medial margin: Negative; (tumor is greater than 1 cm).
  - Lateral margin: Negative; (tumor is greater than 1 cm).
  - Anterior/superior margin: Negative; (tumor is 0.25 cm away, on slide F6).
  - Anterior/inferior margin: Negative; (tumor is 0.25 cm away, on slide F6).

- Lobular carcinoma in situ (LCIS): None.

- Lymph node status: Positive.
  - Number of positive lymph nodes: 4.
  - Total number sampled: 13.
- Diameter of largest metastasis: 0.8 cm.

- Extranodal extension: Present.
- AJCC/UICC stage: pT1cN1MX.

An immunohistochemical test for estrogen and progesterone receptors was performed by manual morphometry on block #.

The test for estrogen receptors is positive. There isstrong nuclear staining in 90% of tumor cells. Internal positive control is positive.

The test for progesterone receptors is positive. There is moderate nuclear staining in 60% of tumor cells. Internal positive control is positive.

Result of HER2/neu test: This carcinoma is positive for HER2/neu oncoprotein over-expression.

An immunohistochemical assay was performed by manual morphometry on block F8 using the CB11 monoclonal antibody to HER2/neu oncoprotein. The staining intensity of this carcinoma was 3 on a scale of 0-3 (HER2 test interpreted by Dr.

Carcinomas with staining intensity scores of 0 or 1 are considered negative for over-expression of HER2/neu oncoprotein.

Those with a staining intensity score of *2* are considered *indeterminate*. We and others have observed that many carcinomas with staining intensity scores of 2 do not show gene amplification. All carcinomas with staining intensity scores of 2 are therefore submitted for FISH testing. The results of the FISH test are issued directly from the molecular cytogenetics laboratory.

Carcinomas with staining intensity scores of *3* are considered *positive* for over-expression of HER2/neu oncoprotein. Tumors in this category show an excellent correlation between the results of immunohistochemical and FISH testing, and almost always show gene amplification.

Intraoperative Consult Diagnosis

FS1 (A) Left axillary sentinel lymph node #1, biopsy: No tumor seen. (Tissue section and cytopreparation) (Dr.

FS2 (B) Left axillary sentinel lymph node #2, biopsy: Positive for metastatic carcinoma. (Tissue section and cytopreparation) (Dr.

FS3 (C) Left axillary sentinel lymph node #3, biopsy: Positive for metastatic carcinoma. (Tissue section and cytopreparation) (Dr.

FS4 (D) Left axillary non-sentinel lymph node #1, biopsy: Positive for metastatic carcinoma. (Tissue section and cytopreparation) (Dr.

Clinical History

The patient is a year-old woman with left breast invasive ductal carcinoma. She undergoes partial mastectomy.

Gross Description

The specimen is received fresh in nine parts, each labeled with the patient's name and medical record number.

Part A is additionally labeled It consists of a single irregular piece of soft-firm, pink-red tissue, measuring 0.5 x 0.3 x 0.2 cm. The specimen is bisected, and cytologic touch and scrape preparations are prepared. The specimen is then entirely submitted for frozen section diagnosis as FS1, with the frozen section remnant submitted in cassette A1.

Part B is additionally labeled It consists of a single oval piece of soft-to-firm, red-pink tissue, measuring 0.9 x 0.6 x 0.6 cm. The specimen is bisected, and cytologic touch and scrape preparations are made. The specimen is then entirely submitted for frozen section diagnosis as FS2, with the frozen section remnant submitted in cassette B1.

Part C is additionally labeled It consists of a single ovoid piece of soft-to-firm,

pink-red tissue, measuring 0.8 x 0.5 x 0.4 cm. The specimen is bisected, and cytologic touch and scrape preparations are prepared. The specimen is then entirely submitted for frozen section diagnosis as FS3, with the frozen section remnant submitted in cassette C1.

Part D is additionally labeled It consists of a single ovoid piece of soft-to-firm, pink-red tissue, measuring 1.3 x 0.7 x 0.5 cm. The specimen is bisected, and cytologic touch and scrape preparations are prepared. The specimen is then entirely submitted for frozen section diagnosis as FS4, with the frozen section remnant submitted in cassette D1.

Part E is additionally labeled It consists of a single ovoid piece of firm, off-white/tan tissue, measuring 1.5 x 0.7 x 0.4 cm. The specimen is bisected and entirely submitted in cassette E1.

Part F is additionally labeled t consists of an oriented portion of fat, measuring 10.3 (anterior- posterior) x 7.4 (medial-lateral) x 6.4 (superior-inferior) cm and weighing 13 gm. There is a 1.1 cm in diameter white-yellow hard mass with a white homogeneous interior located within the specimen (slices 3-6). This mass abuts the posterior margin, is 0.6 cm from the anterior-inferior and anterior-superior margins, 1 cm from the lateral margin, and 7 cm from the medial margin. The specimen is inked so as the anterior-superior surface is blue, the anterior- inferior surface is green, and the posterior surface is black. A representative section is taken for tissue banking. The specimen is serially sectioned, from lateral to medial into thirteen 0.5 cm slices. Representative sections are submitted as follows:

Cassette F1: Lateral margin, slice 1, perpendicular.
Cassettes F2-F3: Slice 2, two pieces.
Cassettes F4-F5: Slice 3, two pieces, mass.
Cassettes F6-F7: Slice 4, two pieces, mass.
Cassette F8: Representative section of slice 5, mass.
Cassette F9: Representative section of slice 6, mass.
Cassette F10: Slice 12.
Cassette F11: Medial margin, slice 13, perpendicular.

Part G is additionally labeled ." It consists of a small fragment of fat, measuring 0.6 x 0.7 x 0.7 cm. A stitch marks a portion of the specimen indicating the true margin. The specimen is inked so as this true margin is blue, and the rest of the specimen is black. The specimen is entirely submitted in cassette G1.

Part H is additionally labeled It consists of a fragment of yellow-white, soft fat, measuring 1 x 0.6 x 0.7 cm. A stitch marks the true margin of the specimen. The specimen is inked so as this true margin is blue, and the remaining portion of the specimen is black. The specimen is entirely submitted in cassette H1.

Part I is additionally labeled It consists of a portion of fat measuring 4.2 x 3.8 x 0.9 cm. Multiple pink-tan lymph nodes are noted within the specimen ranging in size from 0.6-1.3 cm in diameter. Many of these nodes are previously bisected or trisected. Representative sections of the specimen are taken and submitted as follows:

Cassette I1: Six lymph nodes attached.
Cassette I2: Two lymph nodes, one bisected and one trisected.

Pathology Resident Pathologist

Signed:

Fee Codes:

Other Specimens

Specimen Class: 1 **Status:** N/A **Accessioned:**
Signed Out:

Specimen(s) Received: Skin, biopsy, punch bx, right posterior calf
Final Diagnosis **{Final Report Not Signed Out}**
{Not Entered}

Specimen Class: **Status:** Signed Out **Accessioned:**
Signed Out:

Specimen(s) Received: SP Consult
Final Diagnosis
Review from

Breast, left, 1 o'clock, core needle biopsy:
1. Invasive carcinoma; see comment.
2. Microscopic focus of ductal carcinoma in situ, high nuclear grade; see comment.

END OF REPORT