

ICD-0-3

Carcinoma, infiltrating ductal, NOS 8500/3

Site: breast, NOS C50.9 2/18/11 hr

Diagnosis:

A: Posterior margin, left breast, re-excision

- Skeletal muscle and fibroadipose tissue; no carcinoma identified

B: Breast (300 grams), right, total mastectomy

- Focal atypical ductal hyperplasia (slide B5)

- Apocrine metaplasia

- Microcalcifications present in association with benign breast ducts and lobules

- Skin with seborrheic keratoses

- No invasive or in situ carcinoma identified

C: Breast, left, modified radical mastectomy

Tumor type: Infiltrating ductal carcinoma with micropapillary features (two foci)

Nottingham combined histologic grade: 3

Tubule formation score: 3

Nuclear Pleomorphism Score: 3

Mitotic count score: 3

Focality of tumor: Multifocal (two separate invasive tumor masses in lower inner quadrant, 1.9 cm apart) with intervening tissue showing lymphatic space invasion (see comment)

Tumor size (greatest dimension):

Mass #1: 2.5 cm

Mass #2: 1.4 cm

Lymphovascular invasion: Present, extensive

In Situ Component: Present

In Situ Component type/Architecture pattern:

Ductal carcinoma in situ, comedo and solid subtypes

Lobular carcinoma in situ

In Situ Component nuclear grade: High grade (nuclear grade 3)

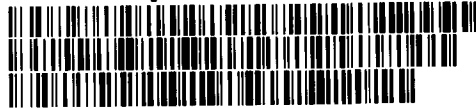
In Situ Component necrosis: Present

In Situ Component extent/size: In situ carcinoma comprises less than 10% of total tumor volume and is present in association with both masses as well as

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Criteria	Yes	No
Diagnosis Discrepancy		
Primary Tumor Site Discrepancy		
IIA Discrepancy		
Prior Malignancy History		
Dual/Synchronous Primary		
Case is (circle):	QUALIFIED	DISQUALIFIED
Reviewed by:	km	5/11/11
Date reviewed:		

being present in tissue between the masses

Extensive intraductal component: Not identified

Nipple involvement: Not identified

Skin involvement: Not identified

Margin status:

Invasive component: Infiltrating ductal carcinoma is less than 1 mm from the deep specimen margin (see comment)

In Situ component: Ductal carcinoma in situ is 3 mm from the deep specimen margin

Axillary lymph nodes:

Total number with metastasis: 4

Total number examined: 15

Size of largest metastasis: 9mm

Extracapsular extension: not identified

Microcalcifications: not identified

Other findings:

Biopsy site changes in Mass #1

Fibroadenomatous change

Skin with seborrheic keratosis

AJCC PATHOLOGIC TNM STAGE: pT2 pN2a pMx

Note: This pathologic stage assessment is based on information available at the time of this report, and is subject to change pending clinical review and additional information.

Comment:

Two foci of infiltrating ductal carcinoma are present, both in the lower inner quadrant. Grossly, these masses were separated by 1.9 cm of soft fibroadipose tissue. Histologically, the intervening tissue shows ductal carcinoma in situ and carcinoma present within lymphatic spaces. The smaller tumor is less than 1 mm from the posterior specimen margin in the mastectomy specimen; however, it is possible that this margin is superseded by the separately submitted 'posterior margin' (part A).

The morphology of the invasive carcinoma from the two masses is similar, as is the morphology of the in situ carcinoma admixed with each mass. These two masses may represent two separate foci of invasion arising from ductal carcinoma in situ or may be arising from a focus of lymphovascular invasion (i.e., an intramammary metastasis). The tumor stage is based on the larger of the two

masses.

Immunohistochemical studies for estrogen receptor, progesterone receptor and HER-2/neu were performed on the biopsy specimen from the larger of the two masses. Immunohistochemical analysis of the smaller tumor mass will be performed and the results will be reported in an addendum.

Gross Description:

Specimen A is received in a formalin-filled container labeled "left re-excision posterior margin, tumor clip posterior" and is a partially oriented 2.6 x 1.8 x 1.0 cm fragment of mainly brown/red muscle with some minimal adherent fibroadipose tissue. There is a clip on one surface indicating the margin. This surface is inked blue. The remainder of the specimen is inked black.

Sectioning exhibits unremarkable red/brown muscle with minimal fibroadipose tissue. The specimen is serially sectioned and entirely submitted in blocks A1 and A2.

Specimen B is received in a formalin-filled container labeled "right total mastectomy, stitch marks axillary tail".

Specimen fixation: Formalin

Time in fixative: 7 hours

Type of mastectomy: Total, per the specimen container and requisition

Size of specimen: 300 grams, 19 x 15.5 x 3.0 cm

Orientation of specimen: There is a stitch marking axillary tail. At the time of tissue procurement triage, the specimen is inked as follows: anterior/green, posterior/purple, axillary tail (lateral)/yellow.

Skin ellipse dimensions: 18.5 x 4.2 cm. The lightly pigmented skin ellipse is remarkable for multiple brown papules from 2 to 13 mm in greatest dimension. Just superior lateral to the nipple, there is a 1.2 x 0.8 x 0.2 cm raised flesh colored papule identified. The remainder of the papules are somewhat flatter and some are macules.

Nipple/areola: 1.5 cm / 2.7 cm.

Axillary tail: Axillary tail is not well-delineated. The lateral breast tissue is sectioned and no lymph node candidates are identified.

Biopsy site: N/A

Residual tumor: N/A

Location of tumor: N/A

Distance of mass/biopsy site from surgical margin: N/A

Gross involvement of skin or fascia/muscle by tumor: N/A

Description of remainder of breast: The entire specimen consists of yellow lobulated fibroadipose tissue separated by thin fibrous septae. There is scattered dense white breast tissue throughout the entire specimen. There are no abnormalities readily appreciated.

Other remarkable features: None

Tissue submitted for special investigations: Normal given to tissue procurement.

Digital photograph taken:

Block Summary:

B1 - Nipple

B2 - Section from largest raised papule (larger section), smaller section through smaller papule

B3-B4 - Inner upper quadrant

B5-B6 - Inner lower quadrant

B7-B8 - Outer upper quadrant

B9-B10 - Outer lower quadrant

B11-B12 - Central mastectomy

B13-B14 - Lateral breast tissue

Specimen C:

Specimen fixation: Formalin

Time in fixative: 7 hours

Type of mastectomy: Modified radical per the specimen requisition

Size of specimen: 400 grams, 19 x 15 x 3.0 cm

Orientation of specimen:

Skin ellipse dimensions: 19 x 5.0 cm. The lightly pigmented skin ellipse is remarkable for scattered light brown to medium brown papules from 3 mm to 1.3 cm in greatest dimension.

Nipple/areola: 1.5 cm / 3.5 cm. These structures are unremarkable.

Axillary tail: Axillary tail is 8 x 6.5 x 1.8 cm. The axillary tail is amputated and palpated for lymph node candidates. Multiple lymph node candidates are identified from 4 x 4 x 3 mm to 1.5 x 1.0 x 0.6 cm.

Biopsy site: N/A

Residual tumor: Present. There are two lesions identified. The first lesion is 2.5 x 1.2 x 1.0 cm. This lesion is well-circumscribed and has a tan/red, focally hemorrhagic cut surface. This lesion is found within a background of dense white breast tissue. There is a second 1.4 x 1.2 x 1.0 cm mass identified. This mass is also well-circumscribed and has a firm red/white cut surface.

These masses are 1.9 cm from one another. Mass #1 is slightly inferior to the nipple in the subareolar region. Mass #2 is inferior and posterior to mass #1.

Location of tumor: See above. Both masses are found in the inner lower quadrant.

Distance of mass/biopsy site from surgical margin: Mass #1 2.4 cm to the deep purple inked margin, 5 mm to the skin, 4.1 cm to the inferior margin, approximately 6 cm to the medial margin, approximately 8 cm to the superior margin and distal to the lateral margin. Mass #2 is very close to the purple inked posterior margin, is approximately 3 cm to the inferior margin, at least 10 cm to the superior margin, approximately 5.6 cm to the medial margin and distant to the lateral margin. Mass #2 is 3.4 cm to the green inked anterior margin.

Gross involvement of skin or fascia/muscle by tumor: N/A

Description of remainder of breast: The remainder of the mastectomy specimen consists of yellow lobulated fibroadipose tissue separated by thin fibrous septae. There is dense firm white breast tissue scattered throughout the entire specimen.

Other remarkable features: None

Tissue submitted for special investigations: Tumor and normal given to tissue procurement.

Digital photograph taken:

Block Summary:

- C1 - Nipple
- C2 - Representative sections of epidermal papules
- C3 - Section from edge of mass #1 (larger) and mass #2 (smaller mass); and the section mass #2 is abutting purple ink and mass #1 is cut through.
- C4 - Additional medial mass #2
- C5 - Additional lateral mass #2
- C6 - Additional fibroadipose tissue between masses
- C7 - Inferior margin closest to both masses, en face
- C8-C9 - Mass #1 and skin, slice bisected
- C10 - Mass #1 and adjacent breast tissue (purple ink does not denote true margin)
- C11 - Additional mass #1 and adjacent breast tissue (purple ink does not denote true margin)
- C12 - Deep margin closest to mass #1, en face
- C13 - Inner upper quadrant
- C14 - Inner lower quadrant
- C15 - Outer upper quadrant
- C16 - Outer lower quadrant
- C17 - Three lymph node candidates
- C18 - One lymph node candidate, trisected (suspicious)
- C19 - One lymph node candidate, trisected
- C20 - Largest lymph node candidate, sectioned
- C21 - One lymph node candidate, trisected
- C22 - One lymph node candidate, bisected
- C23 - One lymph node candidate, sectioned
- C24 - One lymph node candidate, sectioned
- C25 - One lymph node candidate, sectioned
- C26 - Multiple suspected lymph nodes
- C27 - One lymph node, serially sectioned

Procedures/Addenda:

Addendum

Addendum

The following addendum is issued to report the results of estrogen receptor, progesterone receptor, and HER2/neu immunohistochemical studies.

Results:

Estrogen receptor (Ventana, clone SP1):

Interpretation: POSITIVE

Computer-assisted quantitative score: 97%

Progesterone receptor (Ventana, clone 1E2):

Interpretation: POSITIVE

Computer-assisted quantitative score: 27%

HER2/neu (clone 4B5, FDA-approved):

Interpretation: INDETERMINATE

Computer-assisted quantitative score: 2+ (see comment)

Site: Left breast

Performed on block: C3

Fixation: 10% neutral buffered formalin

Fixation time: 6-48 hours

Reference range:

Estrogen receptor and progesterone receptor: <1%=NEGATIVE, 1-10% WEAK POSITIVE,

>10% POSITIVE

HER2/neu: 0,1=NEGATIVE FOR OVEREXPRESSION, 2=INDETERMINATE, 3=POSITIVE FOR OVEREXPRESSION

Comment:

The quantitative scores reported above were obtained using the FDA-approved appropriate staining. The control slides for this case show

The patient's larger tumor was sampled and tested previously, which showed a similar pattern of immunohistochemical staining for HER-2/neu. Subsequent in situ hybridization studies for HER-2/neu gene amplification on that specimen showed that the tumor was positive for Her-2/neu gene amplification. In situ hybridization studies can be repeated on the current specimen, if clinically desired.

Some of the immunohistochemical reagents used in this case may be classified as analyte specific reagents (ASR) or research use only (RUO) reagents. These were developed and have performance characteristics determined by the

These reagents have not been cleared or approved by the US Food and Drug Administration (FDA). The FDA has determined that such clearance or approval is not necessary. These tests are used for clinical purposes. They should not be regarded as investigational or for research. This laboratory is certified under the Clinical Laboratory Improvement Amendments of 1988 (CLIA-88) as qualified to perform high complexity clinical laboratory testing.