2007 Multiple Primary and Histology Rules
Practice Cases

Breast Case 1
SURGICAL PATHOLOGY REPORT

Surgical Pathology Report
October 2, 2007

Specimen(s): Left breast

Gross Examination:
Received is a left modified radical mastectomy. The breast portion measures 17 x 15 x 5 cm and the attached axillary portion is 11 cm in length, up to 4 cm in diameter. The surface skin ellipse is 10.5 cm x 4 cm. A rubbery firm area within the breast measures 2.5 x 3.5 x 5.0 cm.

Macroscopic Summary:
Specimen Type: Modified radical mastectomy
Tumor Site: Left breast, unspecified
Tumor Size: 5.0 x 3.5 x 2.5 cm

Microscopic Summary:
Histologic Type: Invasive inflammatory duct) carcinoma
Tubule Formation: Minimal < 10% (score = 3)
Extent of Invasion: T4d: Inflammatory carcinoma
Margins: Margins uninvolved by tumor
DCIS: High grade
Microcalcifications: Absent
Blood/Lymphatic Vessel Invasion: Present
Regional Lymph Nodes: Metastasis in 4 or more lymph nodes
Nodes Examined/Involved: 6/5

Final Diagnosis:
Poorly differentiated infiltrating duct carcinoma with dermal lymphatic invasion left modified radical mastectomy. Five of six lymph nodes contain metastatic carcinoma

Comment:
The tumor is a poorly differentiated infiltrating duct carcinoma. Dermal lymphatic invasion is present along with extensive lymphatic invasion within the breast. Lymphatic invasion is present within the breast in every random section taken. Receptor studies were performed on the core biopsies and are negative. Five of six lymph nodes contain metastatic carcinoma.

END Breast Case 1

Breast Case 2
SURGICAL PATHOLOGY REPORT

Surgical Pathology Report
March 14, 2007

Gross Examination:
A. The specimen consists of a 6.0 x 5.5 x 2.5 cm biopsy of fibroadipose tissue which has an overlying 3.5 x 1.5 cm skin ellipse and is tagged superiorly with suture. The biopsy is accompanied by an x-ray and has an inserted localization wire. The superior margin is inked blue; inferior green; deep black; anterior red; lateral yellow and medial AgNO3. Serial sectioning near the inserted localization wire reveals a dilated ductal structure but no gross tumors.
B. The specimen consists of a 3 sentinel lymph nodes marked with blue injection dye.
C. The specimen consists of a one non-sentinel lymph node.

Microscopic Examination:
A. Ductal carcinoma in situ with a cribriform pattern and low nuclear grade is identified. The lesion measures approximately 1.2 cm on the microscopic slide and appears to be completely excised. The green inked margin is the closest margin, which is less than 1.0 mm from the lesion. It is associated with microcalcifications but does not demonstrate necrosis. There is sclerosis and distortion which hinders interpretation for microinvasive carcinoma. If this were interpreted as microinvasion it would be approximately 1 mm in dimension.

Final Diagnosis:
A. Left breast lumpectomy: ductal carcinoma in situ with low nuclear grade, cribriform pattern and microcalcifications.
B. Left axillary sentinel lymph nodes (3): negative for metastatic carcinoma.
C. Left axillary nonsentinel lymph node: negative for metastatic carcinoma.

END Breast Case 2

Breast Case 3
SURGICAL PATHOLOGY REPORT

Surgical Pathology Report
January 11, 2007

Specimen: Left Breast Mastectomy

Gross Examination:
The specimen consists of a 24.0 x 17.3 x 5.0 cm breast with an overlying 25.0 x 12.4 cm skin ellipse with a 0.9 x 0.8 x 0.4 cm inverted nipple, and axillary fat pad. The breast weights 1260.0 grams without fat pad. Within the lower inner quadrant is a 1.1 x 0.7 x 0.6 cm gritty stellate shaped mass which comes to within 0.9 cm from the inferior margin which is inked blue and 5.0 cm from the deep margin which is inked black. 4.9 cm from this mass is a separate 0.6 x 0.5 x 0.5 cm gritty firm mass which is in the lower outer quadrant. This mass comes to within 3.0 cm from the deep margin. The remaining parenchyma is tan yellow fatty, streaked with areas of fibrous tissue. No other masses or lesions are appreciated. The attached 6.0 x 7.0 x 2.2 cm axillary fat pad shows multiple lymph nodes up to 2.8 cm. Representative sections are submitted as follows: 1) nipple; 2,3) tumor lower outer quadrant; 4) tissue in between tumors; 5,6) tumor within lower inner quadrant; 7) upper inner quadrant; 8) lower inner quadrant; 9) lower outer quadrant; 10) upper outer quadrant; 11) one node bisected; 12) two nodes, one bisected; 13) one node bisected; 14) two nodes, one bisected; 15) one node bisected; 16) one node bisected; 17) one node bisected; 18) two nodes, each bisected; 19) one node bisected.

Final Diagnosis:
Left breast, mastectomy: two separate foci of invasive carcinoma.
1. Infiltrating ductal carcinoma, maximal tumor dimension 1.1 cm, surgical margins widely clear.
2. Infiltrating lobular carcinoma, maximal tumor dimension 0.6 Cm, margins widely clear.
3. Left axillary lymph nodes: metastatic ductal carcinoma in one of twelve lymph nodes (1.2 mm maximally dimension), no extracapsular extension identified.

END Breast Case 3

Breast Case 4
SURGICAL PATHOLOGY REPORT

Surgical Pathology Report
April 1, 2007

Specimen – Right modified radical mastectomy
1. Breast, right (mastectomy) - Adenocarcinoma in two locations:
    A- 12:00 position - adenocarcinoma with the following features:
        1- Size - 1.8 cm in greatest dimension.
        2- Infiltrating duct cell type.
        3- Histologic grade low.
        4- Nuclear grade intermediate.
        5- Mitotic rate low.
        6- No evidence of vascular invasion.
        7- Focal minute areas of associated intraductal carcinoma in situ.
        8- Not at inked surgical margins.
    B- Lower-inner quadrant:
        1- Size - 1.0 cm in greatest dimension.
        2- Infiltrating duct cell type.
        3- Histologic grade intermediate.
        4- Mitotic rate intermediate.
        5- Nuclear grade intermediate.
        6- No evidence of vascular invasion.
        7- Small foci of associated intraductal carcinoma in situ.
        8- Not at inked surgical margins.

    C- No evidence of malignancy in six lymph nodes examined.
        2. Axillary lymph nodes: no evidence of malignancy in two lymph nodes examined.

Comment: Immunohistochemical studies were performed. Both tumors show the same breast cancer prognostic marker. Study results: positive for estrogen receptor and positive for progesterone receptor; no over-expression of Her-2/neu.

END Breast Case 4

Breast Case 5
SURGICAL PATHOLOGY REPORT

Surgical Pathology Report
September 22, 2007

Specimen – left breast mastectomy

Final Diagnosis:

Left breast mastectomy: Lobular carcinoma in-situ, multicentric. No evidence of previously excised invasive lobular carcinoma identified.
Left axillary sentinel lymph node, excisional biopsy: One lymph node negative for tumor.
Left axillary sentinel lymph node, excisional biopsy: One lymph node negative for tumor.
Left axillary sentinel lymph node, excisional biopsy: Two lymph nodes negative for tumor.
Left axillary sentinel lymph node, excisional biopsy: One lymph node negative for tumor.

Right breast, mastectomy: Focal lobular carcinoma in-situ. Fibrocystic changes including ductal hyperplasia, apocrine metaplasia, sclerosing adenosis, microcysts, and microcalcifications. No invasive carcinoma or ductal carcinoma in-situ identified.
Right axillary sentinel lymph node, excisional biopsy: Two lymph nodes negative for tumor.
Right axillary sentinel lymph node, excisional biopsy: One lymph node, negative for tumor.

END Breast Case 5

Breast Case 6
SURGICAL PATHOLOGY REPORT #1

Surgical Pathology Report
February 14, 2007

Final Diagnosis:
Left breast mass, biopsy: Infiltrating moderately differentiated lobular carcinoma, modified Bloom-Richardson grade 2, biopsy.

Breast Case 6
SURGICAL PATHOLOGY REPORT #2

Surgical Pathology Report
March 29, 2007

Final Diagnosis:
1. Right breast biopsy: Few ducts with duct carcinoma, low nuclear grade extending 2 mm from superior margin. Lobular carcinoma.
2. Left breast lumpectomy: Infiltrating duct carcinoma, moderately differentiated grade 2 by Bloom Richardson. Duct carcinoma in situ comedo and non-comedo types, high nuclear grade. Tumor size: 2.3 cm. The infiltrating component is less than 0.1 cm from medial margin, less than 0.1 cm from posterior margin, 0.2 cm from superior and inferior margins, 0.5 cm from anterior margin, and greater than 1 cm from the lateral margin.
3. Sentinel node #1 left breast: One lymph node with metastatic carcinoma
4. Sentinel node #2 left breast: One lymph node with metastatic carcinoma
5. Sentinel node #3 left breast: One lymph node with metastatic carcinoma
6. Left axillary contents: Eleven (11) lymph nodes with metastatic carcinoma
7. New anterior needle margin left breast: Infiltrating ductal carcinoma. Lobular carcinoma in situ with extension into ducts. The infiltrating component is present at the anterior margin and 5 mm from the inferior margin.

Comment: The tumor is strongly positive for estrogen and progresterone receptors (100%). It is negative for Her-2/neu.

END Breast Case 6

Breast Case 7
SURGICAL PATHOLOGY REPORT #1

Surgical Pathology Report
May 4, 2007

Specimen: Excisional biopsy right breast

Final Diagnosis:
Breast, right, excisional biopsy: Adenocarcinoma, invasive, lobular type, moderately differentiated. Tumor measures 1.5 cm in greatest dimension. Surgical resection margins positive. Focal duct carcinoma in situ (DCIS), cribriform pattern without necrosis, moderate nuclear grade.

Comment: Histologic sections of the excision biopsy demonstrate an invasive lobular carcinoma. The tumor is characterized by less than 10% tubule formation. The total Nottingham combined score of 6 corresponds to moderate differentiation. The tumor invades fibrous tissue and muscle.

Breast Case 7
SURGICAL PATHOLOGY REPORT #2

Surgical Pathology Report
June 24, 2007

Final Diagnosis:
Breast, right, partial mastectomy: Adenocarcinoma, invasive, lobular type, moderately differentiated. Three small foci of residual tumor identified (2.0 mm, 1.0 mm, and 0.6 mm). Surgical resection margins negative. Lymphovascular invasion is not identified. Ductal carcinoma in situ is not identified. Lobular carcinoma in situ is not identified.

Skin and nipple with no pathologic features.
Features consistent with prior biopsy site identified.
Sentinel lymph node, right axillary, excision: One lymph node negative for malignancy.

END Breast Case 7

Breast Case 8
SURGICAL PATHOLOGY REPORT #1

Surgical Pathology Report
November 16, 2007

Specimen – right breast biopsy

Final Diagnosis:
Breast, right, biopsy: Ductal carcinoma in situ (DCIS), cribriform type, with intermediate nuclear grade and minimal necrosis.

Breast Case 8
SURGICAL PATHOLOGY REPORT #2

Surgical Pathology Report
December 2, 2007

Final Diagnosis:
Breast, right; lumpectomy: Invasive ductal carcinoma, NOS type, histologic grade II/III (moderate tubule formation), nuclear grade II/III (moderate variation in size and shape), and measuring 1.2 cm in largest dimension microscopically. Ductal carcinoma in situ (DCIS) is also identified solid, cribriform and papillary types with intermediate nuclear grade and no necrosis. The DCIS constitutes 25% of the total tumor mass, and is present admitted with and away from the invasive component. Lobular carcinoma in situ (LCIS) is also identified classical type (type A). Calcifications are present in the in situ carcinoma and in benign breast parenchyma. No vascular invasion is noted.

Results of receptor studies are as follows: estrogen receptor: 90% of nuclear staining with moderate intensity; progesterone receptor: no nuclear staining; Her-2/neu: negative (staining intensity of 1+).

END Breast Case 8

Breast Case 9
SURGICAL PATHOLOGY REPORT #1

Surgical Pathology Report
March 16, 2007

Specimen:
A. Breast biopsy: Right breast mass for immediate evaluation
B. Breast biopsy: 2nd right breast mass for immediate evaluation

Final Diagnosis:
A. Right breast mass:
Infiltrating ductal carcinoma, moderately differentiated (Bloom-Richardson score 7, very close to inked surgical margin). Extensive high grade ductal carcinoma in-situ extending to inked surgical margin. Lymphatic involvement by carcinoma identified.
B. 2nd Right breast mass:
Infiltrating ductal carcinoma with extensive mucin production (colloid carcinoma), moderately differentiated, (Bloom-Richardson grade 7), tumor size 2.2 cm. Extensive high grade ductal carcinoma in-situ extending to inked surgical margin.

Breast Case 9
SURGICAL PATHOLOGY REPORT #2

Surgical Pathology Report
April 22, 2007

Final Diagnosis:
A. Right breast lumpectomy demonstrating:
0.5 cm residual moderately differentiated infiltrating ductal carcinoma extending close but not to the inked superior margin. High grade ductal carcinoma in-situ (DCIS) extending close but not to the inked anterior and deep surgical margins.
B. Right axillary lymph nodes dissection: Diffusely metastatic carcinoma in six (6) out of ten (10) lymph nodes.
C. Right axillary lymph node biopsy: Diffusely metastatic adenocarcinoma (1/1).

Combined TNM Stage: pT2 pN2a pMX

END Breast Case 9

Breast Case 10
SURGICAL PATHOLOGY REPORT

Surgical Pathology Report
September 15, 2007

Left breast, mastectomy with axillary dissection:
Invasive ductal adenocarcinoma, multifocal with largest focus measuring 2 cm in greatest dimension. Tumor is well differentiated and does not involve the surgical margins. The largest tumor focus is subareolar, but this does not demonstrate lymphatic or epidermal/pagetoid disease. Low to intermediate grade DCIS is present in several foci as a minor component of this neoplasm. It also is not present at the surgical margins.

Seven lymph nodes recovered from the axillary tail, all of which are negative for metastatic tumor (0/7). Total lymph node count from all parts of this specimen: 1/15.

Multifocal fibrocystic changes, duct ectasia, small radial scars, and other benign changes.

Pathologic stage: pT1c, N1, MX.

END Breast Case 10