



CALIFORNIA
TUMOR TISSUE REGISTRY

BREAST PATHOLOGY

Minutes – Subscription B

March 2009



SUGGESTED READING (General Topics from Recent Literature):

- Distinguishing Breast Carcinoma from Mullerian Serous Carcinoma with Mammaglobin and Mesothelin. Kanner WA, Galgano MT, et al. *Int J Gynecol Pathol* 2008; 27:491-495.
- A New Molecular Variant of Desmoplastic Small Round Cell Tumor. Significance of WT1 Immunostaining in this Entity. Murphy AJ, Bishop K, et al. *Hum Pathol* 2008; 39:1763-1770.
- CK5 Is More Sensitive Than CK5/6 In Identifying the “Basal-Like” Phenotype of Breast Carcinoma. Bhargava R, Beriwal S, et al. *Am J Clin Pathol* 2008; 130:724-730.
- Pathologic Classification and Clinical Behavior of the Spectrum of Goblet Cell Carcinoid Tumors of the Appendix. Tang LH, Shia J, et al. *Am J Surg Pathol* 2008; 1429-1443.
- Parameters of Perineural Invasion in Radical Prostatectomy Specimens Lack Prognostic Significance. Merrilees AD, Bethwaite PB, et al. *Mod Pathol* 2008; 21:1095-1100.

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FILE DIAGNOSES
(Preferably submitted at www.cttr.org)

CTTR Subscription B

March 2009

Case 1:

Granulomatous mastitis, breast
T-04000, M-40000

Case 2:

Fibroadenoma with associated pseudoangiomatous stromal hyperplasia (PASH), breast
T-04000, M-90100

Case 3:

Ductal carcinoma (predominantly high-grade DCIS) arising in a fibroadenoma, breast
T-04000, M-90100

Case 4:

Invasive ductal carcinoma with DCIS, breast
T-04000, M-85003

Case 5:

Infiltrating ductal carcinoma with silicone mastopathy/reaction, breast
T-04000, M-85003

Case 6:

Invasive lobular carcinoma, breast
T-04000, M-85202

Case 7:

Combined invasive ductal carcinoma and neuroendocrine carcinoma (poorly differentiated mammary carcinoma with neuroendocrine features), breast
T-04000, M-82003

Case 8:

Low grade phyllodes tumor, breast
T-04000, M-90213

Case 9:

Malignant phyllodes tumor, breast
T-04000, M-90213

Case 10:

Post radiation pleomorphic sarcoma with myogenous differentiation (rhabdomyosarcoma), breast
T-04000, M-90213

Costa Mesa (College Hospital) - Benign chronic mastitis
Glendale - Mastitis
Loma Linda - Plasma cell mastitis
San Diego (Naval Medical Center) - Lymphocytic mastitis
Florida (Naples Pathology Associates) - Foreign material reaction
Georgia, Decatur - Lymphocytic mastitis, rule out MALToma
Illinois (Heartland Regional Medical Center) - Granulomatous mastitis
Kansas (Coffeyville Regional Medical Center) - Chronic mastitis with (chronic abscess) and fibroadenomatous change
Kansas (Peterson Laboratory Services) - Plasma cell mastitis
Louisiana, LSUHSC - Mastitis
Michigan (Pinkus Dermatopathology Laboratory) - Granulomatous mastitis
Michigan (St. Mary's Health Care) - Plasma cell mastitis
New Mexico (University of New Mexico) - Granulomatous lobular mastitis
New York (Albany Medical Center) - Granulomatous mastitis
New York (Stony Brook University Medical Center) - Necrotizing granulomatous inflammation
New York (SUNY Downstate Medical Center) - Granulomatous mastitis
New York (Westchester County Medical Center) - Inflammatory mastitis
Ohio (St. Elizabeth Health Center) - Acute and chronic mastitis
Ohio (University of Toledo) - Granulomatous lobular mastitis
Oregon (Oregon Health and Science University) - Sclerosing lymphocytic mastitis
Pennsylvania (Conemaugh Memorial Medical Center) - Plasma cell mastitis
Pennsylvania (Fox Chase Cancer Center) - Granulomatous mastitis
Puerto Rico (University of Puerto Rico) - Granulomatous lobular mastitis
Tennessee, Knoxville - Acute and chronic mastitis
Texas, Crystal Beach - Dermatopathic lymphogranulomatous inflammation
Texas, Lubbock - Breast abscess
Texas (Scott and White Memorial Hospital) - Granulomatous mastitis
Wisconsin, Green Bay - Lymphoplasmacytic mastitis
Wisconsin, Madison - Mastitis
Canada (Pasqua Hospital) - Granulomatous mastitis
Canada (University of Sherbrooke) - Abscess and lymphocytic mastitis
Japan (Asahi General Hospital) - Granulomatous mastitis
Japan (Shizuoka Tokushukai Hospital) - Plasma cell mastitis
Spain (Provisa Hospital) - Plasma cell mastitis
United Kingdom (John Radcliffe Hospital) - Granulomatous mastitis (favor infective)

Case 1 - Diagnosis:

Granulomatous mastitis, breast
T-04000, M-40000

Consultation: (Genzyme Lab): Patrick Browne, M.D., "Necrotizing granulomatous mastitis."

Case 1 - References:

- Khampirad T, Hennen D, et al. Granulomatous Lobular Mastitis. Two Case reports with Focus on Radiologic and Histopathologic Features. *Ann Diagn Pathol* 2007; 11(2):109-112.
- Tse, GM, Poon CS, Ramachandram K, et al. Granulomatous Mastitis. A Clinicopathological Review of 26 Cases. *Pathol* 2004; 36(3):254.
- Bani-Hani KE, Yaghan RJ, et al. Idiopathic Granulomatous Mastitis. Time to Avoid Unnecessary Mastectomies. *Breast J* 2004; 10(4):318-322.
- Baslain MM, Khayat HA, et al. Idiopathic Granulomatous Mastitis. A Heterogeneous Disease with Variable Clinical Presentation. *World J Surg* 2007; 31(8):1677-1681.
- Fong D, Lann MA, Finlayson C, et al. Diabetic (Lymphocytic) Mastopathy with Exuberant Lymphohistiocytic and Granulomatous Response. A Case Report with Review of the Literature. *Am J Surg Pathol* 2006; 30(10):1330-1336.

Costa Mesa (College Hospital) - Benign fibrocystic disease
Glendale - Pseudoangiomatous stromal hyperplasia
Loma Linda - Juvenile breast/gynecomastia
San Diego (Naval Medical Center) - PASH
Florida (Naples Pathology Associates) - Fibroadenoma
Georgia, Decatur - Pseudoglandular stromal hyperplasia
Illinois (Heartland Regional Medical Center) - Mammary hamartoma
Kansas (Coffeyville Regional Medical Center) - Fibroadenomatosis
Kansas (Peterson Laboratory Services) - Sclerosing lobular hyperplasia
Louisiana, LSUHSC - Hamartoma vs. sclerosing lobular hyperplasia
Michigan (Pinkus Dermatopathology Laboratory) - Fibroadenoma
Michigan (St. Mary's Health Care) - Fibrocystic change
New Mexico (University of New Mexico) - Sclerosing lobular hyperplasia
New York (Albany Medical Center) - Fibro?
New York (Stony Brook University Medical Center) - Pseudoangiomatous stromal hyperplasia (PASH)
New York (SUNY Downstate Medical Center) - Fibroadenomatoid mastopathy
New York (Westchester County Medical Center) - Fibroadenoma with features of adenosis
Ohio (St. Elizabeth Health Center) - Pseudoangiomatous stromal change
Ohio (University of Toledo) - Hamartoma
Oregon (Oregon Health and Science University) - Fibroadenoma
Pennsylvania (Conemaugh Memorial Medical Center) - Sclerosing lobular hyperplasia
Pennsylvania (Fox Chase Cancer Center) - Fibroadenoma
Puerto Rico (University of Puerto Rico) - Hamartoma/adenolipoma
Tennessee, Knoxville - Mammary hamartoma
Texas, Crystal Beach - Fibroadenomatous changes pericanalicular
Texas, Lubbock - Fibroadenoma
Texas (Scott and White Memorial Hospital) - Pseudoangiomatous stromal hyperplasia
Wisconsin, Green Bay - Fibroadenoma
Wisconsin, Madison - Tubular adenoma
Canada (Pasqua Hospital) - Mammary hamartoma
Canada (University of Sherbrooke) - Fibroadenomatoid changes
Japan (Asahi General Hospital) - Fibroadenoma
Japan (Shizuoka Tokushukai Hospital) - Blunt duct adenosis
Spain (Provisa Hospital) - Fibroadenomatoid mastopathy
United Kingdom (John Radcliffe Hospital) - Fibroadenoma

Case 2 - Diagnosis:

Fibroadenoma with associated pseudoangiomatous stromal hyperplasia (PASH), breast
 T-04000, M-90100

Case 2 - References:

- Levine PH, Nimeh D, et al. Aspiration Biopsy of Nodular Pseudoangiomatous Stromal Hyperplasia of the Breast. Clinicopathologic Correlates in 10 Cases. *Diagn Cytopathol* 2005; 2(6):345-350.
 Kazakov DV, Bisceglia M, et al. Pseudoangiomatous Stromal Hyperplasia in Lesions Involving Anogenital Mammary-Like Glands. *Am J Surg Pathol* 2005; 29(9):1243-1246.
 Gow KW, Mayfield JK, et al. Pseudoangiomatous Stromal Hyperplasia of the Breast in Two Adolescent Females. *Am Surg* 2004; 70(7):605-608.
 Taira N, Ohsumi S, et al. Nodular Pseudoangiomatous Stromal Hyperplasia of Mammary Stroma in a Case Showing Rapid Tumor Growth. *Breast Cancer* 2005; 12(4):331-336.
 Herbert M, Mendlovic S, et al. Can Hamartoma of the Breast Be Distinguished from Fibroadenoma Using Fine-Needle Aspiration Cytology? *Diagn Cytopathol* 2006; 34(5):326-329.

Costa Mesa (College Hospital) - Invasive ductal carcinoma in a fibroadenoma
Glendale - High grade DCIS
Loma Linda - Comedocarcinoma
San Diego (Naval Medical Center) - Carcinoma associated with fibroadenoma
Florida (Naples Pathology Associates) - Intraductal carcinoma with collagenous spherulosis
Georgia, Decatur - Fibroadenoma with apocrine DCIS
Illinois (Heartland Regional Medical Center) - Invasive and in-situ high grade ductal carcinoma
Kansas (Coffeyville Regional Medical Center) - DCIS, high grade with focal microinvasion
Kansas (Peterson Laboratory Services) - DCIS, intermediate grade, apocrine type with necrosis
Louisiana, LSUHSC - Sclerosing papilloma with high grade DCIS
Michigan (Pinkus Dermatopathology Laboratory) - Apocrine adenocarcinoma with high grade DCIS and collagenous spherulosis
Michigan (St. Mary's Health Care) - Invasive ductal carcinoma with fibroadenoma
New Mexico (University of New Mexico) - Juvenile polyposis with DCIS and invasive ductal carcinoma
New York (Albany Medical Center) - Invasive ductal carcinoma arising in fibroadenoma
New York (Stony Brook University Medical Center) - DCIS with apocrine features, suspicious foci of possible invasion
New York (SUNY Downstate Medical Center) - Comedocarcinoma
New York (Westchester County Medical Center) - Ductal carcinoma, both in-situ and infiltrating component
Ohio (St. Elizabeth Health Center) - High grade ductal carcinoma in-situ arising in fibroadenoma
Ohio (University of Toledo) - DCIS
Oregon (Oregon Health and Science University) - Intraductal papilloma with DCIS and focal area concerning for invasive ductal carcinoma
Pennsylvania (Conemaugh Memorial Medical Center) - DCIS, high grade with microinvasion
Pennsylvania (Fox Chase Cancer Center) - DCIS, comedo type in a hyalinized papilloma
Puerto Rico (University of Puerto Rico) - Invasive ductal carcinoma, NOS arising from hyalinized fibroadenoma
Tennessee, Knoxville - High grade DCIS (arising from previous fibroadenoma) with areas suspicious for microinvasion
Texas, Crystal Beach - Apocrine DCIS
Texas, Lubbock - Apocrine carcinoma
Texas (Scott and White Memorial Hospital) - Invasive duct carcinoma, apocrine type
Wisconsin, Green Bay - Microinvasive carcinoma and high grade DCIS
Wisconsin, Madison - High grade DCIS with microinvasion
Canada (Pasqua Hospital) - Duct carcinoma in a fibroadenoma
Canada (University of Sherbrooke) - Fibroadenoma with in-situ ductal carcinoma and microinvasive ductal carcinoma
Japan (Asahi General Hospital) - Apocrine carcinoma
Japan (Shizuoka Tokushukai Hospital) - Apocrine carcinoma
Spain (Provisa Hospital) - Infarcted fibroadenoma
United Kingdom (John Radcliffe Hospital) - High grade DCIS within papilloma

Case 3 - Diagnosis:

Ductal carcinoma (predominantly high-grade DCIS) arising in a fibroadenoma, breast
 T-04000, M-90100

Case 3 - References:

- Hemalatha AL, Raghupathi AR, et al. Carcinoma Within a Fibroadenoma. A Case Report. *Ind J Pathol Microbiol* 2006; 49(4):592-594.
 Shin JH, Choi HY, et al. Microinvasive Ductal Carcinoma Arising Within a Fibroadenoma. A Case Report. *Acta Radiol* 2006; 47(7):643-645.
 Gulec SA, Rhea G, et al. Breast Carcinoma Originating in a Fibroadenoma. *Breast J* 2004; 10(5):452-453.
 Ali AS, Yin D, et al. Criteria for the Diagnosis of Fibroepithelial Lesions of the Breast with Liquid-Based Cytology. *Acta Cytol* 2004; 48(4):481-486.

Costa Mesa (College Hospital) - Invasive duct carcinoma
Glendale - Infiltrating carcinoma with DCIS
Loma Linda - Low grade tubular carcinoma
San Diego (Naval Medical Center) - Infiltrating ductal carcinoma/tubular carcinoma
Florida (Naples Pathology Associates) - Invasive ductal carcinoma and ductal carcinoma in-situ
Georgia, Decatur - Invasive ductal carcinoma and adjacent DCIS
Illinois (Heartland Regional Medical Center) - Invasive ductal carcinoma, grade 1, with tubular component
Kansas (Coffeyville Regional Medical Center) - DCIS, high grade and infiltrating lobular carcinoma
Kansas (Peterson Laboratory Services) - Tubulolobular carcinoma
Louisiana, LSUHSC - Infiltrating ductal carcinoma
Michigan (Pinkus Dermatopathology Laboratory) - Low grade invasive ductal carcinoma (score 4 out of 9) with low grade DCIS
Michigan (St. Mary's Health Care) - Invasive ductal carcinoma
New Mexico (University of New Mexico) - DCIS with invasive ductal carcinoma, NOS
New York (Albany Medical Center) - Invasive ductal adenocarcinoma
New York (Stony Brook University Medical Center) - Invasive carcinoma with signet ring cells, DCIS
New York (SUNY Downstate Medical Center) - Infiltrating ductal carcinoma
New York (Westchester County Medical Center) - Infiltrating ductal carcinoma with foci of DCIS
Ohio (St. Elizabeth Health Center) - Invasive carcinoma with ductal and lobular features, DCIS cribriform type
Ohio (University of Toledo) - Invasive ductal carcinoma
Oregon (Oregon Health and Science University) - Invasive ductal carcinoma, grade 2, with DCIS
Pennsylvania (Conemaugh Memorial Medical Center) - Mixed ductal and lobular carcinoma
Pennsylvania (Fox Chase Cancer Center) - Invasive and in-situ ductal carcinoma
Puerto Rico (University of Puerto Rico) - Invasive ductal carcinoma with extensive in-situ ductal component
Tennessee, Knoxville - Invasive ductal carcinoma with cribriform DCIS
Texas, Crystal Beach - Tubular carcinoma in fibrocystic disease
Texas, Lubbock - Infiltrating tubular carcinoma
Texas (Scott and White Memorial Hospital) - Invasive duct carcinoma
Wisconsin, Green Bay - Infiltrating well-differentiated ductal carcinoma
Wisconsin, Madison - Infiltrating ductal carcinoma
Canada (Pasqua Hospital) - In-situ and invasive duct carcinoma
Canada (University of Sherbrooke) - Invasive ductal and lobular carcinoma
Japan (Asahi General Hospital) - Apocrine carcinoma
Japan (Shizuoka Tokushukei Hospital) - Invasive ductal carcinoma
Spain (Provisa Hospital) - Invasive duct carcinoma and CIS
United Kingdom (John Radcliffe Hospital) - Invasive ductal carcinoma, NST

Case 4 - Diagnosis:

Invasive ductal carcinoma with DCIS, breast
 T-04000, M-85003

Case 4 - References:

- Wiechmann L and Kuerer HM. The Molecular Journey from Ductal Carcinoma In-Situ to Invasive Breast Cancer. *HM Cancer* 2008; 2130-2142.
 Sauer T, Garred O, et al. Assessing Invasion Criteria in Fine Needle Aspirates from Breast Carcinoma Diagnosed as DCIS or Invasive Carcinoma. Can We Identify An Invasive Component in Addition to DCIS? *Acta Cytol* 2006; 50(3):263-270.
 Ainsowrth PD, Winstanley JH, et al. Protein Kinase C Alpha Expression in Normal Breast, Ductal Carcinoma In-Situ and Invasive Ductal Carcinoma. *Eur J Cancer* 2004; 40(15):2269-2273.
 Foschini MP, Flamminio F, et al. The Impact of Large Sections on the Study of In-Situ and Invasive Duct Carcinoma of the Breast. *Hum Pathol* 2007; 38(12):1736-1743.
 Van Deurzen CH, Hobbink MG, et al. Is There an Indication for Sentinel Node Biopsy in Patients with Ductal Carcinoma In-Situ of the Breast. A Review. *Eur J Cancer* 2007; 43(6):993-1001.

Costa Mesa (College Hospital) - Inflammatory breast carcinoma
Glendale - High grade carcinoma with silicone mastopathy
Loma Linda - Squamoid carcinoma of breast
San Diego (Naval Medical Center) - Infiltrating ductal carcinoma
Florida (Naples Pathology Associates) - Invasive ductal carcinoma and silicone granuloma
Georgia, Decatur - High grade invasive ductal carcinoma in silicone granulomas
Illinois (Heartland Regional Medical Center) - Invasive ductal carcinoma, grade 3, also silicone mastopathy
Kansas (Coffeyville Regional Medical Center) - Paraffinoma with infiltrating apocrine carcinoma
Kansas (Peterson Laboratory Services) - Invasive ductal carcinoma, high grade, associated with silicone reaction
Louisiana, LSUHSC - Invasive carcinoma
Michigan (Pinkus Dermatopathology Laboratory) - High grade invasive adenocarcinoma, NOS (score 9 out of 9)
Michigan (St. Mary's Health Care) - Invasive ductal carcinoma
New Mexico (University of New Mexico) - Invasive ductal carcinoma, NOS in association with silicone mastitis
New York (Albany Medical Center) - Invasive ductal adenoma in a background of silicone granuloma
New York (Stony Brook University Medical Center) - Metaplastic carcinoma and silicone granulomatous inflammation
New York (SUNY Downstate Medical Center) - High grade carcinoma
New York (Westchester County Medical Center) - Infiltrating ductal carcinoma with silicone mastopathy
Ohio (St. Elizabeth Health Center) - Poorly differentiated invasive ductal carcinoma, silicone granuloma
Ohio (University of Toledo) - Squamous carcinoma
Oregon (Oregon Health and Science University) - Invasive ductal carcinoma, grade 3 in background of silicone mastitis
Pennsylvania (Conemaugh Memorial Medical Center) - Ductal carcinoma, sebaceous variant
Pennsylvania (Fox Chase Cancer Center) - High grade invasive ductal carcinoma with background of foreign material
Puerto Rico (University of Puerto Rico) - Invasive ductal carcinoma, NOS/squamous cell carcinoma
Tennessee, Knoxville - Invasive micropapillary carcinoma with silicone mastitis
Texas, Crystal Beach - Ductal carcinoma infiltrating silicone granuloma
Texas, Lubbock - Infiltrating ductal carcinoma
Texas (Scott and White Memorial Hospital) - Invasive duct carcinoma in a background of silicone reaction
Wisconsin, Green Bay - Infiltrating poorly differentiated ductal carcinoma and fat necrosis
Wisconsin, Madison - High grade infiltrating ductal carcinoma
Canada (Pasqua Hospital) - Silicone mastitis and carcinoma with clear cells
Canada (University of Sherbrooke) - Metaplastic carcinoma
Japan (Asahi General Hospital) - Lipid-rich carcinoma
Japan (Shizuoka Tokushukei Hospital) - Metaplastic carcinoma with silicone granuloma
Spain (Provisa Hospital) - Invasive duct carcinoma and silicone reaction
United Kingdom (John Radcliffe Hospital) - Invasive ductal carcinoma, NST with silicone reaction

Case 5 - Diagnosis:

Infiltrating ductal carcinoma with silicone mastopathy/reaction, breast
 T-04000, M-85003

Case 5 - References:

Tanaka Y, Morishima I and Kikuchi K. Invasive Micropapillary Carcinomas Arising 42 Years After Augmentation Mammoplasty. A Case Report and Literature Review. *World J Surg Oncol* 2008; 6:33.
 Vincent N, Barletta L, et al. Breast Implants as a Preventive Factor. *Aesthetic Plast Surg* 2008; 32(5):739-742.
 Brisson J, Holowaty EJ, et al. Cancer Incidence in a Cohort of Ontario and Quebec Women Having Bilateral Breast Augmentation. *Int J Cancer* 2000; 2854-2862.
 Haack P, Glasberg SB, et al. The Saline Versus Silicone Breast Implant Debate. Separating Fact from Opinion. *Plast Reconstr Surg* 2008; 121(5):1847-1849.
 Moynihan R BMJ. FDA Panel Approves One Make of Silicone Breast Implant in the US. *BMJ* 2005; 330(7497):919.

Costa Mesa (College Hospital) - Infiltrating lobular carcinoma
Glendale - Lobular carcinoma
Loma Linda - Infiltrating lobular carcinoma
San Diego (Naval Medical Center) - Epithelioid myofibroblastoma
Florida (Naples Pathology Associates) - Invasive lobular carcinoma
Georgia, Decatur - Infiltrating lobular carcinoma
Illinois (Heartland Regional Medical Center) - Invasive lobular carcinoma
Kansas (Coffeyville Regional Medical Center) - Infiltrating poorly differentiated ductal carcinoma in male breast
Kansas (Peterson Laboratory Services) - Pleomorphic lobular carcinoma
Louisiana, LSUHSC - Infiltrating lobular carcinoma
Michigan (Pinkus Dermatopathology Laboratory) - Invasive lobular carcinoma
Michigan (St. Mary's Health Care) - Invasive ductal carcinoma
New Mexico (University of New Mexico) - Pleomorphic lobular carcinoma
New York (Albany Medical Center) - Invasive lobular carcinoma
New York (Stony Brook University Medical Center) - Invasive lobular carcinoma
New York (SUNY Downstate Medical Center) - Invasive lobular carcinoma
New York (Westchester County Medical Center) - Invasive lobular carcinoma
Ohio (St. Elizabeth Health Center) - Infiltrating carcinoma with lobular features
Ohio (University of Toledo) - Invasive lobular carcinoma
Oregon (Oregon Health and Science University) - Invasive mammary carcinoma with lobular features
Pennsylvania (Conemaugh Memorial Medical Center) - Lobular carcinoma
Pennsylvania (Fox Chase Cancer Center) - Invasive lobular carcinoma
Puerto Rico (University of Puerto Rico) - Invasive lobular carcinoma
Tennessee, Knoxville - Invasive lobular carcinoma
Texas, Crystal Beach - Infiltrating lobular carcinoma
Texas, Lubbock - Infiltrating lobular carcinoma
Texas (Scott and White Memorial Hospital) - Invasive lobular carcinoma
Wisconsin, Green Bay - Highly suspicious for invasive lobular carcinoma
Wisconsin, Madison - Male breast cancer, ductal carcinoma
Canada (Pasqua Hospital) - Pleomorphic lobular carcinoma
Canada (University of Sherbrooke) - Invasive lobular carcinoma
Japan (Asahi General Hospital) - Invasive lobular carcinoma
Japan (Shizuoka Tokushukei Hospital) - Invasive lobular carcinoma
Spain (Provisa Hospital) - Invasive lobular carcinoma
United Kingdom (John Radcliffe Hospital) - Invasive lobular carcinoma

Case 6 - Diagnosis:

Invasive lobular carcinoma, breast
 T-04000, M-85202

Case 6 - References:

Hanby AM and Hughes TA. In-Situ and Invasive Lobular Neoplasia of the Breast. *Histopathol* 2008; 52(1):58-66.
 Ebrahimsade S, Westhoff CC and Barth PJ. CD34+ Fibrocytes are Preserved in Most Invasive Lobular Carcinomas of the Breast. *Pathol Res Pract* 2007; 203 (9):695-698.
 Morandi L, Marucci G, et al. Genetic Similarities and Differences Between Lobular In-Situ Neoplasia (LN) and Invasive Lobular Carcinoma of the Breast. *Virchows Arch* 2006; 449(1):14-23.
 Levi F, Ranimbison L, et al. Invasive Breast Cancer Following Ductal and Lobular Carcinoma In-Situ of the Breast. *Int J Cancer* 2005; 116(5):820-823.
 Hwang S, Ioffe O, et al. Cytologic Diagnosis of Invasive Lobular Carcinoma. Factors Associated with Negative and Equivocal Diagnoses. *Diagn Cytopathol* 2004; 31(2):87-93.

Case No. 7, Accession No. 30481

March 2009

Costa Mesa (College Hospital) - Small cell undifferentiated malignant tumor consider malignant lymphoma
Glendale - Carcinoma
Loma Linda - Diffuse small cell carcinoma

San Diego (Naval Medical Center) - Lobular carcinoma with alveolar pattern
Florida (Naples Pathology Associates) - Small cell carcinoma
Georgia, Decatur - Invasive ductal carcinoma with neuroendocrine features
Illinois (Heartland Regional Medical Center) - Invasive lobular carcinoma, mixed solid and alveolar type
Kansas (Coffeyville Regional Medical Center) - Malignant lymphoma, diffuse, small cell
Kansas (Peterson Laboratory Services) - Small cell carcinoma
Louisiana, LSUHSC - Lymphoma vs. solid lobular carcinoma vs. adenoid cystic carcinoma
Michigan (Pinkus Dermatopathology Laboratory) - Adenocarcinoma with neuroendocrine features
Michigan (St. Mary's Health Care) - Small cell carcinoma
New Mexico (University of New Mexico) - Mammary carcinoma with endocrine features
New York (Albany Medical Center) - Invasive carcinoma, NOS
New York (Stony Brook University Medical Center) - Solid variant of adenoid cystic carcinoma
New York (SUNY Downstate Medical Center) - Lymphoma vs. myoepithelial carcinoma
New York (Westchester County Medical Center) - Invasive lobular carcinoma, solid pattern
Ohio (St. Elizabeth Health Center) - Infiltrating ductal carcinoma of breast, ductal carcinoma in-situ
Ohio (University of Toledo) - Malignant lymphoma, stromal sclerosis
Oregon (Oregon Health and Science University) - Invasive ductal carcinoma, grade 3
Pennsylvania (Conemaugh Memorial Medical Center) - Metaplastic carcinoma, matrix producing
Pennsylvania (Fox Chase Cancer Center) - Invasive and in-situ ductal carcinoma
Puerto Rico (University of Puerto Rico) - Matrix producing carcinoma/myoepithelial carcinoma/invasive duct cell carcinoma, basal type
Tennessee, Knoxville - Poorly differentiated carcinoma with neuroendocrine features
Texas, Crystal Beach - Infiltrating ductal carcinoma, small cell type
Texas, Lubbock - Clear cell carcinoma
Texas (Scott and White Memorial Hospital) - Adenoid cystic carcinoma
Wisconsin, Green Bay - Infiltrating lobular carcinoma with chondroid metaplasia
Wisconsin, Madison - Lymphoma
Canada (Pasqua Hospital) - Small blue cell tumor
Canada (University of Sherbrooke) - Neuroendocrine carcinoma
Japan (Asahi General Hospital) - Small cell carcinoma
Japan (Shizuoka Tokushukei Hospital) - Invasive lobular carcinoma
Spain (Provisa Hospital) - Phenotype basal carcinoma
United Kingdom (John Radcliffe Hospital) - Invasive ductal carcinoma, NST

Case 7 - Diagnosis:

Combined invasive ductal carcinoma and neuroendocrine carcinoma (poorly differentiated mammary carcinoma with neuroendocrine features), breast
 T-04000, M-82003

Case 7 - References:

Fujimoto Y, Yagyu R, et al. A Case of Solid Neuroendocrine Carcinoma of the Breast in a 40-Year-Old Woman. *Breast* 2007; 14(2):250-253.
 Tsai WC, Yu JC, et al. Primary Alveolar-Type Large Cell Neuroendocrine Carcinoma of the Breast. *Breast J* 2005; (6):487.
 Das DK and Sheikh ZA. Breast Carcinoma with Neuroendocrine Differentiation. Diagnosis of a Case By Fine Needle Aspiration Cytology and Immunocytochemistry. *Acta Cytol* 2004; 48(2):292-294.
 Mirza IA and Shahab N. Small Cell Carcinoma of the Breast. *Semin Oncol* 2007; 34(1):64-66.
 Cabibi D, Cipolla C, et al. Solid Variant of Mammary "Adenoid Cystic Carcinoma with Basaloid Features" Merging with "Small Cell Carcinoma". *Pathol Res Pract* 2005; 201(10):705-711.

Case No. 8, Accession No. 30448

March 2009

Costa Mesa (College Hospital) - Benign phyllodes tumor
Glendale - Low grade phyllodes tumor
Loma Linda - Cystosarcoma phyllodes
San Diego (Naval Medical Center) - Phyllodes tumor with ADIY
Florida (Naples Pathology Associates) - Phyllodes tumor

Georgia, Decatur - Myofibroblastoma
Illinois (Heartland Regional Medical Center) - Phyllodes tumor, benign
Kansas (Coffeyville Regional Medical Center) - Phyllodes tumor
Kansas (Peterson Laboratory Services) - Benign Phyllodes tumor
Louisiana, LSUHSC - Phyllodes, borderline
Michigan (Pinkus Dermatopathology Laboratory) - Low grade phyllodes tumor
Michigan (St. Mary's Health Care) - Phyllodes tumor
New Mexico (University of New Mexico) - Benign phyllodes tumor
New York (Albany Medical Center) - Low grade phyllodes tumor
New York (Stony Brook University Medical Center) - Phyllodes tumor, benign
New York (SUNY Downstate Medical Center) - Phyllodes tumor
New York (Westchester County Medical Center) - Phyllodes tumor
Ohio (St. Elizabeth Health Center) - Benign phyllodes tumor with myofibroblastoma-like stroma
Ohio (University of Toledo) - Low grade phyllodes tumor
Oregon (Oregon Health and Science University) - Phyllodes tumor, borderline
Pennsylvania (Conemaugh Memorial Medical Center) - Phyllodes tumor, low grade/borderline
Pennsylvania (Fox Chase Cancer Center) - Phyllodes, low grade
Puerto Rico (University of Puerto Rico) - Phyllodes tumor, borderline
Tennessee, Knoxville - Low grade malignant phyllodes tumor
Texas, Crystal Beach - Phyllodes tumor in fibrocystic disease
Texas, Lubbock - Benign phyllodes tumor
Texas (Scott and White Memorial Hospital) - Phyllodes tumor
Wisconsin, Green Bay - Benign phyllodes tumor
Wisconsin, Madison - Phyllodes tumor
Canada (Pasqua Hospital) - Phyllodes tumor
Canada (University of Sherbrooke) - Phyllodes tumor
Japan (Asahi General Hospital) - Phyllodes tumor, benign
Japan (Shizuoka Tokushukei Hospital) - Cystosarcoma phyllodes
Spain (Provisa Hospital) - Phyllodes tumor, borderline
United Kingdom (John Radcliffe Hospital) - Phyllodes tumor, benign

Case 8 - Diagnosis:

Low grade phyllodes tumor, breast
 T-04000, M-90213

Consultation: Department of Gynecologic and Breast Pathology, AFIP, Washington D.C., Chang Y. Liang, M.D.,
 "Low grade phyllodes tumor".

Case 8 - References:

Jacobs TW, Chen YY, et al. Fibroepithelial Lesions with Cellular Stroma on Breast Core Needle Biopsy. Are There Predictors of Outcome on Surgical Excision? *Am J Clin Pathol* 2005; 124(3):342-354.
 Lee AH, Hodi Z, et al. Histological Features Useful in the Distinction of Phyllodes Tumour and Fibroadenoma on Needle Core Biopsy of the Breast. *Histopathol* 2007; 51(3):336-344.
 Lee AH. Recent Developments in the Histological Diagnosis of Spindle Cell Carcinoma, Fibromatosis and Phyllodes Tumour of the Breast. *Histopathol* 2008; 52(1):45-57.
 Barrio AV, Clark BD, et al. Clinicopathologic Features and Long-Term Outcomes of 293 Phyllodes Tumors of the Breast. *Ann Surg Oncol* 2007; 14(10):2961-2970.
 Tan PH, Jayabaskar T, et al. Phyllodes Tumors of the Breast. The Role of Pathologic Parameters. *Am J Clin Pathol* 2005; 123(4):529-540.

Case No. 9, Accession No. 30561

March 2009

Costa Mesa (College Hospital) - Fibrosarcoma
Glendale - Spindled-cell carcinoma
Loma Linda - Dermatofibrosarcoma
San Diego (Naval Medical Center) - DFSP with fibrosarcomatous change

Florida (Naples Pathology Associates) - Fibromatosis
Georgia, Decatur - Infiltrating lobular carcinoma and spindle cell neoplasm (rule out solitary fibrous tumor)
Illinois (Heartland Regional Medical Center) - Well-differentiated fibrosarcoma
Kansas (Coffeyville Regional Medical Center) - Fibrosarcoma
Kansas (Peterson Laboratory Services) - Fibrosarcoma
Louisiana, LSUHSC - Low grade MFH vs. DFSP
Michigan (Pinkus Dermatopathology Laboratory) - Low grade stromal sarcoma vs. DFSP
Michigan (St. Mary's Health Care) - Fibromatosis
New Mexico (University of New Mexico) - Dermatofibrosarcoma protuberans
New York (Albany Medical Center) - High grade sarcoma
New York (Stony Brook University Medical Center) - Sarcoma, NOS, low grade
New York (SUNY Downstate Medical Center) - Sarcoma
New York (Westchester County Medical Center) - Stromal sarcoma
Ohio (St. Elizabeth Health Center) - Malignant fibrous histiocyoma vs. fibrosarcoma
Ohio (University of Toledo) - DFSP
Oregon (Oregon Health and Science University) - Nodular fasciitis (based on histology), perform additional
cytokeratin stains to exclude metaplastic carcinoma
Pennsylvania (Conemaugh Memorial Medical Center) - Sarcoma, NOS
Pennsylvania (Fox Chase Cancer Center) - Spindle cell sarcoma
Puerto Rico (University of Puerto Rico) - Fibrosarcoma
Tennessee, Knoxville - High grade malignant phyllodes tumor
Texas, Crystal Beach - Sarcoma, spindle cell morphology
Texas, Lubbock - Malignant fibrous histiocyoma
Texas (Scott and White Memorial Hospital) - Spindle cell sarcoma
Wisconsin, Green Bay - Metaplastic carcinoma
Wisconsin, Madison - Solitary fibrous tumor
Canada (Pasqua Hospital) - Malignant spindle cell tumor probable carcinoma
Canada (University of Sherbrooke) - Fibrosarcoma (low grade fibromyxoid)
Japan (Asahi General Hospital) - Pseudoangiomatous stromal hyperplasia
Japan (Shizuoka Tokushukei Hospital) - Solitary fibrous tumor
Spain (Provisa Hospital) - Low grade fibrosarcoma
United Kingdom (John Radcliffe Hospital) - Phyllodes tumor, malignant

Case 9 - Diagnosis:

Malignant phyllodes tumor, breast
T-04000, M-90213

Case 9 - References:

Fou A, Schnabel FR, et al. Long-Term Outcomes of Malignant Phyllodes Tumors Patients. An Institutional Experience. *Am J Surg* 2006; 192(4):492-495.
Tomita T, Ren Y, et al. Phyllodes Tumor of Borderline Malignancy. Seven Year Follow-Up with Immunohistochemical Study. *Pathol Int* 2005; 55(9):585-589.
Tan PH, Jayabaskar T, et al. Phyllodes Tumors of the Breast. The Role of Pathologic Parameters. *Am J Clin Pathol* 2005; 123(4):529-540.
Barrio AV, Clark BD, et al. Clinicopathologic Features and Long-Term Outcomes of 293 Phyllodes Tumors of the Breast. *Ann Surg Oncol* 2007; 14(10):2961-2970.
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Ben Hassoua J, Damak T, et al. Phyllodes Tumors of the Breast. A Case Series of 106 Patients. *Am J Surg* 2006; 192(2):141-147.

Case No. 10, Accession No. 30778

March 2009

Costa Mesa (College Hospital) - Rhabdomyosarcoma
Glendale - Pleomorphic rhabdomyosarcoma

Loma Linda - Giant cell sarcoma
San Diego (Naval Medical Center) - Pleomorphic high grade sarcoma
Florida (Naples Pathology Associates) - Leiomyosarcoma, poorly differentiated
Georgia, Decatur - Rhabdomyosarcoma
Illinois (Heartland Regional Medical Center) - Post radiation sarcoma
Kansas (Coffeyville Regional Medical Center) - Rhabdomyosarcoma
Kansas (Peterson Laboratory Services) - Poorly differentiated sarcoma, favor rhabdomyosarcoma
Louisiana, LSUHSC - Leiomyosarcoma
Michigan (Pinkus Dermatopathology Laboratory) - Malignant fibrous histiocytoma, pleomorphic and myxoid
Michigan (St. Mary's Health Care) - Rhabdomyosarcoma
New Mexico (University of New Mexico) - Pleomorphic rhabdomyosarcoma
New York (Albany Medical Center) - Rhabdomyosarcoma
New York (Stony Brook University Medical Center) - Pleomorphic angiosarcoma
New York (SUNY Downstate Medical Center) - Rhabdomyosarcoma
New York (Westchester County Medical Center) - Rhabdomyosarcoma
Ohio (St. Elizabeth Health Center) - Malignant fibrous histiocytoma with giant cells
Ohio (University of Toledo) - Rhabdomyosarcoma
Oregon (Oregon Health and Science University) - Pleomorphic sarcoma with myogenic differentiation
Pennsylvania (Conemaugh Memorial Medical Center) - Post radiation sarcoma of breast, high grade
Pennsylvania (Fox Chase Cancer Center) - Rhabdomyosarcoma
Puerto Rico (University of Puerto Rico) - Pleomorphic sarcoma (MFH) radiation induced
Tennessee, Knoxville - Pleomorphic rhabdomyosarcoma
Texas, Crystal Beach - Malignant fibrous histiocytoma
Texas, Lubbock - Rhabdomyosarcoma
Texas (Scott and White Memorial Hospital) - Pleomorphic sarcoma
Wisconsin, Green Bay - Leiomyosarcoma
Wisconsin, Madison - High grade sarcoma
Canada (Pasqua Hospital) - Pleomorphic malignant neoplasm
Canada (University of Sherbrooke) - High grade sarcoma (rhabdomyosarcoma)
Japan (Asahi General Hospital) - Pleomorphic rhabdomyosarcoma
Japan (Shizuoka Tokushukei Hospital) - Postradiation sarcoma (MFH)
Spain (Provisa Hospital) - Rhabdomyosarcoma
United Kingdom (John Radcliffe Hospital) - Pleomorphic sarcoma, NOS

Case 10 - Diagnosis:

Post radiation pleomorphic sarcoma with myogenous differentiation (rhabdomyosarcoma), breast
 T-04000, M-88003

Case 10 - References:

Blanchard DK, Raynolds C, et al. Radiation-Induced Breast Sarcoma. *Am J Surg* 2002; 184(4):356-358.
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 Kirova YM, Vilcoq JR, et al. Radiation-Induced Sarcomas After Radiotherapy for Breast Carcinoma. A Large-Scale Single-Institutional Review. *Cancer* 2005; 104(4):856-863.
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