



CALIFORNIA
TUMOR TISSUE REGISTRY

BREAST PATHOLOGY

Minutes – Subscription A

September, 2005



SUGGESTED READING (General Topics from Recent Literature):

Update on Detection of Sentinel Lymph Nodes in Patients With Breast Cancer. Aarsvold JN, and Alazraki NP. *Semin Nucl Med* 2004; 35:116-128.

Nutritional Genomics in Practice. Where Do We Begin. DeBusk RM, Fogarty CP, et al. *J of Am Diet Assoc* 2005; 105:589-598.

Introduction. Translating New Biology Into Clinical Practice. Tefferi A. *Gene in Clin Prac* 2005; 80(1):61-62.

Lymphatic Mapping and Sentinel Node Biopsy. A Surgical Perspective. Kaleya RN, Heckman JT, Most M, et al. *Semin Nucl Med* 2004; 35:129-134.

California Tumor Tissue Registry
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FILE DIAGNOSES

CTTR Subscription A

September, 2005

(If possible, submit answers on website at www.cttr.org.
Click “subscriptions”, then click submit answers”.)

Case 1:

Adenoid cystic carcinoma, breast
T-04000, M-82003

Case 2:

Inflammatory myofibroblastic tumor/pseudotumor, breast
T-04000, M-76820

Case 3:

Florid ductal hyperplasia and focal micropapillary DCIS, breast
T-04000, M-72420

Case 4:

Metaplastic carcinoma metastatic to axillary node(s), breast
T-04000, M-80106

Case 5:

Phyllodes tumor, breast
T-04000, M-90213

Case 6:

Fibroadenoma, breast
T-04000, M-90100

Case 7:

Adenomyoepithelioma, breast
T-04000, M-81400

Case 8:

Infiltrating high grade ductal carcinoma, breast
T-04000, M-85003

Case 9:

Infiltrating lobular carcinoma with neuroendocrine feature, breast
T-04000, M-85202

Case 10:

Angiosarcoma, breast
T-04000, M-91203

Alameda (Alameda County Medical Center) - Adenoid cystic carcinoma
Baldwin Park (Kaiser Permanente) - Adenoid cystic carcinoma (3)
Fresno (St. Agnes Medical Center) - Adenoid cystic carcinoma
Fontana (Kaiser Permanente) - Adenoid cystic carcinoma vs. adenomyoepithelioma
Glendale - Adenoid cystic carcinoma
Hayward/Fremont - Adenoid cystic carcinoma
Loma Linda (Loma Linda Pathology Residents) - Adenoid cystic carcinoma, breast
Long Beach (Lakewood Regional Medical Center) - Adenoid cystic carcinoma (7)
Monterey (Community Hospital of Monterey Peninsula) - Adenoid cystic carcinoma
Mountain View (El Camino Hospital) - Adenoid cystic carcinoma
Oakland (Kaiser Permanente) - Adenoid cystic carcinoma (4)
Orange (Orange County Medical Group) - Adenoid cystic carcinoma
Riverside (Kaiser Permanente) - Infiltrating ductal carcinoma, adenoid cystic type
San Diego (Naval Medical Center) - Adenoid cystic carcinoma (2)
Santa Barbara (Cottage Hospital) - Adenoid cystic carcinoma
Santa Rosa (Santa Rosa Memorial Hospital) - Adenocystic carcinoma (3)
Ventura - Adenoid cystic carcinoma
Woodland Hills - Adenoid cystic carcinoma
Arizona, Phoenix - Adenoid cystic carcinoma
Arkansas (UAMS) - Adenoid cystic carcinoma, breast
Colorado (Evergreen) - Adenoid cystic carcinoma
Florida (Baptist Hospital) - Adenoid cystic carcinoma of the breast (3); Secretory carcinoma (2)
Florida (Tallahassee) - Cribriform carcinoma, invasive and in-situ
Florida (Winter Haven) - Adenoid cystic carcinoma
Illinois (Fairview Ridges Hospital) - Adenoid cystic carcinoma (2)
Illinois (Loyola University of Chicago) - Adenoid cystic carcinoma, grade 2, (c-kit and collagen 4 immunoperoxidase stain to confirm diagnosis)
Illinois (Naval Hospital/Great Lakes) - Adenoid cystic carcinoma
Illinois (Oak Brook) - Adenoid cystic carcinoma
Indiana (Kakomo Pathologist Health System) - Secretory carcinoma
Indiana (St. Joseph Hospital) - Breast papillary carcinoma
Louisiana (Louisiana State University Health Service Center) - Adenoid cystic carcinoma
Louisiana (Orleans Parrish Coroners Office) - Ductal carcinoma, cribriform type
Maryland (National Naval Medical Center) - Adenoid cystic carcinoma
Maryland (Northwest Hospital Center) - Adenoid cystic carcinoma
Massachusetts (Berkshire Medical Center) - Adenoid cystic carcinoma (8); Infiltrating cribriform carcinoma (1)
Michigan (Kalamazoo) - Adenoid cystic carcinoma
Michigan (Oakwood Hospital) - Adenoid cystic carcinoma
Michigan (St. Joseph Mercy Hospital) - Adenoid cystic carcinoma
New York (Long Island Jewish Medical Center) - Adenoid cystic carcinoma
New York (Nassau University Medical Center) - Invasive micropapillary carcinoma
New York (Stony Brook University Hospital Residents) - Collagenous (mucinous) spherulosis
New York (SUNY Downstate Residents) - Adenoid cystic carcinoma
New York (Westchester Medical Center) - Adenoid cystic carcinoma vs. collagen spherulosis
North Carolina (Pisgah Associates of Pathology) - Adenoid cystic carcinoma
Oklahoma, Oklahoma City - Adenoid cystic carcinoma
Oklahoma, Tulsa - Adenoid cystic carcinoma
Pennsylvania (Allegheny General Hospital) - Adenoid cystic carcinoma
Pennsylvania (Conemaugh Memorial Medical Center) - Adenoid cystic carcinoma
Pennsylvania (Drexel University College of Medicine) - Adenoid cystic carcinoma
Pennsylvania (Mt. Nittany Medical Center) - Invasive secretory carcinoma

Pennsylvania (Pennsylvania Hospital Residents) - Secretory carcinoma
Puerto Rico (University of Puerto Rico) - Adenoid cystic carcinoma
Texas (Georgetown Healthcare System) - Secretory carcinoma
Texas, Houston - Possible adenoid cystic carcinoma
Texas, Lubbock - Mixed cribriform and adenoid cystic carcinoma
Texas (ProPath Associates) - Adenoid cystic carcinoma (2)
Texas, San Antonio - Adenoid cystic carcinoma
Texas (Scott & White Memorial Hospital) - Invasive cribriform carcinoma
Texas (Wilford Hall Medical Center) - Adenoid cystic carcinoma
Washington (Lower Columbia Pathologists, PS) - Infiltrating carcinoma/differential between infiltrating duct (with prominent cribriform pattern and adenoid cystic carcinoma) (1); Adenoid cystic carcinoma (5)
West Virginia (Greenbrier Valley Medical Center) - Adenoid cystic carcinoma
West Virginia (Wetzel County Hospital) - Adenoid cystic carcinoma
Wisconsin (Marshfield Clinic) - Mammary adenoid cystic carcinoma
Australia (North Queensland Pathology Group) - Collagenous spherulosis
Australia (Royal Prince Alfred Hospital) - Adenoid cystic carcinoma
Australia (Sullivan Nicolaides Pathology) - Adenoid cystic carcinoma
Brazil (Minas Gerais School of Medicine) - Adenoid cystic carcinoma, low grade
Brazil, Sao Paulo - Adenoid cystic carcinoma (2)
Germany (UKE, Kerninstitut fur Pathologie) - Adenoid cystic carcinoma
Jamaica (The University of the West Indies) - Adenoid cystic carcinoma
Japan (Kyoto University Hospital) - Adenoid cystic carcinoma
Netherlands, Amstelveen - Infiltrating ductal adenocarcinoma (salivary gland-like type)
Qatar (Hamad Medical Corporation) - Collagenous spherulosis associated with fibrocystic changes

Case 1 - Diagnosis:

Adenoid cystic carcinoma, breast
 T-04000, M-82003

Case 1 – References:

Lamovec J, Us-Krasovec M, Zidar A and Kljun A. Adenoid Cystic Carcinoma of the Breast. A Histologic, Cytologic and Immunohistochemical Study. *Semin Diagn Pathol* 1989; 6(2):153-164.
 McClenathan JH and de la Roza G. Adenoid Cystic Breast Cancer. *Am J Surg* 2002; 183(6):646-649.
 Arpino G, Clark GM, Mohsin S, et al. Adenoid Cystic Carcinoma of the Breast. Molecular Markers, Treatment, and Clinical Outcome. *Cancer* 2002; 15:94(8):2119-2127.
 Millar BA, Kerba M, Youngson B, et al. The Potential Role of Breast Conservation Surgery and Adjuvant Breast Radiation for Adenoid Cystic Carcinoma of the Breast. *Breast Cancer Res Treat* 2004; 87(3):225-232.
 Shin SJ and Rosen PP. Solid Variant of Mammary Adenoid Cystic Carcinoma with Basaloid Features. A Study of Nine Cases. *Am J Surg Pathol* 2002; 26(4):413-420.

Case No. 2, Accession No. 29476

September 2005

Alameda (Alameda County Medical Center) - Atypical spindle cell proliferation (diagnosis requires immunoperoxidase stains)
Baldwin Park (Kaiser Permanente) - Neurofibroma (2); Neurofibroma with chronic inflammation (1)
Fresno (St. Agnes Medical Center) - Plasma cell mastitis
Fontana (Kaiser Permanente) - Inflammatory pseudotumor vs. fasciitis vs. neurofibroma
Glendale - Metaplastic ossification
Hayward/Fremont - Inflammatory pseudotumor (inflammatory myofibroblastoma)
Loma Linda (Loma Linda Pathology Residents) - Peripheral nerve sheath tumor vs. neurofibroma
Long Beach (Lakewood Regional Medical Center) - Inflammatory pseudotumor with ossification (7)
Monterey (Community Hospital of Monterey Peninsula) - Metaplastic carcinoma
Mountain View (El Camino Hospital) - Spindle cell carcinoma
Oakland (Kaiser Permanente) - Neurofibroma with metaplastic elements (4)

Orange (Orange County Medical Group) - Neurofibroma

Riverside (Kaiser Permanente) - Osseous metaplasia with dense plasmacytic infiltrate (need kappa/lambda immunostains for monoclonality)

San Diego (Naval Medical Center) - Inflammatory myofibroblastic tumor (1); Lymphocytic mastitis (1)

Santa Barbara (Cottage Hospital) - Atypical myxoid myofibroblastoma with plasmacytosis

Santa Rosa (Santa Rosa Memorial Hospital) - Neurofibroma (2); Benign focus of fibrosis, chronic inflammation, metaplastic bone formation, and reactive stromal changes (1)

Ventura - Osseous metaplasia

Woodland Hills - Myofibroblastic pseudotumor

Arizona, Phoenix - Plasma cell mastitis

Arkansas (UAMS) - Neurofibroma, breast

Colorado (Evergreen) - Inflammatory myofibroblastic tumor

Florida (Baptist Hospital) - Neurofibroma (5)

Florida (Tallahassee) - Metaplastic carcinoma

Florida (Winter Haven) - Mastitis with osseous metaplasia

Illinois (Loyola University of Chicago) - Neurofibromatosis with dense plasma cell infiltrate (favor reactive), kappa and lambda light chain immunoperoxidase stain to exclude plasma cell dyscrasia. Diff Dx: includes metaplastic carcinoma

Illinois (Naval Hospital –Great Lakes) - Metaplastic carcinoma with osseous differentiation

Illinois (Oak Brook) - Ancient schwannoma

Indiana (Kakomo Pathologist Health System) - Neurofibroma with osseous metaplasia

Indiana (St. Joseph Hospital) - Osteofibrous dysplasia

Louisiana (Louisiana State University Health Service Center) - Incipient neurofibroma

Louisiana (Orleans Parrish Coroners Office) - Neurofibroma with mucinous degeneration

Maryland (National Naval Medical Center) - Neurofibroma

Maryland (Northwest Hospital Center) - Peripheral nerve sheath tumor, favor malignant

Massachusetts (Berkshire Medical Center) - Osseous metaplasia

Michigan (Kalamazoo) - Inflammatory myofibroblastic tumor

Michigan (Oakwood Hospital) - Plexiform neurofibroma

Michigan (St. Joseph Mercy Hospital) - Nodular fasciitis

New York (Long Island Jewish Medical Center) - Inflammatory myofibroblastic tumor

New York (Nassau University Medical Center) - Plasmacytic mastitis with ossification

New York (Stony Brook University Hospital Residents) - Neurofibroma

New York (SUNY Downstate Residents) - Neurofibroma with osseous metaplasia/hamartoma

New York (Westchester Medical Center) - Inflammatory pseudotumor

North Carolina (Pisgah Associates of Pathology) - Inflammatory pseudotumor/inflammatory myofibroblastic tumor

Oklahoma, Oklahoma City - Malignant peripheral nerve sheath tumor

Oklahoma, Tulsa - Inflammatory pseudotumor vs. malignant lymphoma vs. plasma cell granuloma

Pennsylvania (Allegheny General Hospital) - Malignant triton tumor

Pennsylvania (Conemaugh Memorial Medical Center) - Malignant peripheral nerve sheath tumor

Pennsylvania (Drexel University College of Medicine) - Inflammatory myofibroblastic tumor with ossification/fasciitis ossificans

Pennsylvania (Mt. Nittany Medical Center) - Myxoid neurofibroma

Pennsylvania (Pennsylvania Hospital Residents) - Metaplastic carcinoma with osseous differentiation

Puerto Rico (University of Puerto Rico) - Inflammatory pseudotumor

Texas (Georgetown Healthcare System) - Malignant peripheral nerve sheath tumor with ossification

Texas, Houston - Myoepithelioma

Texas, Lubbock - Plexiform neurofibroma with bone metaplasia

Texas (ProPath Associates) - Neurofibromatous stromal change (1); Neurofibromatous change of stroma (1)

Texas, San Antonio - MFH vs. malignant IMT vs. sarcomatoid carcinoma

Texas (Scott & White Memorial Hospital) - Neurofibroma

Texas (Wilford Hall Medical Center) - Sarcomatoid carcinoma vs. carcinosarcoma

Washington (Lower Columbia Pathologists, PS) - Sclerosing lymphocytic lobulus (? diabetic) (1); Myxoid neurofibroma with marked inflammatory foreign body and fibrosis. Mild FCD/plasma cells (1); Malignant peripheral nerve sheath tumor (1); Schwannoma (neurilemmoma) (1); Plasma cells mastitis (1); Myxoid neurofibroma (1)

West Virginia (Greenbrier Valley Medical Center) - Neurofibromatosis with osseous metaplasia

[West Virginia \(Wetzel County Hospital\)](#) - Inflamed neurofibroma
[Wisconsin \(Marshfield Clinic\)](#) - Myofibroblastoma, myxoid variant
[Australia \(North Queensland Pathology Group\)](#) - Plasma cell mastitis/inflammatory pseudotumor
[Australia \(Royal Prince Alfred Hospital\)](#) - Inflammatory pseudotumor
[Australia \(Sullivan Nicolaides Pathology\)](#) - Plasma cell granuloma
[Brazil \(Minas Gerais School of Medicine\)](#) - Inflammatory myofibroblastic tumor with bone metaplasia
[Brazil, Sao Paulo](#) - Benign peripheral nerve sheath tumor (2)
[Germany \(UKE, Kerninstitut fur Pathologie\)](#) - Neurofibroma
[Jamaica \(The University of the West Indies\)](#) - Metaplastic carcinoma
[Japan \(Kyoto University Hospital\)](#) - Involvement of neurofibromatosis
[Netherlands, Amstelveen](#) - Neurofibroma and metaplastic bone formation and plasmacytic cell infiltration
[Qatar \(Hamad Medical Corporation\)](#) - Plasma cell granuloma (inflammatory myofibroblastic tumor)

Case 2 - Diagnosis:

Inflammatory myofibroblastic tumor/pseudotumor, breast
 T-04000, M-76820

Case 2 - References:

Fisher, C. Myofibroblastic Malignancies. *Adv Anat Pathol* 2004; 11(4):190-201.
 Egden B. Electron Microscopy in the Study of Myofibroblastic Lesions. *Semin Diagn Pathol* 2003; 20(1):13-24.
 Coffin CM, Watterson J, Priest JR, et al. Extrapulmonary Inflammatory Myofibroblastic Tumor (Inflammatory Pseudotumor)—A Clinicopathologic and Immunohistochemical Study of 84 Cases. *Am J Surg Pathol* 1995; 19(8):859-872.
 Hussong JW, Brown M, Perkins SL, et al. Comparison of DNA Ploidy, Histologic and Immunohistochemical Findings with Clinical Outcome in Inflammatory Myoblastic Tumors. *Mod Pathol* 1999; 12(3):279-286.
 Zardawi IM, Clark D and Williamsz G. Inflammatory Myofibroblastic Tumor of the Breast. A Case Report. *Acta Cytol* 2003; 47(6):1077-1081.

Case No. 3, Accession No. 30000

September 2005

[Alameda \(Alameda County Medical Center\)](#) - Microglandular adenosis and intraductal hyperplasia without atypia
[Baldwin Park \(Kaiser Permanente\)](#) - Complex sclerosing lesion (3)
[Fresno \(St. Agnes Medical Center\)](#) - Florid hyperplasia
[Fontana \(Kaiser Permanente\)](#) - Florid ductal hyperplasia, intraductal papilloma and adenosis vs. DCIS and myoepitheliosis
[Glendale](#) - Intraductal papilloma
[Hayward/Fremont](#) - Intraductal papillomatosis
[Loma Linda \(Loma Linda Pathology Residents\)](#) - Sclerosing adenosis with intraductal papilloma
[Long Beach \(Lakewood Regional Medical Center\)](#) - Intraductal papillomatosis next to lumpectomy healing site (7)
[Monterey \(Community Hospital of Monterey Peninsula\)](#) - Florid duct hyperplasia
[Mountain View \(El Camino Hospital\)](#) - Microglandular adenosis
[Oakland \(Kaiser Permanente\)](#) - FCC with florid hyperplasia and adenosis (4)
[Orange \(Orange County Medical Group\)](#) - Benign papillomas
[Riverside \(Kaiser Permanente\)](#) - Myoepithelial carcinoma
[San Diego \(Naval Medical Center\)](#) - Fibrocystic changes with peripheral intraductal papilloma (1); Intraductal papillomatosis (1)
[Santa Barbara \(Cottage Hospital\)](#) - Proliferative fibrocystic changes
[Santa Rosa \(Santa Rosa Memorial Hospital\)](#) - Papilloma (1); Intraductal papilloma (2)
[Ventura](#) - Intraductal papilloma
[Woodland Hills](#) - Malignant myoepithelioma (pending immunohistochemistry)
[Arizona, Phoenix](#) - Metaplastic carcinoma
[Arkansas \(UAMS\)](#) - Intraductal papilloma and inflammatory myofibroblastic tumor, breast
[Colorado \(Evergreen\)](#) - Sarcomatoid carcinoma
[Florida \(Baptist Hospital\)](#) - Intraductal papilloma (4); Well-differentiated papillary carcinoma with cyst formation (1)
[Florida \(Tallahassee\)](#) - Atypical ductal hyperplasia, secretory DCIS
[Florida \(Winter Haven\)](#) - Papillomatosis

Illinois (Fairview Ridges Hospital) - Intraductal papilloma with hyperplasia, ? fibromatosis-like metaplastic carcinoma (1) DCIS, micropapillary and solid (1)

Illinois (Loyola University of Chicago) - Benign proliferative changes, fibrocystic change, florid ductal hyperplasia of the usual type, multiple intraductal papillomas, adenosis, sclerosing adenosis, columnar cell change, apocrine metaplasia

Illinois (Naval Hospital –Great Lakes) - Fibrocystic disease

Illinois (Oak Brook) - Florid papillomatosis

Indiana (Kakomo Pathologist Health System) - Myoepithelial carcinoma

Indiana (St. Joseph Hospital) - Metaplastic carcinoma

Louisiana (Louisiana State University Health Service Center) - Intraductal papilloma

Louisiana (Orleans Parrish Coroners Office) - Intraductal papillary adenosis

Maryland (National Naval Medical Center) - Radial scar

Maryland (Northwest Hospital Center) - Intraductal papillomas with atypical hyperplasia

Massachusetts (Berkshire Medical Center) - Metaplastic carcinoma

Michigan (Kalamazoo) - Radial scar

Michigan (Oakwood Hospital) - Benign Phyllodes tumor

Michigan (St. Joseph Mercy Hospital) - Proliferative fibrocystic changes

New York (Long Island Jewish Medical Center) - Florid proliferative fibrocystic changes with papillomatosis

New York (Nassau University Medical Center) - Atypical intraductal papillomatosis

New York (Stony Brook University Hospital Residents) - Synovial sarcoma

New York (SUNY Downstate Residents) - Papillary intraductal hyperplasia with atypia

New York (Westchester Medical Center) - Benign proliferative breast disease

North Carolina (Pisgah Associates of Pathology) - Complex sclerosing lesion with focal atypia (?ADM vs. lobular extension)

Oklahoma, Oklahoma City - Fibrosarcoma

Oklahoma, Tulsa - Proliferative fibrocystic change

Pennsylvania (Allegheny General Hospital) - Sclerosing papilloma with fibromatosis

Pennsylvania (Conemaugh Memorial Medical Center) - Fat necrosis with intraductal papilloma

Pennsylvania (Drexel University College of Medicine) - Sarcomatoid carcinoma of the breast

Pennsylvania (Mt. Nittany Medical Center) - Microglandular adenosis

Pennsylvania (Pennsylvania Hospital Residents) - Malignant myoepithelioma

Puerto Rico (University of Puerto Rico) - Nodular sclerosing adenosis

Texas (Georgetown Healthcare System) - Lipid rich or histiocytic carcinoma

Texas, Houston - Apocrine carcinoma

Texas, Lubbock - Papillomatosis

Texas (ProPath Associates) - Benign intraductal papillomatosis (2)

Texas, San Antonio - Micropapillary DCIS, papillomatosis and fibrocystic changes

Texas (Scott & White Memorial Hospital) - Fibrocystic changes with florid non-atypical ductal hyperplasia

Texas (Wilford Hall Medical Center) - Benign papilloma, fibrocystic changes and florid usual ductal hyperplasia

Washington (Lower Columbia Pathologists, PS) - Atypical intraductal hyperplasia, florid plus other benign changes (1); FLD with intraductal hyperplasia, ? atypical, sclerosing adenosis (1); Proliferative fibrocystic change with florid hyperplasia, focal atypical ductal hyperplasia, adenosis, papilloma, hypersecretory change (1); Tubular adenosis and sclerosing adenosis, also fibrocystic changes with intraductal hyperplasia without atypia (1); DCIS/papillary type, focal area suspicious for invasive (would do actin/PAS) (1); Fibrocystic disease, papillomatosis (1)

West Virginia (Greenbrier Valley Medical Center) - Micropapillary ductal carcinoma in-situ

West Virginia (Wetzel County Hospital) - Fibrocystic disease with atypical ductal hyperplasia

Wisconsin (Marshfield Clinic) - Fibrocystic changes of breast

Australia (North Queensland Pathology Group) - Fibrocystic change with intraduct papillomatosis and columnar cell hyperplasia

Australia (Royal Prince Alfred Hospital) - Metaplastic carcinoma

Australia (Sullivan Nicolaides Pathology) - Florid fibrocystic change

Brazil (Minas Gerais School of Medicine) - Myoepithelial carcinoma

Brazil, Sao Paulo - Florid epithelial hyperplasia with fibrocystic changes (2)

Germany (UKE, Kerninstitut fur Pathologie) - Lobular cancerization

Jamaica (The University of the West Indies) - Squamous carcinoma with clear cell features

Japan (Kyoto University Hospital) - Intraductal papilloma

Netherlands, Amstelveen - Myofibroblastoma

Qatar (Hamad Medical Corporation) - Fibrocystic changes of breast with atypical ductal epithelial hyperplasia

Case 3 - Diagnosis:

Florid ductal hyperplasia and focal micropapillary DCIS, breast
T-04000, M-72420

Case 3 - References:

- Newman LA. Locoregional Control of Breast Cancer. Surgical Technique Does Matter. *Ann Surg Oncol* 2003; 11(1):11-13.
- Diaz LK and Sneige N. Estrogen Receptor Analysis for Breast Cancer. Current Issues and Keys to Increasing Testing Accuracy. *Adv Anat Pathol* 2005; 12(1):10-19.
- Sauer T, Lomo J, Garred O, et al. Cytologic Features of Ductal Carcinoma In-Situ in Fine-Needle Aspiraton of the Breast Mirror the Histopathologic Growth Pattern Heterogeneity and Grading. *Cancer* 2005; 105(1):21-27.
- Kuroda H, Sakamoto G, Ohnisi K, et al. Clinical and Pathologic Features of Invasive Micropapillary Carcinoma. *Breast Cancer* 2004; 11(2):169-174.
- Kuroda H, Sakamoto G, Ohnisi K, et al. Overexpression of Her2/neu, Estrogen and Progesterone Receptors in Invasive Micropapillary Carcinoma of the Breast. *Breast Cancer* 2004; 11(3):301-306.

Case No. 4, Accession No. 28092

September 2005

Alameda (Alameda County Medical Center) - Squamous cell carcinoma, metastatic

Baldwin Park (Kaiser Permanente) - Carcinoma (basosquamous), lung primary (1); Metastatic adenosquamous carcinoma (1); Metastatic squamous carcinoma to lymph node (1);

Fresno (St. Agnes Medical Center) - Poorly differentiated ductal carcinoma

Fontana (Kaiser Permanente) - Metastatic metaplastic carcinoma

Glendale - Metastatic squamous cell carcinoma

Hayward/Fremont - Serosal ductal breast carcinoma, metastatic to lymph node

Loma Linda (Loma Linda Pathology Residents) - Medullary carcinoma

Long Beach (Lakewood Regional Medical Center) - Metaplastic carcinoma with squamous features (7)

Monterey (Community Hospital of Monterey Peninsula) - Adenocarcinoma

Mountain View (El Camino Hospital) - Squamous cell carcinoma

Oakland (Kaiser Permanente) - Metastatic metaplastic carcinoma (4)

Orange (Orange County Medical Group) - Metastatic carcinoma (metaplastic)

Riverside (Kaiser Permanente) - Metastatic metaplastic carcinoma

San Diego (Naval Medical Center) - Poorly differentiated infiltrating ductal carcinoma with areas of metaplastic change (1); Poorly differentiated carcinoma (2); Metaplastic carcinoma (1)

Santa Barbara (Cottage Hospital) - Metaplastic carcinoma, metastatic

Santa Rosa (Santa Rosa Memorial Hospital) - Metastatic carcinoma (2); Metastatic squamous cell carcinoma (1)

Ventura - Squamous cell carcinoma

Woodland Hills - Metaplastic carcinoma

Arizona, Phoenix - Metaplastic carcinoma, metastatic from breast

Arkansas (UAMS) - Metaplastic carcinoma, metastatic to lymph node

Colorado (Evergreen) - Metaplastic carcinoma

Florida (Baptist Hospital) - Metaplastic carcinoma (4); Mixed ductal/squamous carcinoma (1)

Florida (Tallahassee) - Metaplastic carcinoma

Florida (Winter Haven) - Metaplastic carcinoma

Illinois (Fairview Ridges Hospital) - Adenosquamous carcinoma (1); Consistent with poorly differentiated infiltrating duct carcinoma (1)

Illinois (Loyola University of Chicago) - Lymph node with residual metastatic carcinoma with status post chemotherapy/radiotherapy related changes. Clinical history suggestive of inflammatory carcinoma

Illinois (Naval Hospital –Great Lakes) - Metastatic poorly differentiated carcinoma

Illinois (Oak Brook) - Carcinoma, apocrine

Indiana (Kakomo Pathologist Health System) - Metastatic metaplastic carcinoma

Indiana (St. Joseph Hospital) - Metastatic carcinoma

Louisiana (Louisiana State University Health Service Center) - Metaplastic carcinoma
Louisiana (Orleans Parrish Coroners Office) - Metastatic intraductal carcinoma
Maryland (National Naval Medical Center) - Metaplastic carcinoma
Maryland (Northwest Hospital Center) - Squamous cell carcinoma
Massachusetts (Berkshire Medical Center) - Metastatic mucoepidermoid carcinoma (1); Metastatic metaplastic carcinoma (1)
Michigan (Kalamazoo) - Metastatic metaplastic carcinoma
Michigan (Oakwood Hospital) - Invasive carcinoma, with squamous features
Michigan (St. Joseph Mercy Hospital) - Metastatic carcinoma
New York (Long Island Jewish Medical Center) - Poorly differentiated metastatic mammary carcinoma
New York (Nassau University Medical Center) - Poorly differentiated squamous cell carcinoma
New York (Stony Brook University Hospital Residents) - Metaplastic carcinoma
New York (SUNY Downstate Residents) - Metaplastic carcinoma
New York (Westchester Medical Center) - Metastatic metaplastic duct carcinoma
North Carolina (Pisgah Associates of Pathology) - Metaplastic carcinoma
Oklahoma, Oklahoma City - Metaplastic carcinoma
Oklahoma, Tulsa - Invasive metaplastic carcinoma with squamous features
Pennsylvania (Allegheny General Hospital) - Metaplastic carcinoma
Pennsylvania (Conemaugh Memorial Medical Center) - Metastatic medullary carcinoma
Pennsylvania (Drexel University College of Medicine) - Metastatic mammary carcinoma, ductal type
Pennsylvania (Mt. Nittany Medical Center) - Metastatic metaplastic carcinoma
Pennsylvania (Pennsylvania Hospital Residents) - Inflammatory carcinoma
Puerto Rico (University of Puerto Rico) - Metaplastic carcinoma/metastatic squamous carcinoma
Texas (Georgetown Healthcare System) - Metaplastic carcinoma with chondroid differentiation
Texas, Houston - Metastatic carcinoma
Texas, Lubbock - Metastatic metaplastic carcinoma
Texas (ProPath Associates) - Metastatic breast carcinoma (1); Inflammatory adenocarcinoma of breast-lymph node met (1)
Texas, San Antonio - Metaplastic (sarcomatoid) carcinoma
Texas (Scott & White Memorial Hospital) - Metaplastic carcinoma
Texas (Wilford Hall Medical Center) - Metastatic adenosquamous carcinoma
Washington (Lower Columbia Pathologists, PS) - Poorly differentiated carcinoma, metastatic (1); Infiltrating ductal carcinoma with squamous metaplasia and necrosis metastatic, metaplastic carcinoma (1); Lymph node with poorly differentiated metastatic carcinoma with squamous differentiation (1); Metastatic carcinoma, favor breast origin, metaplastic carcinoma with focal squamous differentiation (1); Metastatic mammary carcinoma ductal type, poorly differentiated (1); Metastatic adenosquamous carcinoma (1)
West Virginia (Greenbrier Valley Medical Center) - Metastatic ductal cell carcinoma
West Virginia (Wetzel County Hospital) - Metastatic poorly differentiated carcinoma with squamous differentiation and necrosis
Wisconsin (Marshfield Clinic) - Metastatic mammary carcinoma with cartilage metaplasia
Australia (North Queensland Pathology Group) - Metastatic inflammatory carcinoma
Australia (Royal Prince Alfred Hospital) - Metaplastic carcinoma
Australia (Sullivan Nicolaides Pathology) - Metaplastic breast carcinoma (mainly squamous)
Brazil (Minas Gerais School of Medicine) - Metaplastic carcinoma heterologous, osseous type
Brazil, Sao Paulo - Metaplastic carcinoma (2)
Germany (UKE, Kerninstitut fur Pathologie) - Metastasis (adenosquamous carcinoma)
Jamaica (The University of the West Indies) - Invasive ductal carcinoma, poorly differentiated, metastatic
Japan (Kyoto University Hospital) - Squamous cell carcinoma (metaplastic carcinoma)
Netherlands, Amstelveen - Metastatic infiltrating ductal adenocarcinoma, matrix producing and squamous differentiation
Qatar (Hamad Medical Corporation) - Metastatic poorly differentiated carcinoma most probably of mammary origin

Case 4 - Diagnosis:

Metaplastic carcinoma metastatic to axillary node(s), breast
T-04000, M-80106

Case 4 - References:

World Health Organization. Histologic Typing of Breast Tumors. *Tumori* 1982; 68:181-198.

- Leibl S, Gogg-Kammerer M, Andrea Sommersacher MT, et al. Metaplastic Breast Carcinomas. Are They of Myoepithelial Differentiation? Immunohistochemical Profile of Sarcomatoid Subtype Using Novel Myoepithelial Markers. *Am J Surg Pathol* 2005; 29(3):347-353.
- Kurian KM and Al-Nafussi A. Sarcomatoid/Metaplastic Carcinoma of the Breast. A Clinicopathological Study of 12 Cases. *Histopathol* 2002; 40(1):58-64.
- Gobbi H, Simpson JF, et al. Metaplastic Breast Tumors with a Dominant Fibromatosis-Like Phenotype Have a High Risk of Local Recurrence. *Cancer* 1999; 85(10):2170-2182.
- Fisher BJ, Perera FE, Cooke AL, et al. Long-Term Follow-Up of Axillary Node-Positive Breast Cancer Patients Receiving Adjuvant Systemic Therapy Alone. Patterns of Recurrence. *Int J Radiat Oncol Biol Phys* 1997; 38(3):541-550.

Case No. 5, Accession No. 29467

September 2005

Alameda (Alameda County Medical Center) - Fibroadenoma
Baldwin Park (Kaiser Permanente) - Phyllodes, low grade (3)
Fresno (St. Agnes Medical Center) - Phyllodes tumor, benign
Fontana (Kaiser Permanente) - Fibroadenoma
Glendale - Fibroadenoma
Hayward/Fremont - Phyllodes tumor, low grade
Loma Linda (Loma Linda Pathology Residents) - Phyllodes tumor
Long Beach (Lakewood Regional Medical Center) - Phyllodes tumor, benign (7)
Monterey (Community Hospital of Monterey Peninsula) - Phyllodes tumor
Mountain View (El Camino Hospital) - Benign Phyllodes tumor
Oakland (Kaiser Permanente) - Phyllodes tumor, benign (4)
Orange (Orange County Medical Group) - Benign Phyllodes tumor
Riverside (Kaiser Permanente) - Phyllodes tumor
San Diego (Naval Medical Center) - Fibroadenoma (2)
Santa Barbara (Cottage Hospital) - Fibroadenoma
Santa Rosa (Santa Rosa Memorial Hospital) - Phyllodes vs. fibroadenoma (1); Fibroadenoma (2)
Ventura - Phyllodes tumor
Woodland Hills - Fibroadenoma
Arizona, Phoenix - Phyllodes tumor
Arkansas (UAMS) - Fibroadenoma
Colorado (Evergreen) - Benign Phyllodes tumor
Florida (Baptist Hospital) - Fibroadenoma with myxoid stroma (2); Fibroadenoma (3)
Florida (Tallahassee) - Phyllodes tumor
Florida (Winter Haven) - Benign Phyllodes tumor
Illinois (Fairview Ridges Hospital) - Fibroadenoma with pseudoangiomatoid stromal hyperplasia;(1); Phyllodes tumor (1)
Illinois (Loyola University of Chicago) - Benign Phyllodes tumor
Illinois (Naval Hospital –Great Lakes) - Benign Phyllodes tumor
Illinois (Oak Brook) - Phyllodes tumor, benign
Indiana (Kakomo Pathologist Health System) - Phyllodes tumor
Indiana (St. Joseph Hospital) - Phyllodes tumor
Louisiana (Louisiana State University Health Service Center) - Phyllodes tumor, benign
Louisiana (Orleans Parish Coroners Office) - Fibroadenoma
Maryland (National Naval Medical Center) - Phyllodes tumor, benign
Maryland (Northwest Hospital Center) - Benign Phyllodes tumor
Massachusetts (Berkshire Medical Center) - Phyllodes tumor, benign
Michigan (Kalamazoo) - Giant fibroadenoma
Michigan (Oakwood Hospital) - Fibroadenoma
Michigan (St. Joseph Mercy Hospital) - Phyllodes tumor
New York (Long Island Jewish Medical Center) - Benign Phyllodes tumor
New York (Nassau University Medical Center) - Phyllodes tumor, benign
New York (Stony Brook University Hospital Residents) - Fibroadenoma Phyllodes
New York (SUNY Downstate Residents) - Fibroadenoma with ductal hyperplasia
New York (Westchester Medical Center) - Fibroadenoma
North Carolina (Pisgah Associates of Pathology) - Phyllodes tumor, favor benign
Oklahoma, Oklahoma City - Fibroadenoma
Oklahoma, Tulsa - Fibroadenoma
Pennsylvania (Allegheny General Hospital) - Benign Phyllodes
Pennsylvania (Conemaugh Memorial Medical Center) - Phyllodes
Pennsylvania (Drexel University College of Medicine) - Phyllodes tumor

Pennsylvania (Mt. Nittany Medical Center) - Low grade Phyllodes tumor
Pennsylvania (Pennsylvania Hospital Residents) - Fibroadenoma with focal Phyllodes
Puerto Rico (University of Puerto Rico) - Fibroadenoma
Texas (Georgetown Healthcare System) - Fibroadenoma Phyllodes
Texas, Houston - Fibroadenoma vs. benign cystosarcoma Phyllodes with lobular CLS
Texas, Lubbock - Phyllodes tumor, borderline
Texas (ProPath Associates) - Benign Phyllodes tumor (giant fibroadenoma)
Texas, San Antonio - Phyllodes tumor, low grade
Texas (Scott & White Memorial Hospital) - Low grade Phyllodes tumor
Texas (Wilford Hall Medical Center) - Benign Phyllodes tumor (4); Fibroadenoma (1); Fibroadenoma with IDH (1)
Washington (Lower Columbia Pathologists, PS) - Fibroadenoma (2); Fibroadenoma/intracanalicular type with focal duct hyperplasia/?
 Atypia (1); Fibroadenoma, pericanalicular type (1); Juvenile fibroadenoma with focal sclerosing adenosis (1);
 Benign cystosarcoma Phyllodes tumor (1)
West Virginia (Greenbrier Valley Medical Center) - Phyllodes tumor
West Virginia (Wetzel County Hospital) - Fibroadenoma with epithelial hyperplasia
Wisconsin (Marshfield Clinic) - Phyllodes tumor, benign
Australia (North Queensland Pathology Group) - Benign Phyllodes tumor
Australia (Royal Prince Alfred Hospital) - Fibroadenoma with focal epithelial hyperplasia
Australia (Sullivan Nicolaides Pathology) - Low grade Phyllodes tumor
Brazil (Minas Gerais School of Medicine) - Benign Phyllodes tumor, fibroadenoma Phyllodes
Brazil, Sao Paulo - Fibroadenoma (2)
Germany (UKE, Kerninstitut für Pathologie) - Phyllodes tumor
Jamaica (The University of the West Indies) - Phyllodes tumor, low malignant potential
Japan (Kyoto University Hospital) - Phyllodes tumor, benign
Netherlands, Amstelveen - Benign Phyllodes tumor
Qatar (Hamad Medical Corporation) - Benign Phyllodes tumor

Case 5 - Diagnosis:

Phyllodes tumor, breast
 T-04000, M-90213

Case 5 - References:

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Case No. 6, Accession No. 29078

September 2005

Alameda (Alameda County Medical Center) - Tubular adenoma
Baldwin Park (Kaiser Permanente) - Fibroadenoma, cellular (1); Ductal adenoma (1); Fibroadenoma (1)
Fresno (St. Agnes Medical Center) - Adenoma
Fontana (Kaiser Permanente) - Fibroadenoma
Glendale - Adenosis tumor
Hayward/Fremont - Fibroadenoma
Loma Linda (Loma Linda Pathology Residents) - Lactating adenoma
Long Beach (Lakewood Regional Medical Center) - Fibroadenoma (7)
Monterey (Community Hospital of Monterey Peninsula) - Adenomyoepithelioma
Mountain View (El Camino Hospital) - Adenomyoepithelioma
Oakland (Kaiser Permanente) - Fibroadenoma (4)
Orange (Orange County Medical Group) - Fibroadenoma

Riverside (Kaiser Permanente) - Tubular adenoma/fibroadenoma
San Diego (Naval Medical Center) - Fibroadenoma (9); Adenomyoepithelioma (8)
Santa Barbara (Cottage Hospital) - Benign fibroadenoma variant
Santa Rosa (Santa Rosa Memorial Hospital) - Adenomyoepithelioma (2) Fibroadenoma (1)
Ventura - Fibroadenoma
Woodland Hills - Juvenile fibroadenoma (fibroadenoma with ductal hyperplasia)
Arizona, Phoenix - Fibroadenoma
Arkansas (UAMS) - Phyllodes tumor, benign
Colorado (Evergreen) - Tubular adenoma
Florida (Baptist Hospital) - Hamartoma (1); Juvenile fibroadenoma (1); Fibroadenoma vs. Phyllodes tumor, benign (1); Tubular adenoma (1); Fibroadenoma (1)
Florida (Tallahassee) - Fibroadenoma variant
Florida (Winter Haven) - Tubular adenoma
Illinois (Fairview Ridges Hospital) - Fibroadenoma (2)
Illinois (Loyola University of Chicago) - Fibroadenoma, pericanalicular type
Illinois (Naval Hospital –Great Lakes) - Fibroadenoma
Illinois (Oak Brook) - Tubular adenoma
Indiana (Kakomo Pathologist Health System) - Fibroadenoma ? with lactational change
Indiana (St. Joseph Hospital) - Fibroadenoma
Louisiana (Louisiana State University Health Service Center) - Fibroadenoma
Louisiana (Orleans Parrish Coroners Office) - Fibroadenoma
Maryland (National Naval Medical Center) - Nodular adenosis
Maryland (Northwest Hospital Center) - Adenomyoepithelioma
Massachusetts (Berkshire Medical Center) - Fibroadenoma
Michigan (Kalamazoo) - Tubular adenoma
Michigan (Oakwood Hospital) - Fibroadenoma, with fibrocystic change
Michigan (St. Joseph Mercy Hospital) - Fibroadenoma
New York (Long Island Jewish Medical Center) - Adenosis tumor
New York (Nassau University Medical Center) - Fibroadenoma
New York (Stony Brook University Hospital Residents) - Myxoid hamartoma
New York (SUNY Downstate Residents) - Complex fibroadenoma
New York (Westchester Medical Center) - Adenofibroma
North Carolina (Pisgah Associates of Pathology) - Tubular adenoma/tubular fibroadenoma
Oklahoma, Oklahoma City - Fibroadenoma
Oklahoma, Tulsa - Tubular adenoma, variant fibroadenoma
Pennsylvania (Allegheny General Hospital) - Adenomyoepithelioma
Pennsylvania (Conemaugh Memorial Medical Center) - Fibroadenoma
Pennsylvania (Drexel University College of Medicine) - Adenomyoepithelioma, tubular type
Pennsylvania (Mt. Nittany Medical Center) - Fibroadenoma
Pennsylvania (Pennsylvania Hospital Residents) - Duct hamartoma
Puerto Rico (University of Puerto Rico) - Fibroadenoma with tubular adenoma
Texas (Georgetown Healthcare System) - Complex fibroadenoma
Texas, Houston - Rule out carcinoma in lobular fibroadenoma
Texas, Lubbock - Fibroadenoma
Texas (ProPath Associates) - Fibroadenoma (2)
Texas, San Antonio - Fibroadenoma
Texas (Scott & White Memorial Hospital) - Fibroadenoma
Texas (Wilford Hall Medical Center) - Fibroadenoma
Washington (Lower Columbia Pathologists, PS) - Fibroadenoma (1); Fibroadenoma/intracanalicular type with focal duct hyperplasia, ? atypical (1); Fibroadenoma, pericanalicular type (1); Juvenile fibroadenoma with focal sclerosing adenosis (1); Adenomyoepithelioma (1); Adenoma (1)
West Virginia (Greenbrier Valley Medical Center) - Fibroadenoma
West Virginia (Wetzel County Hospital) - Tubular adenoma

[Wisconsin \(Marshfield Clinic\)](#) - Juvenile fibroadenoma
[Australia \(North Queensland Pathology Group\)](#) - Tubular adenoma
[Australia \(Royal Prince Alfred Hospital\)](#) - Myoid hamartoma
[Australia \(Sullivan Nicolaides Pathology\)](#) - Myoid hamartoma
[Brazil \(Minas Gerais School of Medicine\)](#) - Juvenile (cellular) fibroadenoma
[Brazil, Sao Paulo](#) - Juvenile fibroadenoma (2)
[Germany \(UKE, Kerninstitut fur Pathologie\)](#) - Fibroadenoma
[Jamaica \(The University of the West Indies\)](#) - Tubular adenoma, complex fibroadenoma
[Japan \(Kyoto University Hospital\)](#) - Fibroadenoma
[Netherlands, Amstelveen](#) - Breast in breast (hamartoma)
[Qatar \(Hamad Medical Corporation\)](#) - Fibroadenoma

Case 6 - Diagnosis:

Fibroadenoma, breast
 T-04000, M-90100

Case 6 - References:

Rix DB, Tredwell SJ and Forward AD. Cystosarcoma Phylloides (Cellular Intracanalicular Fibroadenoma). Clinical-Pathological Relationships. *Can J Surg* 1971; 14(1):31-37.
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 Ng WK. Fine-Needle Aspiration Cytology of Fibroadenoma with Multinucleated Stromal Giant Cells. A Review of Cases in a Six-Year Period. *Acta Cytol* 2002; 46(3):535-539.
 Davis C Jr and Patel V. Surgical Problems in the Management of Giant Fibroadenoma of the Breast. *Am J Obstet Gynecol* 1985; 152(8):1010-1015.
 Shimizu T, Ebihara Y, Serizawa H, et al. Histopathological Study of Stromal Smooth Muscle Cells in Fibroadenoma of the Breast. *Pathol Int* 1996; 46(6):442-449.
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Case No. 7, Accession No. 30238

September 2005

[Alameda \(Alameda County Medical Center\)](#) - Adenomyoepithelioma
[Baldwin Park \(Kaiser Permanente\)](#) - Tubular adenoma (3)
[Fresno \(St. Agnes Medical Center\)](#) - Lactating adenoma
[Fontana \(Kaiser Permanente\)](#) - Adenoma
[Glendale](#) - Adenomyoepithelioma
[Hayward/Fremont](#) - Tubular adenoma (1); 1 vote tubular adenoma with adenomyoepitheliomatous features (1)
[Loma Linda \(Loma Linda Pathology Residents\)](#) - Adenomyoepithelioma
[Long Beach \(Lakewood Regional Medical Center\)](#) - Tubular adenomyoepithelioma (7)
[Monterey \(Community Hospital of Monterey Peninsula\)](#) - Micropapillary carcinoma
[Mountain View \(El Camino Hospital\)](#) - Tubular adenoma
[Oakland \(Kaiser Permanente\)](#) - Adenomyoepithelioma (4)
[Orange \(Orange County Medical Group\)](#) - Adenomyoepithelioma
[Riverside \(Kaiser Permanente\)](#) - Tubular adenoma
[San Diego \(Naval Medical Center\)](#) - Adenomyoepithelioma (10); Tubular adenoma (7)
[Santa Barbara \(Cottage Hospital\)](#) - Tubular adenoma
[Santa Rosa \(Santa Rosa Memorial Hospital\)](#) - Tubular adenoma (2); Microglandular adenosis (1)
[Ventura](#) - Tubular adenoma
[Woodland Hills](#) - Tubular adenoma
[Arizona, Phoenix](#) - Adenomyoepithelioma
[Arkansas \(UAMS\)](#) - Tubular adenoma, breast
[Colorado \(Evergreen\)](#) - Adenomyoepithelioma
[Florida \(Baptist Hospital\)](#) - Tubular adenoma (4); Fibroadenoma (1)

Florida (Tallahassee) - Tubular adenoma
Florida (Winter Haven) - Adenoma
Illinois (Fairview Ridges Hospital) - Adenomyoepithelioma (2)
Illinois (Loyola University of Chicago) - Adenosis tumor/tubular adenoma
Illinois (Naval Hospital –Great Lakes) - Lactating adenoma
Illinois (Oak Brook) - Adenomyoepithelioma
Indiana (Kakomo Pathologist Health System) - Lactating adenoma
Indiana (St. Joseph Hospital) - Tubular adenoma of breast
Louisiana (Louisiana State University Health Service Center) - Tubular adenoma
Louisiana (Orleans Parrish Coroners Office) - Tubular adenoma
Maryland (National Naval Medical Center) - Myoepithelioma
Maryland (Northwest Hospital Center) - Adenosis tumor
Massachusetts (Berkshire Medical Center) - Tubular adenoma
Michigan (Kalamazoo) - Adenomyoepithelioma
Michigan (Oakwood Hospital) - Tubular adenoma
Michigan (St. Joseph Mercy Hospital) - Tubular adenoma
New York (Long Island Jewish Medical Center) - Tubular adenoma
New York (Nassau University Medical Center) - Tubular adenoma
New York (Stony Brook University Hospital Residents) - Tubular adenoma
New York (SUNY Downstate Residents) - Tubular adenoma
New York (Westchester Medical Center) - Tubular adenoma
North Carolina (Pisgah Associates of Pathology) - Adenomyoepithelioma
Oklahoma, Oklahoma City - Adenomyoepithelial adenoma
Oklahoma, Tulsa - Adenomyoepithelioma
Pennsylvania (Allegheny General Hospital) - Tubular adenoma
Pennsylvania (Conemaugh Memorial Medical Center) - Tubular adenoma
Pennsylvania (Drexel University College of Medicine) - Tubular adenoma
Pennsylvania (Mt. Nittany Medical Center) - Tubular adenoma
Pennsylvania (Pennsylvania Hospital Residents) - Tubular adenoma
Puerto Rico (University of Puerto Rico) - Lactating adenoma
Texas (Georgetown Healthcare System) - Tubular adenoma
Texas, Houston - Adenoma
Texas, Lubbock - Tubular adenoma
Texas (ProPath Associates) - Tubular adenoma (2)
Texas, San Antonio - Tubular adenoma
Texas (Scott & White Memorial Hospital) - Tubular adenoma
Texas (Wilford Hall Medical Center) - Tubular adenoma
Washington (Lower Columbia Pathologists, PS) - Tubular adenoma (3); Adenomyoepithelioma (1); Juvenile papillomatosis (1); Lactating adenoma (1)
West Virginia (Greenbrier Valley Medical Center) - Juvenile adenoma
West Virginia (Wetzel County Hospital) - Tubular adenoma
Wisconsin (Marshfield Clinic) - Adenomyoepithelioma
Australia (North Queensland Pathology Group) - Microglandular adenosis; lactating nodule
Australia (Royal Prince Alfred Hospital) - Adenomyoepithelioma, adenosis type/tubular adenoma
Australia (Sullivan Nicolaides Pathology) - Tubular adenoma
Brazil (Minas Gerais School of Medicine) - Invasive aprocrine carcinoma, high grade
Brazil, Sao Paulo - Tubular adenoma (2)
Germany (UKE, Kerninstitut fur Pathologie) - Nodular adenosis
Jamaica (The University of the West Indies) - Adenomyoepithelioma, breast
Japan (Kyoto University Hospital) - Tubular adenoma
Netherlands, Amstelveen - Tubular adenoma
Qatar (Hamad Medical Corporation) - Tubular adenoma

Case 7 - Diagnosis:

Adenomyoepithelioma, breast
T-04000, M-81400

Case 7 - References:

- Loose JH, Patchefsky AS, Hollander IJ, et al. Adenomyoepithelioma of the Breast. A Spectrum of Biologic Behavior. *Am J Surg Pathol* 1992; 16(9):868-876.
- Zhang C, Qudus MR and Sung CJ. Atypical Adenomyoepithelioma of the Breast. Diagnostic Problems and Practical Approaches in Core Needle Biopsy. *Breast J* 2004; 10(2):154-155.
- Chang A, Bassett L and Bose S. Adenomyoepithelioma of the Breast. A Cytologic Dilemma. Report of a Case and Review of the Literature. *Diagn Cytopathol* 2002; 26(3):191-196.
- Reis-Filho JS, Fulford LG, Crebassa B, et al. Collagenous Spherulosis in an Adenomyoepithelioma of the Breast. *J Clin Pathol* 2004; 57(1):83-86.
- Howlett DC, Mason CH, Biswas S, et al. Adenomyoepithelioma of the Breast. Spectrum of Disease with Associated Imaging and Pathology. *AJR Am J Roentgenol* 2003; 180(3):799-803.
- Ng WK. Adenomyoepithelioma of the Breast. A Review of Three Cases with Reappraisal of the Fine Needle Aspiration Biopsy Findings. *Acta Cytol* 2002; 46(2):317-324.

Case No. 8, Accession No. 29661

September 2005

Alameda (Alameda County Medical Center) - Apocrine carcinoma, invasive

Baldwin Park (Kaiser Permanente) - Grade 3 ductal carcinoma with extensive lymphatic/vascular invasion (1); Infiltrating poorly differentiated ductal carcinoma and high grade DCIS (1); Grade 3, infiltrating ductal carcinoma (1);

Fresno (St. Agnes Medical Center) - Poorly differentiated invasive ductal carcinoma

Fontana (Kaiser Permanente) - Invasive ductal carcinoma and comedo DCIS with apocrine features

Glendale - Infiltrating ductal carcinoma

Hayward/Fremont - Ductal carcinoma (apocrine features)

Loma Linda (Loma Linda Pathology Residents) - Invasive ductal carcinoma

Long Beach (Lakewood Regional Medical Center) - Infiltrating ductal carcinoma (7)

Monterey (Community Hospital of Monterey Peninsula) - Invasive ductal carcinoma, comedo DCIS

Mountain View (El Camino Hospital) - Infiltrating ductal carcinoma, grade 3

Oakland (Kaiser Permanente) - High grade infiltrating ductal carcinoma (4)

Orange (Orange County Medical Group) - Invasive mammary carcinoma, NOS

Riverside (Kaiser Permanente) - Infiltrating ductal carcinoma, Grade 3

San Diego (Naval Medical Center) - Poorly differentiated infiltrating ductal carcinoma with apocrine features

Santa Barbara (Cottage Hospital) - Infiltrating ductal carcinoma, high grade

Santa Rosa (Santa Rosa Memorial Hospital) - Infiltrating ductal carcinoma (2); Invasive ductal carcinoma (1)

Ventura - Infiltrating ductal carcinoma

Woodland Hills - Ductal carcinoma, poorly differentiated

Arizona, Phoenix - Squamous cell carcinoma

Arkansas (UAMS) - Mammary duct cell carcinoma, NST

Colorado (Evergreen) - Infiltrating ductal carcinoma

Florida (Baptist Hospital) - High grade invasive apocrine carcinoma (2); Infiltrating duct adenocarcinoma, poorly differentiated (3)

Florida (Tallahassee) - Pleomorphic lobular carcinoma, ductal carcinoma, get e-cadherin

Florida (Winter Haven) - Invasive ductal carcinoma

Illinois (Fairview Ridges Hospital) - Infiltrating ductal carcinoma with apocrine differentiation (1); Infiltrating duct carcinoma, Grade III, DCIS, Grade 3 (1)

Illinois (Loyola University of Chicago) - Infiltrating ductal carcinoma, grade 3/DCIS solid type, nuclear grade 3, with necrosis and microcalcification

Illinois (Naval Hospital -Great Lakes) - Infiltrating ductal carcinoma, grade III, with apocrine features

Illinois (Oak Brook) - Carcinoma

Indiana (Kakomo Pathologist Health System) - Ductal carcinoma

Indiana (St. Joseph Hospital) - Apocrine carcinoma of breast

Louisiana (Louisiana State University Health Service Center) - Infiltrating ductal carcinoma with foci of DCIS

Louisiana (Orleans Parrish Coroners Office) - Lobular carcinoma
Maryland (National Naval Medical Center) - Infiltrating ductal carcinoma
Maryland (Northwest Hospital Center) - High grade invasive ductal carcinoma
Massachusetts (Berkshire Medical Center) - Invasive ductal carcinoma
Michigan (Kalamazoo) - Invasive ductal carcinoma
Michigan (Oakwood Hospital) - Invasive ductal carcinoma
Michigan (St. Joseph Mercy Hospital) - Ductal carcinoma
New York (Long Island Jewish Medical Center) - Invasive poorly differentiated ductal carcinoma ? apocrine features
New York (Nassau University Medical Center) - Poorly differentiated ductal carcinoma with vascular invasion
New York (Stony Brook University Hospital Residents) - Invasive ductal carcinoma with apocrine features and DCIS
New York (SUNY Downstate Residents) - Infiltrating ductal carcinoma with apocrine features, high grade
New York (Westchester Medical Center) - Invasive duct carcinoma
North Carolina (Pisgah Associates of Pathology) - Infiltrating ductal carcinoma and high grade DCIS (? apocrine features)
Oklahoma, Oklahoma City - Infiltrating ductal carcinoma with focal DCIS
Oklahoma, Tulsa - Infiltrating carcinoma probably ductal pending e-cadherin result
Pennsylvania (Allegheny General Hospital) - Invasive ductal carcinoma, NOS
Pennsylvania (Conemaugh Memorial Medical Center) - Invasive ductal carcinoma, poorly differentiated
Pennsylvania (Drexel University College of Medicine) - Infiltrating mammary carcinoma, ductal type, nuclear grade III
Pennsylvania (Mt. Nittany Medical Center) - Invasive apocrine carcinoma
Pennsylvania (Pennsylvania Hospital Residents) - Infiltrating lobular carcinoma, alveolar variant
Puerto Rico (University of Puerto Rico) - Apocrine carcinoma
Texas (Georgetown Healthcare System) - Apocrine carcinoma
Texas, Houston - Infiltrating ductal carcinoma
Texas, Lubbock - Infiltrating ductal carcinoma
Texas (ProPath Associates) - Intraductal (comedo) and infiltrating ductal carcinoma (1); Invasive high grade adenocarcinoma with comedo component (1)
Texas, San Antonio - Invasive ductal carcinoma
Texas (Scott & White Memorial Hospital) - Invasive duct carcinoma
Texas (Wilford Hall Medical Center) - Invasive mammary carcinoma, with lobular features
Washington (Lower Columbia Pathologists, PS) - Infiltrating duct carcinoma, poorly differentiated with areas (<5%) of DCIS, high grade with comedo necrosis (1); Infiltrating ductal carcinoma (1); Poorly differentiated infiltrating mammary carcinoma, ductal type (1); Malignant adenomyoepithelioma with epithelial and myoepithelial carcinoma (1) Mammary infiltrating carcinoma, ductal type (1); Duct cell carcinoma (1)
West Virginia (Greenbrier Valley Medical Center) - Infiltrating lobular carcinoma
West Virginia (Wetzel County Hospital) - Pleomorphic lobular carcinoma
Wisconsin (Marshfield Clinic) - Infiltrating mammary carcinoma
Australia (North Queensland Pathology Group) - Pleomorphic lobular carcinoma (1); High grade ductal NST adenocarcinoma (1)
Australia (Royal Prince Alfred Hospital) - Infiltrating high grade ductal carcinoma (NOS)
Australia (Sullivan Nicolaides Pathology) - Grade 3, invasive ductal carcinoma (NOS)
Brazil (Minas Gerais School of Medicine) - Adenomyoepithelioma
Brazil, Sao Paulo - Mixed ductal and lobular carcinoma (2)
Germany (UKE, Kerninstitut fur Pathologie) - Invasive ductal carcinoma, grade III
Jamaica (The University of the West Indies) - Invasive lobular carcinoma, pleomorphic, vs. invasive ductal carcinoma
Japan (Kyoto University Hospital) - Invasive lobular carcinoma, pleomorphic
Netherlands, Amstelveen - Infiltrating ductal carcinoma, grade III
Qatar (Hamad Medical Corporation) - High grade infiltrating duct carcinoma, NOS

Case 8 - Diagnosis:

Infiltrating high grade ductal carcinoma, breast
 T-04000, M-85003

Case 8 – References:

Bennett M, Wallis T, Rossmann M, et al. Histopathologic Analysis of Atypical Lesions in Image-Guided Core Breast Biopsies. *Mod Pathol* 2003; 16(2):154-160.

Pass H, Vicini FA, Kestin LL, et al. Changes in Management Techniques and Patterns of Disease Recurrence Over Time in Patients with Breast Carcinoma Treated with Breast-Conserving Therapy at a Single Institution. *Cancer* 2004; 101(4):713-720.

Goldstein NS, Kestin L and Vicini F. Intraductal Carcinoma of the Breast. Pathologic Features Associated with Local Recurrence in Patients Treated with Breast-Conserving Therapy. *Am J Surg Pathol* 2000; 24(8):1058-1067.

Kronqvist P, Kuopio T, Jalava P, et al. Morphometrical Malignancy Grading is a Valuable Prognostic Factor in Invasive Ductal Breast Cancer. *Br J Cancer* 2002; 87(11):1275-1280.

Allelic Imbalance Analysis of Chromosome 16q Shows that Grade I and Grade III Invasive Ductal Breast Cancers Follow Different Genetic Pathways. *J Pathol* 2002; 196(1):32-36.

Park SH, Kim H and Song BJ. Down Regulation of bcl2 Expression in Invasive Ductal Carcinomas is Both Estrogen and Progesterone-Receptor Dependent and Associated with Poor Prognostic Factors. *Pathol Oncol Res* 2002; 8(1):26-30.

Case No. 9, Accession No. 29138

September 2005

Alameda (Alameda County Medical Center) - Neuroendocrine carcinoma, invasive

Baldwin Park (Kaiser Permanente) - Carcinoma with features of neuroendocrine carcinoma, with Paget's disease (3)

Fresno (St. Agnes Medical Center) - Poorly differentiated carcinoma with neuroendocrine features, rule out lung primary

Fontana (Kaiser Permanente) - Breast carcinoma with neuroendocrine features

Glendale - Infiltrating carcinoma with neuroendocrine features

Hayward/Fremont - Solid lobular carcinoma (2); Infiltrating ductal carcinoma (2)

Loma Linda (Loma Linda Pathology Residents) - Neuroendocrine carcinoma

Long Beach (Lakewood Regional Medical Center) - Neuroendocrine carcinoma (7)

Monterey (Community Hospital of Monterey Peninsula) - Neuroendocrine carcinoma, rule out Merkel cell

Mountain View (El Camino Hospital) - Poorly differentiated neuroendocrine carcinoma

Oakland (Kaiser Permanente) - Metastatic neuroendocrine carcinoma (4)

Orange (Orange County Medical Group) - Neuroendocrine carcinoma

Riverside (Kaiser Permanente) - Neuroendocrine carcinoma

San Diego (Naval Medical Center) - Neuroendocrine carcinoma of breast (2)

Santa Barbara (Cottage Hospital) - Neuroendocrine carcinoma

Santa Rosa (Santa Rosa Memorial Hospital) - Infiltrating breast carcinoma with neuroendocrine features (3)

Ventura - Infiltrating carcinoma with endocrine features

Woodland Hills - Ductal carcinoma with neuroendocrine differentiation

Arizona, Phoenix - Neuroendocrine carcinoma

Arkansas (UAMS) - Large cell neuroendocrine carcinoma, breast

Colorado (Evergreen) - Solid neuroendocrine carcinoma

Florida (Baptist Hospital) - Neuroendocrine carcinoma (2); Carcinoma with neuroendocrine features (1); High grade ductal carcinoma with neuroendocrine features (1); Infiltrating ductal carcinoma with neuroendocrine differentiation (1)

Florida (Tallahassee) - Invasive ductal carcinoma with neuroendocrine features

Florida (Winter Haven) - Malignant carcinoid

Illinois (Fairview Ridges Hospital) - Carcinoma with neuroendocrine differentiation Merkel cell-like (1); Carcinoid tumor (1)

Illinois (Loyola University of Chicago) - Infiltrating carcinoma with neuroendocrine features, grade 2, tumor infiltrates into dermis, but epidermis is free; DCIS-solid type, nuclear grade III, with necrosis and calcification

Illinois (Naval Hospital -Great Lakes) - Neuroendocrine carcinoma

Illinois (Oak Brook) - Lobular invasive

Indiana (Kakomo Pathologist Health System) - Neuroendocrine carcinoma

Indiana (St. Joseph Hospital) - Carcinoid tumor of breast

Louisiana (Louisiana State University Health Service Center) - Infiltrating ductal carcinoma with neuroendocrine features

Louisiana (Orleans Parrish Coroners Office) - Invasive carcinoma with neuroendocrine differentiation

Maryland (National Naval Medical Center) - Invasive ductal carcinoma with neuroendocrine differentiation

Maryland (Northwest Hospital Center) - Lobular carcinoma

Massachusetts (Berkshire Medical Center) - Carcinoma with neuroendocrine features

Michigan (Kalamazoo) - Small cell carcinoma

Michigan (Oakwood Hospital) - Invasive carcinoma, favor ductal

Michigan (St. Joseph Mercy Hospital) - Neuroendocrine carcinoma

New York (Long Island Jewish Medical Center) - Neuroendocrine carcinoma
New York (Nassau University Medical Center) - Neuroendocrine carcinoma
New York (Stony Brook University Hospital Residents) - Carcinoid
New York SUNY Downstate Residents) - Infiltrating ductal carcinoma with neuroendocrine differentiation
New York (Westchester Medical Center) - Invasive carcinoma with neuroendocrine features
North Carolina (Pisgah Associates of Pathology) - Neuroendocrine carcinoma
Oklahoma, Oklahoma City - Small cell neuroendocrine carcinoma
Oklahoma, Tulsa - Infiltrating carcinoma with neuroendocrine features
Pennsylvania (Allegheny General Hospital) - Solid neuroendocrine carcinoma of the breast (WHO) mammary carcinoma with neuroendocrine features.
Pennsylvania (Conemaugh Memorial Medical Center) - Breast cancer with neuroendocrine features
Pennsylvania (Drexel University College of Medicine) - Infiltrating mammary carcinoma, lobular type with neuroendocrine differentiation
Pennsylvania (Mt. Nittany Medical Center) - Invasive duct carcinoma with endocrine features
Pennsylvania (Pennsylvania Hospital Residents) - Carcinoid
Puerto Rico (University of Puerto Rico) - Neuroendocrine carcinoma
Texas (Georgetown Healthcare System) - Inflammatory carcinoma
Texas, Houston - Infiltrating lobular carcinoma
Texas, Lubbock - Carcinoid tumor
Texas (ProPath Associates) - Infiltrating ductal adenocarcinoma with neuroendocrine features (2)
Texas, San Antonio - Metastatic neuroendocrine carcinoma vs. breast carcinoma with neuroendocrine differentiation
Texas (Scott & White Memorial Hospital) - Small cell carcinoma
Texas (Wilford Hall Medical Center) - Poorly differentiated carcinoma, with neuroendocrine features
Washington (Lower Columbia Pathologists, PS) - Infiltrating duct carcinoma with neuroendocrine differentiation (1); Merkel cell tumor (1); Small cell carcinoma with lymphatic vessel invasion, intraneural and perineural invasion, favor metastatic (1); Small cell carcinoma, breast primary (1); Neuroendocrine carcinoma, poorly differentiated (1); Malignant carcinoid tumor (1)
West Virginia (Greenbrier Valley Medical Center) - Malignant carcinoid tumor
Virginia (Wetzel County Hospital) - Metastatic neuroendocrine carcinoma
Wisconsin (Marshfield Clinic) - Neuroendocrine carcinoma
Australia (North Queensland Pathology Group) - Neuroendocrine carcinoma
Australia (Royal Prince Alfred Hospital) - Infiltrating high grade carcinoma with neuroendocrine differentiation
Australia (Sullivan Nicolaides Pathology) - Neuroendocrine carcinoma
Brazil (Minas Gerais School of Medicine) - Mammary carcinoma with endocrine features (neuroendocrine carcinoma), high grade
Brazil, Sao Paulo - Neuroendocrine carcinoma (2)
Germany (UKE, Kerninstitut fur Pathologie) - Neuroendocrine carcinoma (Merkel carcinoma)
Jamaica (The University of the West Indies) - Paget's disease of the nipple with underlying infiltrating ductal carcinoma
Japan (Kyoto University Hospital) - Small cell carcinoma (neuroendocrine carcinoma)
Netherlands, Amstelveen - Poorly differentiated infiltrating ductal adenocarcinoma (neuroendocrine type) and angioinvasion
Qatar (Hamad Medical Corporation) - Neuroendocrine carcinoma, probably of metastatic origin

Case 9 - Diagnosis:

Infiltrating lobular carcinoma with neuroendocrine feature, breast
 T-04000, M-85202

Case 9 – References:

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 Eusebi V, Magalhaes F and Azzopardi JG. Pleomorphic Lobular Carcinoma of the Breast. An Aggressive Tumor Showing Aprocrine Differentiation. *Hum Pathol* 1992; 23(6):655-662.
 Palacios J, Sarrio D, Garcia-Macias MC, et al. Frequent E-Cadherin Gene Inactivation By Loss of Heterozygosity in Pleomorphic Lobular Carcinoma of the Breast. *Mod Pathol* 2003; 16(7):674-678.
 Fu L, Tsuchiya S, Matsuyama I and Ishii K. Clinicopathologic Features and Incidence of Invasive Lobular Carcinoma in Japanese Women. *Pathol Int* 1998; 48(5):348-354.
 Bassler R and Kronsbein H. Disseminated Lobular Carcinoma. A Predominantly Pleomorphic Lobular Carcinoma of the Whole Breast. *Pathol Res Pract* 1980; 166(4):456-470.

Ruibal A, Arias J, Del Rio MC, et al. Study of the Expression on the CD44v5 Adhesion Molecule in Invasive Lobular Carcinomas of the Breast. Association Between Negativity and Cellular S-Phase Fraction>7%. *Int J Biol Markers* 2000; 15(2):195-196.

Case No. 10, Accession No. 30328

September 2005

Alameda (Alameda County Medical Center) - Angiosarcoma, high grade
Baldwin Park (Kaiser Permanente) - Angiosarcoma (3)
Fresno (St. Agnes Medical Center) - Angiosarcoma
Fontana (Kaiser Permanente) - Angiosarcoma
Glendale - Angiosarcoma
Hayward/Fremont - Angiosarcoma
Loma Linda (Loma Linda Pathology Residents) - Angiosarcoma
Long Beach (Lakewood Regional Medical Center) - Angiosarcoma (7)
Monterey (Community Hospital of Monterey Peninsula) - Angiosarcoma
Mountain View (El Camino Hospital) - Angiosarcoma
Oakland (Kaiser Permanente) - High grade angiosarcoma (4)
Orange (Orange County Medical Group) - Angiosarcoma
Riverside (Kaiser Permanente) - Angiosarcoma
San Diego (Naval Medical Center) - Angiosarcoma, grade II (1); Angiosarcoma (1)
Santa Barbara (Cottage Hospital) - Angiosarcoma
Santa Rosa (Santa Rosa Memorial Hospital) - Angiosarcoma (3)
Ventura - Angiosarcoma
Woodland Hills - Angiosarcoma
Arizona, Phoenix - Angiosarcoma
Arkansas (UAMS) - Angiosarcoma, breast
Colorado (Evergreen) - Angiosarcoma
Florida (Baptist Hospital) - Angiosarcoma (5)
Florida (Tallahassee) - Angiosarcoma
Florida (Winter Haven) - Angiosarcoma
Illinois (Fairview Ridges Hospital) - Angiosarcoma, high grade (1); Angiosarcoma (1)
Illinois (Loyola University of Chicago) - Angiosarcoma, high grade
Illinois (Naval Hospital –Great Lakes) - Angiosarcoma, intermediate grade
Illinois (Oak Brook) - Angiosarcoma, high grade
Indiana (Kakomo Pathologist Health System) - Angiosarcoma (malignant hemangioendothelioma)
Indiana (St. Joseph Hospital) - Angiosarcoma
Louisiana (Louisiana State University Health Service Center) - Angiosarcoma
Louisiana (Orleans Parrish Coroners Office) - Angiosarcoma
Maryland (National Naval Medical Center) - Angiosarcoma
Maryland (Northwest Hospital Center) - Angiosarcoma
Massachusetts (Berkshire Medical Center) - Angiosarcoma
Michigan (Kalamazoo) - Angiosarcoma
Michigan (Oakwood Hospital) - Angiosarcoma
Michigan (St. Joseph Mercy Hospital) - Angiosarcoma
New York (Long Island Jewish Medical Center) - Angiosarcoma
New York (Nassau University Medical Center) - Angiosarcoma
New York (Stony Brook University Hospital Residents) - Angiosarcoma
New York (SUNY Downstate Residents) - High grade angiosarcoma
New York (Westchester Medical Center) - Angiosarcoma
North Carolina (Pisgah Associates of Pathology) - Angiosarcoma
Oklahoma, Oklahoma City - Angiosarcoma
Oklahoma, Tulsa - Angiosarcoma
Pennsylvania (Allegheny General Hospital) - Angiosarcoma
Pennsylvania (Conemaugh Memorial Medical Center) - Angiosarcoma
Pennsylvania (Drexel University College of Medicine) - Angiosarcoma, low grade
Pennsylvania (Mt. Nittany Medical Center) - Angiosarcoma
Pennsylvania (Pennsylvania Hospital Residents) - Angiosarcoma
Puerto Rico (University of Puerto Rico) - Angiosarcoma
Texas (Georgetown Healthcare System) - Angiosarcoma
Texas, Houston - Endothelial sarcoma (angiosarcoma)
Texas, Lubbock - Angiosarcoma
Texas (ProPath Associates) - High grade angiosarcoma (2)

Texas, San Antonio - Angiosarcoma, high grade
Texas (Scott & White Memorial Hospital) - Angiosarcoma
Texas (Wilford Hall Medical Center) - Angiosarcoma
Washington (Lower Columbia Pathologists, PS) - Angiosarcoma, poorly differentiated (1); Angiosarcoma (4); Angiosarcoma, high grade (1)
West Virginia (Greenbrier Valley Medical Center) - Angiosarcoma
West Virginia (Wetzel County Hospital) - Angiosarcoma
Wisconsin (Marshfield Clinic) - Angiosarcoma
Australia (North Queensland Pathology Group) - Angiosarcoma
Australia (Royal Prince Alfred Hospital) - Angiosarcoma
Australia (Sullivan Nicolaides Pathology) - Angiosarcoma
Brazil (Minas Gerais School of Medicine) - Primary angiosarcoma of breast, high grade, Grade III
Brazil, Sao Paulo - Angiosarcoma (2)
Germany (UKE, Kerninstitut fur Pathologie) - Angiosarcoma
Jamaica (The University of the West Indies) - Angiosarcoma, intermediate grade
Japan (Kyoto University Hospital) - Angiosarcoma (G-I)
Netherlands, Amstelveen - Angiosarcoma
Qatar (Hamad Medical Corporation) - Angiosarcoma

Case 10 - Diagnosis:

Angiosarcoma, breast
 T-04000, M-91203

Case 10 - References:

West JG, Qureshi A, West JE, et al. Risk of Angiosarcoma Following Breast Conservation. A Clinical Alert. *Breast J* 2005; 11(2):115-123.
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 Wynn GR, Bentley PG and Liebmann R. Mammary Parenchymal Angiosarcoma After Breast-Conserving Treatment for Invasive High-Grade Ductal Carcinoma. *Breast J* 2004; 10(6):558-559.
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 Burk A and Virmani R. Tumors of the Heart and Great Vessels. Rosai J, Sobin LH eds. Atlas of Tumor Pathology, Vol 3d Ser Fascicle 16, Washington DC. *Armed Forces Institute of Pathology* 1996; 231.