



CALIFORNIA
TUMOR TISSUE REGISTRY

BREAST PATHOLOGY

Minutes – Subscription A

January 2012



SUGGESTED READING (General Topics from Recent Literature):

- Mortality After Transfusions, Relation To Donor Sex. Middelburg RA and Briet E, van der Bom JG. *Vox Sang* 2011; 101:221-229.
- Association Between Lymph Node Evaluation for Colon Cancer and Node Positivity Over the Past 20 Years. Parsons HM, Tuttle TM, et al. *JAMA* 2011; 306:1089-1097.
- The Role of CD10 in Distinguishing Atypical Fibroxanthoma From Sarcomatoid (Spindle Cell) Squamous Cell Carcinoma. Wieland CN, Dyck R, et al. *J Cutan Pathol* 2011; 38:884-888.
- Molecular Pathology of Breast Cancer: The Journey From Traditional Practice Toward Embracing the Complexity of a Molecular Classification. Gruver AM, Portier BP and Tubbs RR. *Arch Pathol Lab Med* 2011; 135: 544-557.
- Human Papillomavirus and Rising Oropharyngeal Cancer Incidence in the United States. Chaturvedi AK, Engels EA, et al. *J Clin Oncol* 2011; Oct 3: epub ahead of print.

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FILE DIAGNOSES

CTTR Subscription A

January 2012

Case 1:

Tubular adenoma, breast
T-04000, M-81400

Case 2:

Intraductal papillary carcinoma (DCIS), breast
T-04000, M-85002

Case 3:

Pleomorphic sarcoma, possibly overgrowth of phyllodes tumor, breast
T-04000, M-90213

Case 4:

Apocrine carcinoma, mostly in-situ, breast
T-04000, M-80103

Case 5:

Medullary carcinoma, breast
T-04000, M-85103

Case 6:

Poorly differentiated malignant neoplasm, favor lymphoma/leukemia, breast
T-04000, M-80003

Case 7:

Mucinous carcinoma, breast
T-04000, M-84803

Case 8:

Carcinoma of the breast with choriocarcinomatous features, breast
T-04000, M-91003

Case 9:

Metaplastic carcinoma with chondroid differentiation and giant cells, breast
T-04000, M-80103

Case 10:

High grade pleomorphic carcinoma, breast
T-04000, M-80223

Alameda (Alameda County Medical Center) - Tubular adenoma
Arcadia (ABC Laboratories) - Lactating adenoma
Baldwin Park (Kaiser Permanente) - Tubular adenoma (4)
Fontana (Kaiser Permanente) - Tubular adenoma
Glendale - Adenomyoepithelioma
Long Beach (VA Hospital, Long Beach) - Juvenile adenofibroma (2)
Orange (UCI Medical Center Residents) - Tubular adenoma
Orinda (Kaiser Permanente) - Adenosis tumor/nodular adenosis
Oxnard (St. John's Regional Medical Center) - Tubular adenoma
San Diego (Naval Medical Center) - Tubular adenoma
Santa Barbara (Miramonte Laboratory) - Tubular adenoma
Woodland Hills (Kaiser Permanente) - Tubular adenoma
Arkansas (Associated Pathologists Laboratory) - Tubular adenoma
Colorado (McKee Medical Center) - Tubular adenoma
Florida (Gastroenterology Associates of Ocala) - Microglandular adenoma
Georgia, Atlanta - Juvenile fibroadenoma
Illinois (Heartland Regional Medical Center) - Tubular adenoma
Illinois, Oak Brook - Tubular adenoma
Indianapolis (Indiana University) - Tubular adenoma
Iowa (Allen Memorial Hospital) - Tubular adenoma
Maryland (University of Maryland Medical Center) - Tubular adenoma
Massachusetts (Tufts Medical Center) - Tubular adenoma of breast
Massachusetts (University of Massachusetts Medical Center Residents) - Tubular adenoma
Minnesota (Fairview Ridges Hospital) - Tubular adenoma
Missouri (Missouri Delta Medical Center) - Tubular fibroadenoma (2)
Nebraska (Creighton University Medical Center) - Tubular adenoma
New York (Buffalo General Hospital Residents) - Microglandular, adenosis
New York (SUNY Downstate Medical Center Residents) - Tubular adenoma
Ohio, Columbus - Juvenile fibroadenoma vs. benign phyllodes tumor
Ohio (Summa Health System) - Tubular adenoma
Pennsylvania (Conemaugh Memorial Medical Center) - Juvenile fibroadenoma
Pennsylvania (Drexel University College of Medicine Residents) - Tubular adenoma
Pennsylvania (Lehigh Valley Hospital) - Tubular adenoma
Pennsylvania (Magee Womens Hospital of UPMC) - Tubular adenoma
Puerto Rico (University of Puerto Rico) - Tubular adenoma
South Carolina (Lexington Medical Center) - Florid adenosis
Texas, Crystal Beach - Juvenile adenoma
Texas, Lubbock - Tubular adenoma
Texas (Scott & White Memorial Hospital) - Tubular adenoma
Washington (Seattle VAMC) - Low grade epithelial neoplasm, tubular adenoma
West Virginia (Greenbrier Valley Medical Center) - Microtubular adenoma
Wisconsin, Madison - Tubular adenoma
Wisconsin (Medical Assessment and Consultation, S.C.) - Tubular adenoma
Wisconsin (The Medical College of Wisconsin) - Tubular adenoma
Australia (Royal Hobart Hospital) - Tubular adenoma
Australia (St. Vincents Hospital, Sydney) - Tubular adenoma
Australia (Sullivan Nicolaides Pathology) - Tubular adenoma
Canada (Pasqua Hospital) - Tubular adenoma
Canada (University of Sherbrooke) - Tubular adenoma, breast
Ireland (Kerry General Hospital) - Tubular adenoma
Ireland (University College Hospital, Galway) - Tubular adenoma
Japan (Aichi Medical University) - Tubular adenoma
Japan (Asashi General Hospital) - Tubular adenoma (1); Sclerosing adenosis (1)
Oman (Khoulia Hospital) - Tubular adenoma
United Kingdom (Royal Berkshire Hospital) - Tubular adenoma

Case 1 - Diagnosis:

Tubular adenoma, breast
T-04000, M-81400

Case 1 - References:

Tubular adenoma of the breast with associated mucinous features: a cytological diagnostic trap. *Cytopathology* 2010; Jun;21(3): p191-3. Calderaro J; Bayou EH, et al.
Pure tubular carcinoma and axillary nodal metastases. *Ann Surg Oncol* 2010; Oct;17 Suppl 3:338-42. Fedko MG; Scow JS, et al.
Tubular carcinoma of the breast: further evidence to support its excellent prognosis. *J Clin Oncol* 2010; Jan 1;28(1): p99-104. Rakha EA; Lee AH, et al.
Unusual presentation of tubular carcinoma of the breast. *Breast J* 2011; Jul-Aug;17(4): p422-3. Kaplan SS; Thompson S, et al.

Case No. 2, Accession No. 20985**January 2012**

Alameda (Alameda County Medical Center) - DCIS papillary pattern
Arcadia (ABC Laboratories) - Low grade papillary cribriform carcinoma
Baldwin Park (Kaiser Permanente) - Papillary carcinoma (4)
Fontana (Kaiser Permanente) - Encysted papillary carcinoma
Glendale - DCIS
Long Beach (VA Hospital, Long Beach) - Intraductal papillary carcinoma (2)
Orange (UCI Medical Center Residents) - Intraductal papillary carcinoma suspicious for invasion
Orinda (Kaiser Permanente) - Papillary intraductal carcinoma
Oxnard (St. John's Regional Medical Center) - DCIS
San Diego (Naval Medical Center) - Papillary DCIS vs. papillary encapsulated carcinoma
Santa Barbara (Miramonte Laboratory) - Intraductal carcinoma
Woodland Hills (Kaiser Permanente) - Intraductal papillary carcinoma
Arkansas (Associated Pathologists Laboratory) - Papillary carcinoma
Colorado (McKee Medical Center) - Intraductal papillary carcinoma
Florida (Gastroenterology Associates of Ocala) - Intracystic papilloma
Georgia, Atlanta - Papillary carcinoma, at least in-situ
Illinois (Heartland Regional Medical Center) - Ductal carcinoma in-situ, grade I, extensive
Illinois, Oak Brook - Papillary carcinoma
Indianapolis (Indiana University) - DCIS
Iowa (Allen Memorial Hospital) - Nipple adenoma
Maryland (University of Maryland Medical Center) - DCIS, low grade (papillary type (intracystic papillary carcinoma), associated with mucocele-like lesion suspicious for focus of invasive mucinous carcinoma
Massachusetts (Tufts Medical Center) - Intraductal papilloma
Massachusetts (University of Massachusetts Medical Center Residents) - Papillary DCIS
Minnesota (Fairview Ridges Hospital) - Intraductal papillary carcinoma
Missouri (Missouri Delta Medical Center) - Apocrine papillary carcinoma (1); Apocrine cancer consistent with cribriform and papillary features (1)
Nebraska (Creighton University Medical Center) - Intraductal in-situ papillary carcinoma
New York (Buffalo General Hospital Residents) - Invasive papillary carcinoma
New York (SUNY Downstate Medical Center Residents) - DCIS, papillary type
Ohio, Columbus - Nipple adenoma
Ohio (Summa Health System) - Intraductal papilloma
Pennsylvania (Conemaugh Memorial Medical Center) - Atypical papilloma with in-situ
Pennsylvania (Drexel University College of Medicine Residents) - Nipple adenoma
Pennsylvania (Lehigh Valley Hospital) - Intracystic papillary carcinoma
Pennsylvania (Magee Womens Hospital of UPMC) - Encysted papillary carcinoma
Puerto Rico (University of Puerto Rico) - Papillary carcinoma, non-invasive
South Carolina (Lexington Medical Center) - Papillary carcinoma arising in a papilloma
Texas, Crystal Beach - Subareolar florid papillomatosis

Texas, Lubbock - Intraductal papillary carcinoma
Texas (Scott & White Memorial Hospital) - Papillary carcinoma
Washington (Seattle VAMC) - Intraductal papillary epithelial neoplasm , high grade growth pattern (DCIS)
West Virginia (Greenbrier Valley Medical Center) - Papillomatosis
Wisconsin, Madison - Ductal carcinoma in-situ (DCIS)
Wisconsin (Medical Assessment and Consultation, S.C.) - Ductal carcinoma in-situ, micropapillary type
Wisconsin (The Medical College of Wisconsin) - Ductal carcinoma in-situ, encysted
Australia (Royal Hobart Hospital) - Low grade DCIS (micropapillary/cribriform architecture)
Australia (St. Vincents Hospital, Sydney) - Papillary carcinoma
Australia (Sullivan Nicolaides Pathology) - Invasive papillary carcinoma
Canada (Pasqua Hospital) - DCIS
Canada (University of Sherbrooke) - Papillary carcinoma, breast
Ireland (Kerry General Hospital) - Encrysted micropapillary carcinoma
Ireland (University College Hospital, Galway) - Papillary carcinoma vs. papillary DCIS
Japan (Aichi Medical University) - Low grade DCIS in papilloma
Japan (Asashi General Hospital) - Nipple adenoma (1); Intraductal papilloma (1)
Oman (Khoulia Hospital) - Papillary ductal carcinoma in-situ/intracystic papillary carcinoma
United Kingdom (Royal Berkshire Hospital) - Florid papillomatosis of the nipple

Case 2 - Diagnosis:

Intraductal papillary carcinoma (DCIS), breast
 T-04000, M-85002

Case 2 - References:

Papillary lesions of the breast. *Breast J* 2006; May-Jun;12(3): p237-51. Ibarra JA.
 Myoepithelial cells in solid variant of intraductal papillary carcinoma of the breast: a potential diagnostic pitfall and a proposal of an immunohistochemical panel in the differential diagnosis with intraductal papilloma with usual ductal hyperplasia. *Virchows Arch* 2007; May;450(5): p539-47. Moritani S; Ichihara S, et al.
 Solid papillary ductal carcinoma in situ versus usual ductal hyperplasia in the breast: a potentially difficult distinction resolved by cytokeratin 5/6. *Hum Pathol* 2006; Jul;37(7): p787-93. Rabban JT; Koerner FC; Lerwill MF.
 Intracystic papillary carcinomas of the breast: a reevaluation using a panel of myoepithelial cell markers. *Am J Surg Pathol* 2006; Aug;30(8): p1002-7. Collins LC; Carlo VP; Hwang H; Barry TS; Gown AM; Schnitt SJ.

Case No. 3, Accession No. 23649

January 2012

Alameda (Alameda County Medical Center) - High grade sarcoma
Arcadia (ABC Laboratories) - Malignant fibrous histiocytoma
Baldwin Park (Kaiser Permanente) - High grade carcinoma, metastatic (1); Metaplastic carcinoma (3)
Fontana (Kaiser Permanente) - Sarcoma
Glendale - Leiomyosarcoma
Long Beach (VA Hospital, Long Beach) - Sarcomatoid malignancy (2)
Orange (UCI Medical Center Residents) - Malignant spindle cell tumor, pleomorphic sarcoma, metaplastic carcinoma
Orinda (Kaiser Permanente) - High grade sarcoma
Oxnard (St. John's Regional Medical Center) - Sarcoma
San Diego (Naval Medical Center) - UPS/MFH
Santa Barbara (Miramonte Laboratory) - Leiomyosarcoma
Woodland Hills (Kaiser Permanente) - High grade sarcoma (MFH)
Arkansas (Associated Pathologists Laboratory) - Pleomorphic malignant fibrous histiocytoma
Colorado (McKee Medical Center) - Malignant fibrous histiocytoma
Florida (Gastroenterology Associates of Ocala) - Malignant fibrous histiocytoma
Georgia, Atlanta - Pleomorphic sarcoma
Illinois (Heartland Regional Medical Center) - Spindle cell malignant neoplasm (metaplastic carcinoma vs. MFH)
Illinois, Oak Brook - Giant cell MFH
Indianapolis (Indiana University) - Sarcoma, favor MFH
Iowa (Allen Memorial Hospital) - Undifferentiated pleomorphic sarcoma

Maryland (University of Maryland Medical Center) - High grade sarcoma (DDx: MFH vs. high grade phyllodes tumor with stromal overgrowth)

Massachusetts (Tufts Medical Center) - Pleomorphic sarcoma

Massachusetts (University of Massachusetts Medical Center Residents) - High grade sarcoma (spindle cell malignant neoplasm)

Minnesota (Fairview Ridges Hospital) - Stromal sarcoma

Missouri (Missouri Delta Medical Center) - Malignant fibrous histiocytoma (1) Sarcoma, NOS (1)

Nebraska (Creighton University Medical Center) - Undifferentiated pleomorphic sarcoma

New York (Buffalo General Hospital Residents) - High grade sarcoma vs. malignant phyllodes tumor

New York (SUNY Downstate Medical Center Residents) - Pleomorphic sarcoma

Ohio, Columbus - Metaplastic carcinoma vs. undifferentiated pleomorphic sarcoma

Ohio (Summa Health System) - Pleomorphic sarcoma

Pennsylvania (Conemaugh Memorial Medical Center) - Pleomorphic MFH

Pennsylvania (Drexel University College of Medicine Residents) - High grade sarcoma, favor fibrosarcoma

Pennsylvania (Lehigh Valley Hospital) - Stromal sarcoma

Pennsylvania (Magee Womens Hospital of UPMC) - Sarcoma, malignant giant cell tumor

Puerto Rico (University of Puerto Rico) - High grade pleomorphic sarcoma/malignant fibrohistiocytoma

South Carolina (Lexington Medical Center) - Malignant fibrous histiocytoma

Texas, Crystal Beach - Malignant fibrous histiocytoma

Texas, Lubbock - Malignant fibrous histiocytoma

Texas (Scott & White Memorial Hospital) - Malignant pleomorphic spindle cell neoplasm

Washington (Seattle VAMC) - Sarcomatoid malignant neoplasm

West Virginia (Greenbrier Valley Medical Center) - Malignant fibrous histiocytoma

Wisconsin, Madison - Pleomorphic sarcoma, breast

Wisconsin (Medical Assessment and Consultation, S.C.) - Malignant fibrous histiocytoma

Wisconsin (The Medical College of Wisconsin) - High grade pleomorphic sarcoma with multinucleated giant cells

Australia (Royal Hobart Hospital) - Undifferentiated high grade pleomorphic sarcoma

Australia (St.Vincent's Hospital, Sydney) - Undifferentiated pleomorphic sarcoma (need to exclude phyllodes)

Australia (Sullivan Nicolaides Pathology) - Pleomorphic sarcoma, NOS

Canada (Pasqua Hospital) - Leiomyosarcoma

Canada (University of Sherbrooke) - Phyllodes sarcoma, breast

Ireland (Kerry General Hospital) - High grade stromal sarcoma

Ireland (University College Hospital, Galway) - Sarcoma, NOS

Japan (Aichi Medical University) - Metaplastic carcinoma

Japan (Asahi General Hospital) - Malignant stromal cell tumor (1); Malignant phyllodes tumor (1)

Oman (Khoula Hospital) - High grade pleomorphic sarcoma

United Kingdom (Royal Berkshire Hospital) - Pleomorphic sarcoma, NOS (vs. CK negative metaplastic carcinoma)

Case 3 - Diagnosis:

Pleomorphic sarcoma, possibly overgrowth of phyllodes tumor, breast
T-04000, M-90213

Case 3 - References:

Undifferentiated pleomorphic sarcoma of the male breast causing diagnostic challenges. *J Breast Cancer* (Korea 2011 Sep;14(3): p241-6. Jeong YJ; Oh HK; Bong JG.

Primary stromal sarcoma of breast with malignant fibrous histiocytoma-like features causing diagnostic dilemma on fine-needle aspiration cytology in a patient with squamous cell carcinoma of cervix: a case report. *Diagn Cytopathol* 2011; Mar;39(3): p223-8. Prasad PR; Kumar B, et al.

Increased risk of soft tissue sarcoma after radiotherapy in women with breast carcinoma. *Cancer* 2001; Jul 1;92(1): p172-80. Huang J; Mackillop WJ.

Primary soft tissue sarcoma of the breast.. *Curr Treat Options Oncol* 2001; Apr;2(2): p169-76. Trent IJC; Benjamin RS; Valero V.

Malignant fibrous histiocytoma of the female breast: a case report. *Clin Imaging* 2005; Mar-Apr;29(2): p134-7. Yao MS; Chan WP, et al.

Alameda (Alameda County Medical Center) - DCIS, apocrine type
Arcadia (ABC Laboratories) - Papillary carcinoma
Baldwin Park (Kaiser Permanente) - DCIS, micropapillary (4)
Fontana (Kaiser Permanente) - DCIS
Glendale - DCIS
Long Beach (VA Hospital, Long Beach) - Invasive ductal carcinoma consistent with apocrine features (2)
Orange (UCI Medical Center Residents) - Invasive ductal carcinoma with extensive DCIS
Orinda (Kaiser Permanente) - Atypical apocrine adenoma
Oxnard (St. John's Regional Medical Center) - Apocrine carcinoma
San Diego (Naval Medical Center) - DCIS, cribriform and papillary
Santa Barbara (Miramonte Laboratory) - Intraductal carcinoma
Woodland Hills (Kaiser Permanente) - High grade ductal carcinoma in-situ, micropapillary type
Arkansas (Associated Pathologists Laboratory) - Apocrine intraductal carcinoma
Colorado (McKee Medical Center) - Apocrine ductal carcinoma in-situ
Florida (Gastroenterology Associates of Ocala) - Hypersecretory cystic DCIS
Georgia, Atlanta - Fibrocystic change with focal PASH changes
Illinois (Heartland Regional Medical Center) - Ductal carcinoma in-situ, grade 2
Illinois, Oak Brook - DIC with microinvasion
Indianapolis (Indiana University) - DCIS
Iowa (Allen Memorial Hospital) - Ductal carcinoma in-situ, micropapillary type, intermediate nuclear grade
Maryland (University of Maryland Medical Center) - DCIS, high grade (micropapillary and clinging carcinoma types), with necrosis, calcifications, and cancerization of lobules)
Massachusetts (Tufts Medical Center) - Apocrine carcinoma of breast
Massachusetts (University of Massachusetts Medical Center Residents) - Apocrine DCIS
Minnesota (Fairview Ridges Hospital) - Ductal carcinoma in-situ, apocrine
Missouri (Missouri Delta Medical Center) - DCIS (2)
Nebraska (Creighton University Medical Center) - Apocrine carcinoma in-situ with micro
New York (Buffalo General Hospital Residents) - High grade apocrine DCIS
New York (SUNY Downstate Medical Center Residents) - DCIS
Ohio, Columbus - DCIS with possible microinvasion
Ohio (Summa Health System) - Cystic hypersecretory carcinoma
Pennsylvania (Conemaugh Memorial Medical Center) - DCIS
Pennsylvania (Drexel University College of Medicine Residents) - DCIS with microinvasion
Pennsylvania (Lehigh Valley Hospital) - In-situ ductal carcinoma with apocrine features
Pennsylvania (Magee Womens Hospital of UPMC) - DCIS, high grade, micropapillary type
Puerto Rico (University of Puerto Rico) - High grade ductal carcinoma in-situ with foci of microinvasion
South Carolina (Lexington Medical Center) - Ductal carcinoma in-situ, micropapillary type
Texas, Crystal Beach - Papillary ductal carcinoma
Texas, Lubbock - Apocrine carcinoma
Texas (Scott & White Memorial Hospital) - High grade DCIS, cribriform and micropapillary types
Washington (Seattle VAMC) - Intraductal epithelial neoplasia consistent with high grade growth pattern (DCIS)
West Virginia (Greenbrier Valley Medical Center) - Micropapillary carcinoma
Wisconsin, Madison - Low grade DCIS
Wisconsin (Medical Assessment and Consultation, S.C.) - Ductal carcinoma in-situ, "clinging" type
Wisconsin (The Medical College of Wisconsin) - Ductal carcinoma in-situ, micropapillary type
Australia (Royal Hobart Hospital) - Micropapillary DCIS and columnar cell change with atypia
Australia (St. Vincents Hospital, Sydney) - DCIS (micropapillary)
Australia (Sullivan Nicolaides Pathology) - High grade DCIS, apocrine features
Canada (Pasqua Hospital) - Apocrine DCIS
Canada (University of Sherbrooke) - Ductal carcinoma in-situ, apocrine type, breast
Ireland (Kerry General Hospital) - Apocrine DCIS
Ireland (University College Hospital, Galway) - High grade DCIS, clinging and micropapillary subtype
Japan (Aichi Medical University) - Intermediate grade DCIS
Japan (Asashi General Hospital) - Apocrine carcinoma (2)
Oman (Khoula Hospital) - Apocrine micropapillary ductal carcinoma in-situ with microinvasion

United Kingdom (Royal Berkshire Hospital) - Apocrine DCIS

Case 4 - Diagnosis:

Apocrine carcinoma, mostly in-situ, breast

Note: Some slides also showed invasive foci (drc)
T-04000, M-80103

Case 4 - References:

Mixed apocrine/endocrine ductal carcinoma in situ of the breast coexistent with lobular carcinoma in situ.. *J Clin Pathol* 2001; Jan;54(1): p70-3. Coyne JD; Dervan PA; Barr L; Baildam AD.

Apocrine differentiation in invasive pleomorphic lobular carcinoma with in situ ductal and lobular apocrine carcinoma: case report. *Pathol Oncol Res* 2002;;8(2): p151-2. Kaya H; Aribal E; Yegen C.

Fine needle aspiration cytology of apocrine carcinoma of the breast. Review of cases in a three-year period.. *Acta Cytol* 2002; May-Jun;46(3): p507-12. Ng WK.

Apocrine ductal carcinoma in situ of the breast: histologic classification and expression of biologic markers. *Hum Pathol* 2001; May;32(5): p487-93. Leal C; Henrique R; Monteiro P; Lopes C; Bento MJ; De Sousa CP; Lopes P; Olson S; Silva MD; Page DL.

The spectrum of apocrine lesions of the breast. *Adv Anat Pathol* 2004; Jan;11(1): p1-9. O'Malley FP; Bane AL.

Apocrine ductal carcinoma in-situ with an unusual morphological presentation. *Histopathology* 2001; Mar;38(3): p280. Coyne JD.

Case No. 5, Accession No. 23926

January 2012

Alameda (Alameda County Medical Center) - Medullary carcinoma

Arcadia (ABC Laboratories) - High grade ductal carcinoma

Baldwin Park (Kaiser Permanente) - High grade carcinoma, metaplastic with squamous features (2); Poorly differentiated ductal carcinoma (2)

Fontana (Kaiser Permanente) - Medullary carcinoma

Glendale - Carcinoma

Long Beach (VA Hospital, Long Beach) - Medullary carcinoma (2)

Orange (UCI Medical Center Residents) - Medullary carcinoma

Orinda (Kaiser Permanente) - Medullary carcinoma

Oxnard (St. John's Regional Medical Center) - Medullary carcinoma

San Diego (Naval Medical Center) - Medullary carcinoma

Santa Barbara (Miramonte Laboratory) - High grade carcinoma

Woodland Hills (Kaiser Permanente) - Poorly differentiated invasive ductal carcinoma with medullary features

Arkansas (Associated Pathologists Laboratory) - Medullary carcinoma

Colorado (McKee Medical Center) - Medullary carcinoma

Florida (Gastroenterology Associates of Ocala) - Medullary carcinoma

Georgia, Atlanta - Invasive ductal carcinoma, NOS, high grade with apocrine features

Illinois (Heartland Regional Medical Center) - Medullary carcinoma

Illinois, Oak Brook - Medullary carcinoma

Indianapolis (Indiana University) - Breast carcinoma with medullary features

Iowa (Allen Memorial Hospital) - Invasive ductal carcinoma with medullary features

Maryland (University of Maryland Medical Center) - Medullary carcinoma

Massachusetts (Tufts Medical Center) - Medullary carcinoma of breast

Massachusetts (University of Massachusetts Medical Center Residents) - Invasive ductal carcinoma with medullary features

Minnesota (Fairview Ridges Hospital) - Invasive carcinoma with medullary features

Missouri (Missouri Delta Medical Center) - Medullary carcinoma (2)

Nebraska (Creighton University Medical Center) - Medullary carcinoma

New York (Buffalo General Hospital Residents) - Medullary carcinoma

New York (SUNY Downstate Medical Center Residents) - Medullary carcinoma

Ohio, Columbus - Invasive ductal carcinoma, grade 3 with medullary features

Ohio (Summa Health System) - Medullary carcinoma

Pennsylvania (Conemaugh Memorial Medical Center) - High grade ductal carcinoma
Pennsylvania (Drexel University College of Medicine Residents) - Medullary carcinoma
Pennsylvania (Lehigh Valley Hospital) - Medullary carcinoma
Pennsylvania (Magee Womens Hospital of UPMC) - High grade ductal carcinoma, medullary
Puerto Rico (University of Puerto Rico) - Medullary carcinoma of breast
South Carolina (Lexington Medical Center) - Medullary carcinoma
Texas, Crystal Beach - Medullary carcinoma
Texas, Lubbock - Medullary carcinoma
Texas (Scott & White Memorial Hospital) - High grade ductal carcinoma with medullary features
Washington (Seattle VAMC) - High grade ductal carcinoma (medullary)
West Virginia (Greenbrier Valley Medical Center) - Medullary carcinoma
Wisconsin, Madison - Infiltrating ductal carcinoma, grade 3 (atypical medullary carcinoma)
Wisconsin (Medical Assessment and Consultation, S.C.) - High grade carcinoma with lymphoplasmacytic response (medullary carcinoma)
Wisconsin (The Medical College of Wisconsin) - Medullary carcinoma
Australia (Royal Hobart Hospital) - High grade invasive carcinoma (basal phenotype)
Australia (St.Vincent's Hospital, Sydney) - Grade 3 ductal carcinoma (subtype, medullary carcinoma)
Australia (Sullivan Nicolaides Pathology) - Grade 3 invasive ductal carcinoma with medullary-like features
Canada (Pasqua Hospital) - Medullary carcinoma
Canada (University of Sherbrooke) - Medullary carcinoma, breast
Ireland (Kerry General Hospital) - Grade 3 ductal carcinoma NST, medullary/basal phenotype
Ireland (University College Hospital, Galway) - Medullary carcinoma
Japan (Aichi Medical University) - Medullary carcinoma
Japan (Asahi General Hospital) - Medullary carcinoma (1); Invasive lobular carcinoma (1)
Oman (Khoula Hospital) - Medullary carcinoma
United Kingdom (Royal Berkshire Hospital) - Medullary-like carcinoma

Case 5 - Diagnosis:

Medullary carcinoma, breast
 T-04000, M-85103

Case 5 - References:

Differential amplification and overexpression of HER-2/neu, p53, MIB1, and estrogen receptor/progesterone receptor among medullary carcinoma, atypical medullary carcinoma, and high-grade invasive ductal carcinoma of breast. *Arch Pathol Lab Med* 2003; Nov;127(11): p1458-64. Xu R; Feiner H, et al.
 Microsatellite instability is infrequent in medullary breast cancer. *Am J Clin Pathol* 2001; Jun;115(6): p823-7. Lee SC; Berg KD, et al.
 Typical medullary breast carcinomas have a basal/myoepithelial phenotype. *J Pathol* 2005; Nov;207(3): p260-8. Jacquemier J; Padovani L, et al.
 Are all high-grade breast cancers with no steroid receptor hormone expression alike? The special case of the medullary phenotype. *SO - Ann Oncol* 2005; Jul;16(7): p1094-9. AU - Orlando L; Renne G, et al.
 Medullary carcinoma, provocative now as then. *Semin Diagn Pathol* 2004; Feb;21(1): p65-73. Eichhorn JH

Case No. 6, Accession No. 20157

January 2012

Alameda (Alameda County Medical Center) - Hematopoietic malignancy
Arcadia (ABC Laboratories) - Lobular carcinoma
Baldwin Park (Kaiser Permanente) - Infiltrating lobular carcinoma (4)
Fontana (Kaiser Permanente) - Lymphoma
Glendale - Carcinoma
Long Beach (VA Hospital, Long Beach) - Infiltrating lobular carcinoma (2)
Orange (UCI Medical Center Residents) - Inflammatory carcinoma
Orinda (Kaiser Permanente) - Favor lymphoma
Oxnard (St. John's Regional Medical Center) - Lymphoma
San Diego (Naval Medical Center) - Infiltrating lobular carcinoma

Santa Barbara (Miramonte Laboratory) - Infiltrating lobular carcinoma
Woodland Hills (Kaiser Permanente) - Invasive pleomorphic lobular carcinoma
Arkansas (Associated Pathologists Laboratory) - Invasive pleomorphic lobular carcinoma
Colorado (McKee Medical Center) - Inflammatory carcinoma
Florida (Gastroenterology Associates of Ocala) - DCIS, clinging pattern
Georgia, Atlanta - Changes consistent with inflammatory carcinoma
Illinois (Heartland Regional Medical Center) - Malignant lymphoma, large cell
Illinois, Oak Brook - Invasive carcinoma
Indianapolis (Indiana University) - Malignant, possible hematopoietic malignancy
Iowa (Allen Memorial Hospital) - Invasive lobular carcinoma
Maryland (University of Maryland Medical Center) - Necrotic malignant neoplasm (needs further work-up)
Massachusetts (Tufts Medical Center) - Pleomorphic lobular carcinoma of breast
Massachusetts (University of Massachusetts Medical Center Residents) - Inflammatory carcinoma
Minnesota (Fairview Ridges Hospital) - Invasive lobular carcinoma
Missouri (Missouri Delta Medical Center) - Inflammatory carcinoma (2)
Nebraska (Creighton University Medical Center) - Inflammatory carcinoma
New York (Buffalo General Hospital Residents) - Inflammatory carcinoma
New York (SUNY Downstate Medical Center Residents) - Lobular carcinoma
Ohio, Columbus - Inflammatory breast carcinoma
Ohio (Summa Health System) - Inflammatory carcinoma
Pennsylvania (Conemaugh Memorial Medical Center) - Infiltrating lobular carcinoma
Pennsylvania (Drexel University College of Medicine Residents) - Extramedullary hematopoiesis
Pennsylvania (Lehigh Valley Hospital) - Pleomorphic lobular carcinoma
Pennsylvania (Magee Womens Hospital of UPMC) - PASH with abscess
Puerto Rico (University of Puerto Rico) - Hematologic malignancy (lymphoma vs. myeloid sarcoma), rule out lobular carcinoma
South Carolina (Lexington Medical Center) - Lymphoma, NOS
Texas, Crystal Beach - Infiltrating ductal carcinoma of distal ducts
Texas, Lubbock - Large cell lymphoma, intraductal carcinoma
Texas (Scott & White Memorial Hospital) - Malignant proliferation, hematopoietic vs. carcinoma
Washington (Seattle VAMC) - High grade, diffusely invasive carcinoma (lobular)
West Virginia (Greenbrier Valley Medical Center) - Ductal carcinoma (inflammatory)
Wisconsin, Madison - Favor lymphoma/leukemia, rule out carcinoma
Wisconsin (Medical Assessment and Consultation, S.C.) - Inflammatory carcinoma
Wisconsin (The Medical College of Wisconsin) - Malignant neoplasm, favor leukemia/lymphoma (vs. invasive lobular carcinoma)
Australia (Royal Hobart Hospital) - Obliterative mastopathy secondary to invasive lobular carcinoma (immunohisto required)
Australia (St. Vincents Hospital, Sydney) - Pleomorphic lobular carcinoma
Australia (Sullivan Nicolaides Pathology) - Poorly differentiated malignancy/Haemato-lymphoid
Canada (Pasqua Hospital) - Leukemia
Canada (University of Sherbrooke) - Lobular carcinoma, breast
Ireland (Kerry General Hospital) - Inflammatory lobular carcinoma
Ireland (University College Hospital, Galway) - Anaplastic large cell lymphoma
Japan (Aichi Medical University) - Angiosarcoma
Japan (Asahi General Hospital) - Myeloid sarcoma (1); Invasive ductal carcinoma (1)
Oman (Khoulia Hospital) - Undifferentiated tumor, differential diagnosis (1); Granulocytic sarcoma (2); Carcinoma (3); Lymphoma (4); Melanoma
United Kingdom (Royal Berkshire Hospital) - High grade lymphoma (ALCL)

Case 6 - Diagnosis:

Poorly differentiated malignant neoplasm, favor lymphoma/leukemia, breast

Note: Needs IHC to r/o lobular carcinoma, and to confirm lymphoproliferative lineage. In 1973 this was labeled "lipid cell carcinoma (histiocytoid carcinoma)". (drc)

T-04000, M-80003

Case 6 - References:

Expression of leukemia/lymphoma-related factor (LRF/POKEMON) in human breast carcinoma and other cancers. *Exp Mol Pathol* 2010; Oct;89(2): p140-8. Aggarwal A; Hunter WJ, et al.

Primary lymphomas of the breast: a report on 5 cases studied in a period of 5 years at the Hospital General de Mexico. *Ann Diagn Pathol* 2009; Apr;13(2): p78-81. Romero-Guadarrama MB; Hernandez-Gonzalez MM, et al.

Clinicopathologic characteristics of invasive lobular carcinoma of the breast: results of an analysis of 30 cases from a single institution. *Cancer* 2008; Oct 1;113(7): p1511-20. Orvieto E; Maiorano E, et al.

Anaplastic large T-cell lymphoma and breast implants: a review of the literature. *Plast Reconstr Surg* 2011; Sep;128(3): p651-61. Jewell M; Spear SL; Largent J; Oefelein MG; Adams WP.

Complete spontaneous regression of primary diffuse large B-cell lymphoma of the breast. *J Clin Oncol* 2011; Feb 10;29(5): pe113-5. Iwatani T; Kawabata H; Miura D; Ota Y; Ohashi K.

Cytomorphology of crystal storing histiocytosis in the breast associated with lymphoma: a case report. *Acta Cytol* 2011;55(3): p302-6. AU - Gao FF; Khalbuss WE; Austin RM; Monaco SE.

Lipid-rich carcinoma of the breast clinicopathologic analysis of 17 cases. *Ann Diagn Pathol* 2011; Aug;15(4): p225-32. Guan B; Wang H, et al.

Histiocytoid variant of lobular carcinoma: a triple negative case. *Breast J* 2010; Jan-Feb;16(1): p84-6. Omeroglu G; Holloway CM; Spayne J; Nofech-Mozes S.

Expression of leukemia/lymphoma-related factor (LRF/POKEMON) in human breast carcinoma and other cancers. *Exp Mol Pathol* 2010; Oct;89(2): p140-8. Aggarwal A; Hunter WJ, et al.

Case No. 7, Accession No. 19492

January 2012

Alameda (Alameda County Medical Center) - Mucinous (colloid) carcinoma

Arcadia (ABC Laboratories) - Colloid carcinoma

Baldwin Park (Kaiser Permanente) - Mucinous (colloid) carcinoma (4)

Fontana (Kaiser Permanente) - Mucinous carcinoma

Glendale - Mucinous carcinoma

Long Beach (VA Hospital, Long Beach) - Colloid carcinoma (2)

Orange (UCI Medical Center Residents) - Mucinous carcinoma

Orinda (Kaiser Permanente) - Mucinous carcinoma

Oxnard (St. John's Regional Medical Center) - Colloid carcinoma

San Diego (Naval Medical Center) - Consistent with mucinous carcinoma

Santa Barbara (Miramonte Laboratory) - Mucinous carcinoma

Woodland Hills (Kaiser Permanente) - Mucinous carcinoma

Arkansas (Associated Pathologists Laboratory) - Mucinous carcinoma

Colorado (McKee Medical Center) - Mucinous carcinoma

Florida (Gastroenterology Associates of Ocala) - Mucinous carcinoma

Georgia, Atlanta - Mucinous/colloid carcinoma, type 2

Illinois (Heartland Regional Medical Center) - Mucinous carcinoma

Illinois, Oak Brook - Mucinous carcinoma

Indianapolis (Indiana University) - Mucinous carcinoma

Iowa (Allen Memorial Hospital) - Mucinous carcinoma

Maryland (University of Maryland Medical Center) - Mucinous carcinoma (colloid carcinoma)

Massachusetts (Tufts Medical Center) - Infiltrating ductal carcinoma consistent with mucinous

Massachusetts (University of Massachusetts Medical Center Residents) - Invasive ductal carcinoma with mucinous features

Minnesota (Fairview Ridges Hospital) - Mucinous carcinoma

Missouri (Missouri Delta Medical Center) - Mucinous carcinoma, colloid type (2)

Nebraska (Creighton University Medical Center) - Colloid carcinoma

New York (Buffalo General Hospital Residents) - Invasive ductal carcinoma with mucinus and papillary features

New York (SUNY Downstate Medical Center Residents) - Mucinous carcinoma

Ohio, Columbus - Mucinous adenocarcinoma

Ohio (Summa Health System) - Mucinous carcinoma

Pennsylvania (Conemaugh Memorial Medical Center) - Mucinous carcinoma

Pennsylvania (Drexel University College of Medicine Residents) - Mucinous carcinoma

Pennsylvania (Lehigh Valley Hospital) - Mucinous carcinoma
Pennsylvania (Magee Womens Hospital of UPMC) - Mucinous carcinoma
Puerto Rico (University of Puerto Rico) - Mucinous carcinoma vs. invasive ductal carcinoma, low grade
South Carolina (Lexington Medical Center) - Colloid carcinoma
Texas, Crystal Beach - Mucinous ductal carcinoma
Texas, Lubbock - Mucinous carcinoma
Texas (Scott & White Memorial Hospital) - Colloid carcinoma
Washington (Seattle VAMC) - Carcinoma with excess extracellular mucoid material
West Virginia (Greenbrier Valley Medical Center) - Colloid carcinoma
Wisconsin, Madison - Mucinous carcinoma
Wisconsin (Medical Assessment and Consultation, S.C.) - Colloid carcinoma
Wisconsin (The Medical College of Wisconsin) - Mucinous carcinoma
Australia (Royal Hobart Hospital) - Mucinous carcinoma
Australia (St. Vincents Hospital, Sydney) - Mucinous carcinoma
Australia (Sullivan Nicolaides Pathology) - Mucinous carcinoma, breast
Canada (Pasqua Hospital) - Mucinous carcinoma
Canada (University of Sherbrooke) - Mucinous carcinoma, breast
Ireland (Kerry General Hospital) - Apocrine carcinoma
Ireland (University College Hospital, Galway) - Mucinous carcinoma
Japan (Aichi Medical University) - Mucinous carcinoma
Japan (Asashi General Hospital) - Ductal intraepithelial neoplasia, low-risk (1); Mucinous carcinoma of breast (1)
Oman (Khoulia Hospital) - Mucinous carcinoma
United Kingdom (Royal Berkshire Hospital) - Mucinous carcinoma

Case 7 - Diagnosis:

Mucinous carcinoma, breast
 T-04000, M-84803

Case 7 - References:

Mucinous breast lesions: diagnostic challenges. *J Clin Pathol* 2008; Jan;61(1): p11-9. Tan PH; Tse GM; Bay BH.
 Pure mucinous carcinoma of the breast with extensive psammomatous calcification. *Histopathology* 2008; Apr;52(5): p650-2. Rao P; Lyons B.
 Clinicopathologic characteristics of mucinous carcinoma of the breast. *Int Surg* 2010; Apr-Jun;95(2): p126-9. Hanagiri T; Ono K; Baba T; So T; Yamasaki M; Nagata Y; Uramoto H; Takenoyama M; Yasumoto K.
 Mucinous breast carcinoma with myoepithelial-like spindle cells. *Diagn Cytopathol* 2009; Jun;37(6): p393-6. Miyake Y; Hirokawa M; Norimatsu Y; Kanahara T; Monobe Y; Ohno S; Miyamoto T; Yakushiji H; Sakaguchi T; Aratake Y; Ohno E.
 Mucinous breast carcinoma: a large contemporary series. *Am J Surg* 2008; Oct;196(4): p549-51. Barkley CR; Ligibel JA; Wong JS; Lipsitz S; Smith BL; Golshan M.
 A retrospective review with long term follow up of 11,400 cases of pure mucinous breast carcinoma. *Breast Cancer Res Treat* 2008; Oct;111(3): p541-7. Di Saverio S; Gutierrez J; Avisar E.

Case No. 8, Accession No. 29857

January 2012

Alameda (Alameda County Medical Center) - Choriocarcinoma
Arcadia (ABC Laboratories) - Choriocarcinoma
Baldwin Park (Kaiser Permanente) - High grade carcinoma, metaplastic (1); Metaplastic carcinoma (3)
Fontana (Kaiser Permanente) - Choriocarcinoma
Glendale - Carcinoma with trophoblastic differentiation
Long Beach (VA Hospital, Long Beach) - Angiosarcoma (2)
Orange (UCI Medical Center Residents) - Angiosarcoma
Orinda (Kaiser Permanente) - Metaplastic carcinoma, choriocarcinoma type
Oxnard (St. John's Regional Medical Center) - Pleomorphic ductal carcinoma
San Diego (Naval Medical Center) - Metaplastic choriocarcinoma
Santa Barbara (Miramonte Laboratory) - Metaplastic choriocarcinoma

Woodland Hills (Kaiser Permanente) - Metastatic choriocarcinoma/germ cell tumor
Arkansas (Associated Pathologists Laboratory) - Hemorrhagic metaplastic carcinoma
Colorado (McKee Medical Center) - Choriocarcinoma
Florida (Gastroenterology Associates of Ocala) - Trophoblastic tumor, metastatic to breast
Georgia, Atlanta - Invasive high grade carcinoma with choriocarcinoma features
Illinois (Heartland Regional Medical Center) - Poorly differentiated carcinoma , rule out metastatic choriocarcinoma)
Illinois, Oak Brook - Epithelioid angiosarcoma
Indianapolis (Indiana University) - Angiosarcoma
Iowa (Allen Memorial Hospital) - Choriocarcinoma
Maryland (University of Maryland Medical Center) - Choriocarcinoma
Massachusetts (Tufts Medical Center) - Angiosarcoma
Massachusetts (University of Massachusetts Medical Center Residents) - Choriocarcinoma
Minnesota (Fairview Ridges Hospital) - Metastatic choriocarcinoma
Missouri (Missouri Delta Medical Center) - Choriocarcinoma (2)
Nebraska (Creighton University Medical Center) - Angiosarcoma, high grade
New York (Buffalo General Hospital Residents) - Metaplastic carcinoma
New York (SUNY Downstate Medical Center Residents) - Metastatic choriocarcinoma
Ohio, Columbus - Invasive ductal carcinoma, grade 2
Ohio (Summa Health System) - Metaplastic carcinoma, choriocarcinoma type
Pennsylvania (Conemaugh Memorial Medical Center) - Metaplastic carcinoma with angiosarcoma component
Pennsylvania (Drexel University College of Medicine Residents) - Metastatic choriocarcinoma
Pennsylvania (Lehigh Valley Hospital) - Invasive carcinoma with germ cell-like features
Pennsylvania (Magee Womens Hospital of UPMC) - High grade carcinoma, rule out trophoblastic disease
Puerto Rico (University of Puerto Rico) - Carcinoma of breast with features of choriocarcinoma vs. metastatic choriocarcinoma /rule out epithelioid sarcoma
South Carolina (Lexington Medical Center) - Metaplastic carcinoma
Texas, Crystal Beach - Infarcted atypical lesion
Texas, Lubbock - Choriocarcinoma
Texas (Scott & White Memorial Hospital) - Carcinoma with choriocarcinomatous features
Washington (Seattle VAMC) - High grade malignant neoplasia, choriocarcinoma growth pattern
West Virginia (Greenbrier Valley Medical Center) - Angiosarcoma
Wisconsin, Madison - Metastatic choriocarcinoma
Wisconsin (Medical Assessment and Consultation, S.C.) - Carcinoma with choriocarcinomatous features
Wisconsin (The Medical College of Wisconsin) - Choriocarcinoma, favor metastatic
Australia (Royal Hobart Hospital) - Metastatic choriocarcinoma
Australia (St.Vincent's Hospital, Sydney) - Choriocarcinoma (need to exclude metastasis)
Australia (Sullivan Nicolaides Pathology) - Choriocarcinoma
Canada (Pasqua Hospital) - Choriocarcinoma
Canada (University of Sherbrooke) - Choriocarcinoma, breast
Ireland (Kerry General Hospital) - Grade 3 carcinoma showing squamous differentiation
Ireland (University College Hospital, Galway) - Metastatic choriocarcinoma
Japan (Aichi Medical University) - Choriocarcinoma, metastatic
Japan (Asahi General Hospital) - Adenosquamous carcinoma (1); Hemorrhage with fragments of choriocarcinoma (1)
Oman (Khoula Hospital) - Choriocarcinoma or metaplastic carcinoma
United Kingdom (Royal Berkshire Hospital) - Choriocarcinoma (metaplastic primary vs. metastasis)

Case 8 - Diagnosis:

Carcinoma of the breast with choriocarcinomatous features, breast
 T-04000, M-91003

Case 8 - References:

Fine needle aspiration cytology of mammary carcinoma with choriocarcinomatous features: a report of 2 cases. *Acta Cytol* 2008; Jan-Feb;52(1): p99-104. Akbulut M; Zekioglu O, et al.
 Fine-needle aspiration biopsy of a case of breast carcinoma with choriocarcinomatous features. *Diagn Cytopathol* 2006; Oct;34(10): p694-7. Siddiqui NH; Cabay RJ, et al.
 Carcinoma of the breast with choriocarcinomatous features. *Arch Pathol Lab Med* 2001; Sep;135(9): p1097-100. Mohammadi A; Rosa M.

Metastatic choriocarcinoma to the breast: appearance on mammography and Doppler sonography. *AJR Am J Roentgenol* 2005; Mar;184(3 Suppl): pS53-5. Kalra N; Ojili V, et al.
 Breast carcinoma with choriocarcinomatous features. *Ann Diagn Pathol* 2004 ;Apr;8(2): p74-. Resetkova E; Sahin A, et al.
 Breast carcinomas with choriocarcinomatous features: case reports and review of the literature. *Breast J* 2002; Jul-Aug;8(4): p244-8. Erhan Y; Ozdemir N, et al.

Case No. 9, Accession No. 22444

January 2012

Alameda (Alameda County Medical Center) - Carcinosarcoma (giant cell features)
Arcadia (ABC Laboratories) - Poorly differentiated ductal carcinoma
Baldwin Park (Kaiser Permanente) - High grade carcinoma, metastatic (1); Metaplastic carcinoma with heterologous elements (2); Infiltrating ductal metaplastic carcinoma (1)
Fontana (Kaiser Permanente) - Metaplastic carcinoma
Glendale - Metaplastic carcinoma with chondroid differentiation
Long Beach (VA Hospital, Long Beach) - Metaplastic carcinoma (2)
Orange (UCI Medical Center Residents) - Metaplastic carcinoma with chondroid differentiation
Orinda (Kaiser Permanente) - Metaplastic carcinoma with chondroid and squamous differentiation
Oxnard (St. John's Regional Medical Center) - Metaplastic carcinoma
San Diego (Naval Medical Center) - Metaplastic carcinoma consistent with squamous differentiation
Santa Barbara (Miramonte Laboratory) - Carcinosarcoma
Woodland Hills (Kaiser Permanente) - Metaplastic carcinoma
Arkansas (Associated Pathologists Laboratory) - Metaplastic carcinoma with osteoclast-like giant cells
Colorado (McKee Medical Center) - Metaplastic carcinoma
Florida (Gastroenterology Associates of Ocala) - Sarcoma consistent with rhabdomyosarcoma
Georgia, Atlanta - Metaplastic carcinoma
Illinois (Heartland Regional Medical Center) - Metaplastic carcinoma with chondroid differentiation
Illinois, Oak Brook - Adenocarcinoma with osteoclastic giant cells
Indianapolis (Indiana University) - Metaplastic carcinoma
Iowa (Allen Memorial Hospital) - Metaplastic carcinoma, high grade, with chondroid differentiation
Maryland (University of Maryland Medical Center) - Metaplastic mammary carcinoma (spindle, squamous, and matrix-producing with osteoclast-like giant cells)
Massachusetts (Tufts Medical Center) - Metaplastic carcinoma of breast
Massachusetts (University of Massachusetts Medical Center Residents) - Metaplastic carcinoma
Minnesota (Fairview Ridges Hospital) - Metaplastic carcinoma
Missouri (Missouri Delta Medical Center) - Carcinosarcoma (metaplastic carcinoma) (2)
Nebraska (Creighton University Medical Center) - Metaplastic carcinoma (carcinosarcoma)
New York (Buffalo General Hospital Residents) - Metaplastic carcinoma
New York (SUNY Downstate Medical Center Residents) - Metaplastic carcinoma
Ohio, Columbus - Invasive ductal carcinoma, grade 3 with undifferentiated areas
Ohio (Summa Health System) - Mammary carcinoma with osteoclast-like giant cells, anaplastic
Pennsylvania (Conemaugh Memorial Medical Center) - Metaplastic carcinoma
Pennsylvania (Drexel University College of Medicine Residents) - Metaplastic carcinoma
Pennsylvania (Lehigh Valley Hospital) - Metaplastic carcinoma with osteoclast-like giant cells
Pennsylvania (Magee Womens Hospital of UPMC) - Malignant matrix producing tumor
Puerto Rico (University of Puerto Rico) - High grade pleomorphic carcinoma vs. metaplastic carcinoma
South Carolina (Lexington Medical Center) - Metaplastic carcinoma, chondroid differentiation
Texas, Crystal Beach - Carcinoma infiltrating ductal and lobular
Texas, Lubbock - Infiltrating ductal carcinoma
Texas (Scott & White Memorial Hospital) - Metaplastic carcinoma with osteoclastic giant cells
Washington (Seattle VAMC) - High grade malignant neoplasia, metaplastic growth pattern
West Virginia (Greenbrier Valley Medical Center) - Metaplastic carcinoma
Wisconsin, Madison - Carcinosarcoma
Wisconsin (Medical Assessment and Consultation, S.C.) - Carcinosarcoma of breast
Wisconsin (The Medical College of Wisconsin) - Metaplastic carcinoma (vs. carcinosarcoma)

Australia (Royal Hobart Hospital) - Metaplastic carcinoma
Australia (St.Vincent's Hospital, Sydney) - Carcinosarcoma
Australia (Sullivan Nicolaides Pathology) - Metaplastic carcinoma
Canada (Pasqua Hospital) - Metaplastic carcinoma
Canada (University of Sherbrooke) - Metaplastic carcinoma, breast
Ireland (Kerry General Hospital) - Biphasic carcinoma, grade 3 ductal NST mixed with sarcomatoid carcinoma
Ireland (University College Hospital, Galway) - Metaplastic carcinoma
Japan (Aichi Medical University) - Metaplastic carcinoma
Japan (Asashi General Hospital) - Metaplastic carcinoma (1); Invasive ductal carcinoma (1)
Oman (Khoula Hospital) - Metaplastic carcinoma
United Kingdom (Royal Berkshire Hospital) - Metaplastic carcinoma

Case 9 - Diagnosis:

Metaplastic carcinoma with chondroid differentiation and giant cells, breast
 T-04000, M-80103

Case 9 - References:

Metaplastic carcinoma of breast with osseous metaplasia. *Indian J Pathol Microbiol* 2007; Jul;50(3): p610-1. Pattankar VL; Anita AM, et al.
 Clinicopathologic study of 53 metaplastic breast carcinomas: their elements and prognostic implications. *Hum Pathol* 2010; May;41(5): p679-85. Yamaguchi R; Horii R, et al.
 Metaplastic carcinoma of the breast. *Hum Pathol* 2010; Jul;41(7): p960-70. Okada N; Hasebe T, et al.
 Fibromatosis-like metaplastic carcinoma of the breast as a diagnostic pitfall for fine needle aspiration cytology: a case report. *Acta Cytol* 2010; Sep-Oct;54(5): p712-6. Jarboe E; Layfield LJ; Collins B.
 Keloid type of fibromatosis-like metaplastic carcinoma of the breast with transformation into biphasic tumour in recurrences and lymph node metastases. *Histopathology* 2010; Aug;57(2): p318-20. Lamovec J; Gasljevic G.
 Metaplastic breast carcinoma with melanocytic differentiation. *Pathol Int* 2009; Sep;59(9): p676-80. Bendic A; Bozic M; Durdov MG.

Case No. 10, Accession No. 8228

January 2012

Alameda (Alameda County Medical Center) - Poorly differentiated carcinoma
Arcadia (ABC Laboratories) - High grade ductal carcinoma
Baldwin Park (Kaiser Permanente) - High grade carcinoma (2); Poorly differentiated carcinoma (2)
Fontana (Kaiser Permanente) - High grade carcinoma
Glendale - Carcinoma
Long Beach (VA Hospital, Long Beach) - Poorly differentiated malignancy, NOS (2)
Orange (UCI Medical Center Residents) - High grade intracystic carcinoma
Orinda (Kaiser Permanente) - Angiosarcoma
Oxnard (St. John's Regional Medical Center) - High grade ductal carcinoma
San Diego (Naval Medical Center) - Metaplastic carcinoma, NOS
Santa Barbara (Miramonte Laboratory) - Angiosarcoma
Woodland Hills (Kaiser Permanente) - Metaplastic carcinoma
Arkansas (Associated Pathologists Laboratory) - Poorly differentiated ductal adenocarcinoma
Colorado (McKee Medical Center) - Poorly differentiated carcinoma
Florida (Gastroenterology Associates of Ocala) - Ductal carcinoma, comedo pattern
Georgia, Atlanta - High grade carcinoma, rule out metastasis
Illinois (Heartland Regional Medical Center) - Poorly differentiated ductal carcinoma
Illinois, Oak Brook - Metaplastic carcinoma
Indianapolis (Indiana University) - High grade breast carcinoma
Iowa (Allen Memorial Hospital) - Metaplastic carcinoma, high grade with squamous differentiation
Maryland (University of Maryland Medical Center) - High grade mammary carcinoma (possibly medullary)
Massachusetts (Tufts Medical Center) - Poorly differentiated carcinoma of breast
Massachusetts (University of Massachusetts Medical Center Residents) - Carcinosarcoma (metaplastic carcinoma)
Minnesota (Fairview Ridges Hospital) - Metaplastic carcinoma

Missouri (Missouri Delta Medical Center) - Invasive high grade carcinoma (1); Invasive high grade cancer consistent with a syncytial growth pattern (1)
Nebraska (Creighton University Medical Center) - Poorly differentiated adenocarcinoma
New York (Buffalo General Hospital Residents) - High grade invasive ductal carcinoma
New York (SUNY Downstate Medical Center Residents) - Metaplastic carcinoma
Ohio, Columbus - Invasive ductal carcinoma, grade 3
Ohio (Summa Health System) - Suspicious for clear cell carcinoma
Pennsylvania (Conemaugh Memorial Medical Center) - Metaplastic carcinoma/spindle cell sarcoma
Pennsylvania (Drexel University College of Medicine Residents) - Poorly differentiated high grade carcinoma
Pennsylvania (Lehigh Valley Hospital) - Angiosarcoma
Pennsylvania (Magee Womens Hospital of UPMC) - Sebaceous carcinoma
Puerto Rico (University of Puerto Rico) - Glycogen rich ductal cell carcinoma vs. metastatic renal cell carcinoma
South Carolina (Lexington Medical Center) - High grade ductal carcinoma in-situ
Texas, Crystal Beach - Carcinoma infiltrating probably ductal
Texas, Lubbock - Infiltrating ductal carcinoma
Texas (Scott & White Memorial Hospital) - High grade carcinoma
Washington (Seattle VAMC) - Sarcomatoid malignant neoplasia (need immunostain profile)
West Virginia (Greenbrier Valley Medical Center) - Adenocarcinoma, NOS
Wisconsin, Madison - High grade carcinoma
Wisconsin (Medical Assessment and Consultation, S.C.) - Malignant Phyllodes neoplasm (tumor)
Wisconsin (The Medical College of Wisconsin) - Poorly differentiated malignant neoplasm (favor sarcomatoid carcinoma vs. high-grade sarcoma)
Australia (Royal Hobart Hospital) - High grade invasive carcinoma, NOS
Australia (St. Vincents Hospital, Sydney) - Metaplastic carcinoma (high grade squamous cell carcinoma)
Australia (Sullivan Nicolaides Pathology) - Poorly differentiated carcinoma favor metaplastic (squamous) carcinoma
Canada (Pasqua Hospital) - Metaplastic carcinoma (squamous cell carcinoma)
Canada (University of Sherbrooke) - Spindle cell carcinoma, breast
Ireland (Kerry General Hospital) - Grade 3 ductal carcinoma NST
Ireland (University College Hospital, Galway) - Poorly differentiated adenocarcinoma
Japan (Aichi Medical University) - Metaplastic carcinoma
Japan (Asashi General Hospital) - Invasive duct carcinoma (2)
Oman (Khoula Hospital) - Carcinoma with clear cell features
United Kingdom (Royal Berkshire Hospital) - Myoepithelial carcinoma (vs. clear cell carcinoma)

Case 10 - Diagnosis:

High grade pleomorphic carcinoma, breast
 T-04000, M-80223

Case 10 - References:

Cytopathological grading, as a predictor of histopathological grade, in ductal carcinoma (NOS) of breast, on air-dried Diff-Quik smears. *Diagn Cytopathol* 2003; Oct;29(4): p185-93. Khan MZ; Haleem A, et al.
 Long term prognostic value of Nottingham histological grade and its components in early (pT1N0M0) breast carcinoma. *J Clin Pathol* 2002; Feb;55(2): p88-92. Frkovic-Grazio S; Bracko M.
 High-grade carcinomas of the breast showing patterns of mixed ductal and myoepithelial differentiation (including myoepithelial cell-rich carcinoma of the breast). *Histopathology* 2004; Jun;44(6): p580-4. Coyne JD; Dervan PA; Barr L.
 Pleomorphic giant cell ductal carcinoma of the breast. *Pathologica* 2011; Jun;103(3): p68-70. Tacchini D; Mastrogiulio MG, et al.
 Pleomorphic ductal carcinoma of the male breast: report of a rare case and review of literature. *Anticancer Res* 2011; Sep;31(9): p3069-71. Caruso R; Palmeri R, et al.
 Pleomorphic ductal carcinoma of the breast with predominant micropapillary features. *Pathol Int* 2007; Oct;57(10): p694-7. Lenicek T; Szerda F, et al.
 Pleomorphic carcinoma with osteoclastic giant cells of the breast: immunohistochemical differentiation between coexisting neoplastic and reactive giant cells. *Pathol Int* 2009; Feb;59(2): p91-7. Kurokawa K; Mouri Y, et al.