



CALIFORNIA
TUMOR TISSUE REGISTRY

BREAST PATHOLOGY

Minutes – Subscription A

January 2013



SUGGESTED READING (General Topics from Recent Literature):

- Vollmer Rt. The Dynamics of Death in Melanoma. *J Cuntan Pathol* 2012;39:1075-1082.
- La Rosa S, Adsay V, et al. Clinicopathologic Study of 62 Acinar Cell Carcinomas of the Pancreas: Insights Into the Morphology and Immunophenotype and Search for Prognostic Markers. *Am J Surg Pathol* 2012; 36:1782-1795.
- Cermak TS, Wang B, et al. Does On-Site Adequacy Evaluation Reduce the Nondiagnostic Rate in Endoscopic Ultrasound-Guided Fine-Needle Aspiration of Pancreatic Lesions? *Cancer Cytopathol* 2012; 120:319-325.
- Alexander RE, Lopez-Beltran A, et al. KRAS Mutation Is Present in a Small Subset of Primary Urinary Bladder Adenocarcinomas. *Histopathol* 2012; 61:1036-1042.
- Li X, Weaver O, et al. Microcalcification is an Important Factor in the Management of Breast Intraductal Papillomas Diagnosed on Core Biopsy. *Am J Clin Pathol* 2012; 138:789-795.

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FILE DIAGNOSES

CTTR Subscription A

January 2013

Case 1:

Lactating adenoma, breast
T-04000, M-81400

Case 2:

Mammary hamartoma, breast
T-04000, M-75500

Case 3:

Fibrocystic change with PASH (some slides), breast
T-04000, M-74320

Case 4:

Phyllodes tumor (“benign”, “low grade”), breast
T-04000, M-90213

Case 5:

Lobular carcinoma with histiocytoid features, breast
T-04000, M-85203

Case 6:

Apocrine carcinoma, breast
T-04000, M-85733

Case 7:

Adenoid cystic and cribriform carcinoma, breast
T-04000, M-82013

Case 8:

Mucinous carcinoma, breast
T-04000, M-84803

Case 9:

Adenomyoepithelioma, breast
T-04000, M-89820

Case 10:

Metaplastic carcinoma, breast
T-04000, M-80103

Fontana (Kaiser Permanente) - Adenomyoepithelioma
Glendale - Papilloma with apocrine metaplasia
Hayward/Fremont (St. Rose Hospital) - Pregnancy changes usual duct hyperplasia
Long Beach (Long Beach Veterans Hospital) - Intraductal papilloma
Orange (Orange County Pathology Medical Group) - Lactating adenoma
Orange (UCI Medical Center Residents) - Lactational adenoma with apocrine features
Orinda (Kaiser Permanente) - Nodular lactational hyperplasia involving a papilloma
Oxnard (St. John's Pleasant Valley Hospital) - Adenoma within lactating breast (1); Secretory adenoma (1); Lactating adenoma (1)
San Diego (Naval Medical Center) - Papilloma with lactational changes
Santa Barbara (Miramonte Laboratory) - Intraductal papillomatosis
Woodland Hills (Kaiser Permanente) - Breast tissue with lactational change and possible papilloma/papillomatosis
Arkansas (Associated Pathologists Laboratory) - Lobular hyperplasia of pregnancy
Colorado (McKee Medical Center) - Secretory adenoma
Colorado (University of Colorado) - Intraductal papilloma with usual-type ductal hyperplasia
Delaware (Armed Forces Medical Examiner Systems) - Fibroadenoma with lactational changes
Florida (Gastroenterology Associates of Ocala) - Lactating adenoma
Florida (The Pathology Group of NW Florida) - Lactating adenoma with apocrine features (2)
Georgia, Atlanta - Lactation adenoma
Illinois (Heartland Regional Medical Center) - Lactational change and tubular adenoma and florid ductal hyperplasia
Illinois (Northshore University Health System) - Lactational adenoma
Illinois, Oak Brook - Intraductal hyperplasia
Kansas (Peterson Laboratory Services) - Nodular lactational hyperplasia and intraductal papilloma (2)
Massachusetts (University of Massachusetts Medical Center) - Nodular lactational hyperplasia
Minnesota (Fairview Ridges Hospital) - Secretory change, papilloma with epithelial hyperplasia
Nebraska (Creighton University Medical Center) - Lactating adenoma
New York (Buffalo General Medical Center Residents) - Lactating adenoma
New York (Erie County Medical Center) - Lobular hyperplasia in pregnancy and atypical papillary lesion
New York (SUNY Downstate Medical Center) - Florid ductal hyperplasia with apocrine adenosis in the background of lactating changes
Ohio, Union Town - Lactating adenoma
Pennsylvania (Magee Women's Hospital) - Lactating adenoma
Puerto Rico (University of Puerto Rico) - Papillary duct hyperplasia, adenomyoepithelioma
South Carolina (Medical University of South Carolina) - Intraductal Papillary neoplasms in a background of lactational change.
Tennessee, Marysville - Lactational hyperplasia with focal apocrine metaplasia
Texas (Anderson Cancer Center) - Lactating adenoma
Texas (Crystal Beach) - Hyperplasia mostly lobular
Texas, Lubbock - Papillary adenoma
Washington (Seattle VAMC) - Adenoma in lactating breast
West Virginia (Greenbrier Valley Medical Center) - Lactational metaplasia
Wisconsin, Madison - Lactational adenoma
Wisconsin (Medical Assessment and Consultation) - Lactating adenoma
Wisconsin (The Medical College of Wisconsin) - Papilloma with lactational changes
Australia (Royal Hobart Hospital) - Benign intraduct papillomas in a background of secretory change
Australia (Royal Prince Alfred Hospital) - Secretory change, florid ductal hyperplasia, no atypia
Australia (St. Vincent's Hospital) - Lactation change and papillomatosis
Australia (The Royal Women's Hospital) - Lactating adenoma, ductal hyperplasia (florid)
Brazil (CIDAP) - Lactational adenoma
Canada (Pasqua Hospital) - Adenomyoepithelioma
Canada (University of Sherbrooke) - Lactating changes and adenoma, breast
Ireland (Bon Secours Hospital Tralee) - Multiple cut papillomas
Ireland (Galway Residents) - Juvenile papillomatosis
Ireland (Kerry General Hospital) - Lactating adenoma

Japan (Asahi General Hospital) - Lactating adenoma (2)
Japan (Setagaya-Ku) - Lactating adenoma
Japan (University of Yamanashi) - Lactational change of mammary gland
Japan (Wakayama Medical University) - Papilloma
Oman (Khoula Hospital) - Adenosis
Saudi Arabia (King Fahad Hospital) - Intraductal papillomas and lactational change
Saudi Arabia (King Khalid University Hospital) - Intraductal papilloma with atypical ductal hyperplasia
Singapore (Freelance/Locum Practice) - Intraductal papilloma

Case 1 - Diagnosis:

Lactating adenoma, breast
 T-04000, M-81400

Case 1 - References:

Lactating adenoma--cytomorphologic study with review of literature. *Indian J Pathol Microbiol* 2001; Oct;44(4): p445-8. Choudhury M; Singal MK.
 Lactating adenoma: a diagnosis of exclusion. *Breast J* 2001; Sep-Oct;7(5): p354-7. Baker TP; Lenert JT, et al.
 Gigantomastia and vulvar lactating adenoma in a patient with myasthenia during pregnancy. *Am J Obstet Gynecol* 2010; Oct;203(4): pe5-8. Scarabin C; Koskas M, et al.
 Coexistence of lactating adenoma and invasive ductal adenocarcinoma of the breast in a pregnant woman. *J Clin Pathol* 2005; Jan;58(1): p87-9. Saglam A; Can B.

Case No. 2, Accession No. 26237

January 2013

Fontana (Kaiser Permanente) - Hamartoma
Glendale - Fibrocystic changes
Hayward/Fremont (St. Rose Hospital) - Fibroadenoma change
Long Beach (Long Beach Veterans Hospital) - Fibrocystic disease
Oakland (Alameda County Medical Center) - Fibrocystic changes, benign
Orange (Orange County Pathology Medical Group) - Hamartoma
Orange (UCI Medical Center Residents) - Hamartoma
Orinda (Kaiser Permanente) - Fibrocystic change
Oxnard (St. John's Pleasant Valley Hospital) - Intramammary lipoma (1); Lipoma (2)
San Diego (Naval Medical Center) - Benign breast tissue with apocrine change
Santa Barbara (Miramonte Laboratory) - Sclerosing adenosis
Woodland Hills (Kaiser Permanente) - Mammary hamartoma
Arkansas (Associated Pathologists Laboratory) - Adrenal lipoma
Colorado (McKee Medical Center) - Lipoma
Colorado (University of Colorado) - Benign hamartoma
Delaware (Armed Forces Medical Examiner Systems) - Non-proliferative fibrocystic changes
Florida (Gastroenterology Associates of Ocala) - Microglandular adenosis
Florida (The Pathology Group of NW Florida) - Hamartoma (2)
Georgia, Atlanta - Microglandular adenosis
Illinois (Heartland Regional Medical Center) - Mammary hamartoma with fibrocystic change
Illinois (Northshore University Health System) - Fibrocystic disease
Illinois, Oak Brook - Fibrocystic disease
Kansas (Peterson Laboratory Services) - Tubular adenosis with atypia (1); Flat epithelial atypia (1)
Massachusetts (University of Massachusetts Medical Center) - Mammary hamartoma, adenolipoma type
Minnesota (Fairview Ridges Hospital) - Mammary hamartoma
Nebraska (Creighton University Medical Center) - Hamartoma adenolipoma
New York (Buffalo General Medical Center Residents) - Adenomyoepithelioma
New York (Erie County Medical Center) - Hamartoma
New York (SUNY Downstate Medical Center) - Fibrocystic changes with blunt duct adenosis
Ohio, Union Town - Hamartoma

Pennsylvania (Magee Women's Hospital) - Mammary hamartoma
Puerto Rico (University of Puerto Rico) - Hamartoma
South Carolina (Medical University of South Carolina) - Complex fibroadenoma
Tennessee, Marysville - Adenosis
Texas (Anderson Cancer Center) - Hamartoma
Texas (Crystal Beach) - Lipomatous fibroadenoma
Texas, Lubbock - Apocrine adenoma
Washington (Seattle VAMC) - Lipoma
West Virginia (Greenbrier Valley Medical Center) - Apocrine metaplasia
Wisconsin, Madison - Fibrocystic change, hamartoma
Wisconsin (Medical Assessment and Consultation) - Fibrocystic changes, non-proliferative type
Wisconsin (The Medical College of Wisconsin) - Lipofibroadenoma
Australia (Royal Hobart Hospital) - Probable hamartoma breast
Australia (Royal Prince Alfred Hospital) - Hamartoma with apocrine metaplasia
Australia (St. Vincent's Hospital) - Fibrocystic change
Australia (The Royal Women's Hospital) - Breast hamartoma
Brazil (CIDAP) - Hamartoma
Canada (Pasqua Hospital) - Mammary hamartoma
Canada (University of Sherbrooke) - Hamartoma, breast
Ireland (Bon Secours Hospital Tralee) - Lipoma
Ireland (Galway Residents) - Mammary hamartoma
Ireland (Kerry General Hospital) - Lipoma
Japan (Asahi General Hospital) - Apocrine adenosis (1) Atrophic breast tissue (1)
Japan (Setagaya-Ku) - Microglandular adenosis
Japan (University of Yamanashi) - Hamartoma (adenolipoma)
Japan (Wakayama Medical University) - Adenolipoma
Oman (Khoula Hospital) - Adenolipoma (hamartoma)
Saudi Arabia (King Fahad Hospital) - Mammary hamartoma
Saudi Arabia (King Khalid University Hospital) - Fibrocystic changes
Singapore (Freelance/Locum Practice) - Consistent with hamartoma

Case 2 - Diagnosis:

Mammary hamartoma, breast
 T-04000, M-75500

Case 2 - References:

Hamartoma of the breast: an underrecognized disease? *Tumori* 2008; Jan-Feb;94(1): p114-5. Lee WF; Sheen-Chen SM, et al.
 Invasive ductal carcinoma arising within a breast hamartoma. *Ir J Med Sci* 2011; Sep;180(3): p767-8. Scally N; Campbell W, et al.
 Breast hamartoma with intrathoracic extension in a 13-year-old boy.. *J Cancer Res Ther* 2010; Jan-Mar;6(1): p86-8 Gupta SS; Singh O, et al.
 Fine needle aspiration cytology of mammary hamartoma: a review of nine cases with histological correlation. *Cytopathology* 2003; Aug;14(4): p195-200. Gomez-Aracil V; Mayayo E, et al.
 Secondary tumors in mammary adenolipomas: a report of 2 unusual cases. *Arch Pathol Lab Med* 2003; Mar;127(3): p151-4. Harigopal M; Mudrovich SA, et al.

Case No. 3, Accession No. 26279

January 2013

Fontana (Kaiser Permanente) - PASH
Glendale - Pseudoangiomatous stromal hyperplasia
Hayward/Fremont (St. Rose Hospital) - PASH, cysts with focal apocrine metaplasia
Long Beach (Long Beach Veterans Hospital) - Fibrocystic disease with PASH
Oakland (Alameda County Medical Center) - Cystic apocrine metaplasia

Orange (Orange County Pathology Medical Group) - Pseudoangiomatous hyperplasia
Orange (UCI Medical Center Residents) - Fibrocystic change with PASH
Orinda (Kaiser Permanente) - Fibrocystic change
Oxnard (St. John's Pleasant Valley Hospital) - Fibrocystic changes (3)
San Diego (Naval Medical Center) - Fibrocystic disease
Santa Barbara (Miramonte Laboratory) - Fibrocystic changes
Woodland Hills (Kaiser Permanente) - Cystic apocrine metaplasia/pseudoangiomatous stromal hyperplasia
Arkansas (Associated Pathologists Laboratory) - Fibrocystic changes
Colorado (McKee Medical Center) - Fibrocystic change
Colorado (University of Colorado) - PASH and FCC
Delaware (Armed Forces Medical Examiner Systems) - Non-proliferative fibrocystic changes with PASH
Florida (Gastroenterology Associates of Ocala) - Mammary hamartoma
Florida (The Pathology Group of NW Florida) - Fibroadenoma with cyst formation and apocrine metaplasia (2)
Georgia, Atlanta - Fibrocystic change with apocrine pseudoangiomatous stromal hyperplasia
Illinois (Heartland Regional Medical Center) - Fibrocystic change and pseudoangiomatous stromal hyperplasia
Illinois (Northshore University Health System) - Cystic apocrine metaplasia
Illinois, Oak Brook - Pseudoangiomatous stromal hyperplasia
Kansas (Peterson Laboratory Services) - Cystic and papillary apocrine metaplasia (1); Fibrocystic change and pseudoangiomatous hyperplasia (1)
Massachusetts (University of Massachusetts Medical Center) - Cystic apocrine metaplasia
Minnesota (Fairview Ridges Hospital) - Fibrocystic changes, pseudoangiomatous stromal hyperplasia
Nebraska (Creighton University Medical Center) - Non-proliferative fibrocystic changes
New York (Buffalo General Medical Center Residents) - Fibrocystic change
New York (Erie County Medical Center) - Cystic hypersecretory hyperplasia
New York (SUNY Downstate Medical Center) - Fibrocystic changes with pseudoangiomatous stromal hyperplasia foci
Ohio, Union Town - Pseudoangiomatous stromal hyperplasia
Pennsylvania (Magee Women's Hospital) - Fibrocystic change
Puerto Rico (University of Puerto Rico) - Pseudoangiomatous stromal hyperplasia, complex fibroadenoma
South Carolina (Medical University of South Carolina) - Fibrocystic change
Tennessee, Marysville - Fibrocystic disease with apocrine metaplasia
Texas (Anderson Cancer Center) - PASH vs. juvenile papillomatosis
Texas (Crystal Beach) - Fibrocystic disease
Texas, Lubbock - Fibrocystic change
Washington (Seattle VAMC) - Pseudoangiomatous hyperplasia/pseudoadenomatous cyst formation
West Virginia (Greenbrier Valley Medical Center) - Fibrocystic changes
Wisconsin, Madison - Fibrocystic change with apocrine cysts
Wisconsin (Medical Assessment and Consultation) - Fibrocystic changes, focal proliferation, non-atypical
Wisconsin (The Medical College of Wisconsin) - Juvenile papillomatosis
Australia (Royal Hobart Hospital) - Fibrocystic disease/apocrine cysts
Australia (Royal Prince Alfred Hospital) - PASH (pseudoangiomatous stromal hyperplasia) plus multiple benign apocrine cysts
Australia (St. Vincent's Hospital) - Fibrocystic change and pseudoangiomatous hyperplasia (PASH)
Australia (The Royal Women's Hospital) - Fibrocystic changes with apocrine metaplasia
Brazil (CIDAP) - Fibrocystic change of the breast
Canada (Pasqua Hospital) - PASH and fibrocystic change
Canada (University of Sherbrooke) - Fibrocystic changes with PASH, breast
Ireland (Bon Secours Hospital Tralee) - Pseudoangiomatous stromal hyperplasia and fibrocystic change
Ireland (Galway Residents) - Fibrocystic changes with PASH
Ireland (Kerry General Hospital) - Fibrocystic disease
Japan (Asahi General Hospital) - Fibrocystic change (1); Fibrocystic disease (1)
Japan (Setagaya-Ku) - Fibrocystic disease
Japan (University of Yamanashi) - Fibrocystic disease
Japan (Wakayama Medical University) - Fibrocystic disease with pseudoangiomatous hyperplasia
Oman (Khoula Hospital) - Fibrocystic changes
Saudi Arabia (King Fahad Hospital) - Pseudoangiomatous stromal hyperplasia and fibrocystic change
Saudi Arabia (King Khalid University Hospital) - Pseudoangiomatous stromal hyperplasia with fibrocystic changes
Singapore (Freelance/Locum Practice) - Fibrocystic change

Case 3 - Diagnosis:

Fibrocystic change with PASH (some slides), breast
T-04000, M-74320

Case 3 - References:

Cytomorphology of fibrocystic change, high-risk proliferative breast disease, and premalignant breast lesions. *Clin Lab Med* 2005; Dec;25(4): p713-31, vi. Masood S.
Nonproliferative fibrocystic changes and the Easter bunny. *Arch Pathol Lab Med* 2004; Sep;128(9): p1054. Fischer EG.
What effect, if any, does soy protein have on breast tissue? *Integr Cancer Ther* 2003; Sep;2(3): p225-8. Fleming RM.
Aspiration biopsy of nodular pseudoangiomatous stromal hyperplasia of the breast: clinicopathologic correlates in 10 cases. *Diagn Cytopathol* 2005; Jun;32(6): p345-50. Levine PH; Nimeh D, et al.
Pseudoangiomatous stromal hyperplasia: an overview. *Arch Pathol Lab Med* 2010; Jul;134(7): p1070-4. Virk RK; Khan A.
Mammary pseudoangiomatous stromal hyperplasia. A reappraisal of the fine needle aspiration cytology findings. *Acta Cytol* 2003; May-Jun;47(3): p373-80. Ng WK; Chiu CS, et al.

Case No. 4, Accession No. 25976

January 2013

Fontana (Kaiser Permanente) - Benign phyllodes tumor
Glendale - Low grade phyllodes tumor
Hayward/Fremont (St. Rose Hospital) - Phyllodes tumor, low grade
Long Beach (Long Beach Veterans Hospital) - Phyllodes tumor
Oakland (Alameda County Medical Center) - Phyllodes tumor (benign)
Orange (Orange County Pathology Medical Group) - Phyllodes tumor
Orange (UCI Medical Center Residents) - Phyllodes tumor, borderline
Orinda (Kaiser Permanente) - Benign phyllodes tumor
Oxnard (St. John's Pleasant Valley Hospital) - Phyllodes tumor, benign (3)
San Diego (Naval Medical Center) - Fibroadenoma vs. phyllodes
Santa Barbara (Miramonte Laboratory) - Cystosarcoma phyllodes
Woodland Hills (Kaiser Permanente) - Low grade phyllodes tumor
Arkansas (Associated Pathologists Laboratory) - Phyllodes tumor, benign
Colorado (McKee Medical Center) - Low grade phyllodes tumor
Colorado (University of Colorado) - Benign phyllodes
Delaware (Armed Forces Medical Examiner Systems) - Low grade phyllodes tumor
Florida (Gastroenterology Associates of Ocala) - Phyllodes tumor
Florida (The Pathology Group of NW Florida) - Phyllodes tumor, low grade (2)
Georgia, Atlanta - Low grade phyllodes tumor
Illinois (Heartland Regional Medical Center) - Phyllodes tumor, benign
Illinois (Northshore University Health System) - Benign phyllodes tumor
Illinois, Oak Brook - Low grade phyllodes tumor
Kansas (Peterson Laboratory Services) - Benign phyllodes tumor (2)
Massachusetts (University of Massachusetts Medical Center) - Benign phyllodes tumor
Minnesota (Fairview Ridges Hospital) - Phyllodes tumor, benign
Nebraska (Creighton University Medical Center) - Benign phyllodes tumor
New York (Buffalo General Medical Center Residents) - Phyllodes tumor, benign/inflamed
New York (Erie County Medical Center) - Phyllodes tumor
New York (SUNY Downstate Medical Center) - Benign phyllodes tumor
Ohio, Union Town - Phyllodes tumor
Pennsylvania (Magee Women's Hospital) - Benign phyllodes
Puerto Rico (University of Puerto Rico) - Benign phyllodes tumor
South Carolina (Medical University of South Carolina) - Benign phyllodes tumor
Tennessee, Marysville - Benign phyllodes tumor
Texas (Anderson Cancer Center) - Phyllodes tumor

Texas (Crystal Beach) - Phyllodes tumor
Texas, Lubbock - Phyllodes tumor
Washington (Seattle VAMC) - Phyllodes tumor, low grade
West Virginia (Greenbrier Valley Medical Center) - Fibroadenoma with phyllodes pattern
Wisconsin, Madison - Benign phyllodes tumor
Wisconsin (Medical Assessment and Consultation) - Low grade phyllodes neoplasm
Wisconsin (The Medical College of Wisconsin) - Phyllodes tumor
Australia (Royal Hobart Hospital) - Benign phyllodes tumor
Australia (Royal Prince Alfred Hospital) - Low grade phyllodes tumor
Australia (St. Vincent's Hospital) - Phyllodes tumor, low grade
Australia (The Royal Women's Hospital) - Phyllodes tumor, low grade
Brazil (CIDAP) - Benign phyllodes tumor
Canada (Pasqua Hospital) - Benign phyllodes tumor
Canada (University of Sherbrooke) - Phyllodes tumor, breast
Ireland (Bon Secours Hospital Tralee) - Benign phyllodes tumor
Ireland (Galway Residents) - Phyllodes, low grade
Ireland (Kerry General Hospital) - Phyllodes tumor
Japan (Asahi General Hospital) - Phyllodes tumor, benign (2)
Japan (Setagaya-Ku) - Phyllodes tumor, benign
Japan (University of Yamanashi) - Phyllodes tumor, benign
Japan (Wakayama Medical University) - Phyllodes tumor, benign
Oman (Khoula Hospital) - Phyllodes tumor
Saudi Arabia (King Fahad Hospital) - Benign phyllodes tumor
Saudi Arabia (King Khalid University Hospital) - Benign phyllodes tumor
Singapore (Freelance/Locum Practice) - Phyllodes tumor, benign

Case 4 - Diagnosis:

Phyllodes tumor ("benign", "low grade"), breast
 T-04000, M-90213

Case 4 - References:

Prognostic factors of phyllodes tumor of the breast. *Pathol Int* 2006; Jun;56(6): p309-14. Roa JC; Tapia O, et al.
 Phyllodes tumors of the breast: the role of pathologic parameters. *Am J Clin Pathol* 2005; Apr;123(4): p529-40. Tan PH; Jayabaskar T, et al.
 Phyllodes tumor of the prostate. *Urology* 2009; Feb;73(2): p272. Aguilar B; Villalobos M; Sotomayor M.
 A 69-year-old woman with a vulvar lesion. Phyllodes tumor of the vulva. *Arch Pathol Lab Med* 2006; Jan;130(1): pe11-2. Mariappan MR; Lagera JE, et al.

Case No. 5, Accession No. 26239

January 2013

Fontana (Kaiser Permanente) - Lobular carcinoma, histiocytoid
Glendale - Histiocytoid carcinoma
Hayward/Fremont (St. Rose Hospital) - Myofibroblastoma, collagenized variant
Long Beach (Long Beach Veterans Hospital) - Myofibroblastoma
Oakland (Alameda County Medical Center) - Granular cell tumor
Orange (Orange County Pathology Medical Group) - Lobular carcinoma
Orange (UCI Medical Center Residents) - Granular cell tumor
Orinda (Kaiser Permanente) - Invasive lobular carcinoma, histiocytoid (myoblastomatoid) variant
Oxnard (St. John's Pleasant Valley Hospital) - Infiltrating ductal carcinoma, lipid rich (1); Granular cell tumor vs. IDC, vs. metastatic carcinoma (1); Infiltrating ductal (1)
San Diego (Naval Medical Center) - Invasive lobular carcinoma, histiocytic variant
Santa Barbara (Miramonte Laboratory) - Infiltrating apocrine carcinoma
Woodland Hills (Kaiser Permanente) - Invasive lobular carcinoma, histiocytoid variant
Arkansas (Associated Pathologists Laboratory) - Granular cell tumor

Colorado (McKee Medical Center) - Granular cell tumor
Colorado (University of Colorado) - Invasive lobular carcinoma with apocrine features
Delaware (Armed Forces Medical Examiner Systems) - Invasive pleomorphic lobular carcinoma
Florida (Gastroenterology Associates of Ocala) - Syringomatous adenoma-nipple
Florida (The Pathology Group of NW Florida) - Histiocytoid carcinoma (2)
Georgia, Atlanta - Invasive lobular carcinoma
Illinois (Heartland Regional Medical Center) - Invasive histiocytoid carcinoma
Illinois (Northshore University Health System) - Invasive lobular carcinoma, high grade with signet ring features
Illinois, Oak Brook - Invasive ductal carcinoma lipid rich
Kansas (Peterson Laboratory Services) - Invasive lobular carcinoma, pleomorphic and histiocytoid types (1);
 Pleomorphic lobular carcinoma (1)
Massachusetts (University of Massachusetts Medical Center) - Apocrine carcinoma
Minnesota (Fairview Ridges Hospital) - Invasive apocrine carcinoma
Nebraska (Creighton University Medical Center) - Malignant epithelioid neoplasm
New York (Buffalo General Medical Center Residents) - Invasive lobular carcinoma, radial scar, sclerosing adenosis
 and microcalcifications
New York (Erie County Medical Center) - Malignant neoplasm (primary vs. metastatic)
New York (SUNY Downstate Medical Center) - Pleomorphic lobular carcinoma
Ohio, Union Town - Lipid-rich carcinoma
Pennsylvania (Magee Women's Hospital) - Lobular carcinoma, histiocytoid variant
Puerto Rico (University of Puerto Rico) - Invasive ductal carcinoma with apocrine features
South Carolina (Medical University of South Carolina) - Granular cell tumor
Tennessee, Marysville - Myofibroblastoma
Texas (Anderson Cancer Center) - Invasive lobular carcinoma with histiocytoid features
Texas (Crystal Beach) - Signet ring carcinoma
Texas, Lubbock - Infiltrating ductal carcinoma
Washington (Seattle VAMC) - Carcinoma with high grade, individual cell invasive growth pattern
West Virginia (Greenbrier Valley Medical Center) - Lipid rich carcinoma
Wisconsin, Madison - Apocrine carcinoma
Wisconsin (Medical Assessment and Consultation) - Granular cell tumor
Wisconsin (The Medical College of Wisconsin) - Invasive lobular carcinoma (histiocytoid)
Australia (Royal Hobart Hospital) - Invasive lobular carcinoma (pleomorphic type)
Australia (Royal Prince Alfred Hospital) - Histiocytoid variant of lobular carcinoma (DDx malignant granular cell
 tumor, breast)
Australia (St. Vincent's Hospital) - Lobular carcinoma, histiocytoid variant
Australia (The Royal Women's Hospital) - Malignant tumor with features suggestive of lobular carcinoma of breast;
 Diff dx: Metastatic carcinoma and granular cell tumor
Brazil (CIDAP) - Apocrine carcinoma
Canada (Pasqua Hospital) - Apocrine carcinoma
Canada (University of Sherbrooke) - Invasive lobular carcinoma, histiocytoid variant, breast
Ireland (Bon Secours Hospital Tralee) - Malignant granular cell tumor
Ireland (Galway Residents) - Lobular carcinoma, histiocytoid variant
Ireland (Kerry General Hospital) - Fat necrosis
Japan (Asahi General Hospital) - Granular cell tumor (1); Metaplastic carcinoma (1)
Japan (University of Yamanashi) - Invasive lobular carcinoma, histiocytic variant
Japan (Wakayama Medical University) - Lobular carcinoma, histiocytoid variant
Oman (Khoulia Hospital) - Granular cell tumor
Saudi Arabia (King Fahad Hospital) - Differential of invasive histiocytoid/apocrine carcinoma vs. granular cell tumor
Saudi Arabia (King Khalid University Hospital) - Granular cell tumor
Singapore (Freelance/Locum Practice) - Invasive lobular carcinoma

Case 5 - Diagnosis:

Lobular carcinoma with histiocytoid features, breast
 T-04000, M-85203

Case 5 - References:

Pathologic quiz case: a 93-year-old woman with an enlarged and tender left breast. Histiocytoid variant of lobular breast carcinoma. *Arch Pathol Lab Med* 2003; Dec;127(12): p1626-8. Reis-Filho JS; Fulford LG
Fine needle aspiration cytology of lobular breast carcinoma. Comparison with other breast lesions. *Acta Cytol* 2003; Mar-Apr;47(2): p177-82. Rajesh L; Dey P; Joshi K.
Histiocytoid breast carcinoma: solid variant of invasive lobular carcinoma with decreased expression of both E-cadherin and CD44 epithelial variant. *Pathol Int* 2005; Jun;55(6): p353-9. Fujiwara M; Horiguchi M, et al.
Histiocytoid breast carcinoma: an enigmatic lobular entity. *J Clin Pathol* 2011; Aug;64(8): p654-9. Tan PH; Harada O, et al.
Clinicopathologic characteristics of invasive lobular carcinoma of the breast: results of an analysis of 530 cases from a single institution. *Cancer* 2008; Oct 1;113(7): p1511-20. Orvieto E; Maiorano E, et al.

Case No. 6, Accession No. 29962

January 2013

Fontana (Kaiser Permanente) - Apocrine carcinoma
Glendale - Apocrine carcinoma
Hayward/Fremont (St. Rose Hospital) - IDC with focal lipid or glycogen content
Long Beach (Long Beach Veterans Hospital) - Infiltrating ductal carcinoma, apocrine type
Oakland (Alameda County Medical Center) - Invasive apocrine carcinoma
Orange (Orange County Pathology Medical Group) - Apocrine carcinoma
Orange (UCI Medical Center Residents) - Apocrine carcinoma
Orinda (Kaiser Permanente) - Invasive carcinoma with apocrine features
Oxnard (St. John's Pleasant Valley Hospital) - Infiltrating ductal carcinoma, apocrine (3)
San Diego (Naval Medical Center) - Invasive ductal, NOS vs. adnexal carcinoma
Santa Barbara (Miramonte Laboratory) - Apocrine carcinoma
Woodland Hills (Kaiser Permanente) - Invasive apocrine carcinoma
Arkansas (Associated Pathologists Laboratory) - Apocrine carcinoma
Colorado (McKee Medical Center) - Apocrine carcinoma
Colorado (University of Colorado) - Granular cell tumor
Delaware (Armed Forces Medical Examiner Systems) - Invasive apocrine carcinoma
Florida (Gastroenterology Associates of Ocala) - Lobular CIS
Florida (The Pathology Group of NW Florida) - Apocrine adenocarcinoma (2)
Georgia, Atlanta - Invasive apocrine carcinoma
Illinois (Heartland Regional Medical Center) - Invasive apocrine carcinoma
Illinois (Northshore University Health System) - Invasive ductal carcinoma
Illinois, Oak Brook - Apocrine carcinoma
Kansas (Peterson Laboratory Services) - Apocrine carcinoma (1); Invasive ductal carcinoma (1)
Massachusetts (University of Massachusetts Medical Center) - Mammary carcinoma with endocrine features
Minnesota (Fairview Ridges Hospital) - Invasive apocrine carcinoma
Nebraska (Creighton University Medical Center) - Apocrine carcinoma
New York (Buffalo General Medical Center Residents) - Invasive mammary carcinoma with apocrine features
Ohio, Union Town - Apocrine carcinoma
New York (SUNY Downstate Medical Center) - Apocrine carcinoma
Ohio, Union Town - Apocrine carcinoma
Pennsylvania (Magee Women's Hospital) - Micropapillary carcinoma
Puerto Rico (University of Puerto Rico) - Oncocytic carcinoma, rule out apocrine carcinoma
South Carolina (Medical University of South Carolina) - Apocrine carcinoma
Tennessee, Marysville - Invasive micropapillary carcinoma
Texas (Anderson Cancer Center) - Invasive ductal carcinoma with apocrine differentiation
Texas (Crystal Beach) - Apocrine adenosis
Texas, Lubbock - Apocrine carcinoma
Washington (Seattle VAMC) - Carcinoma with invasive ductal growth pattern
West Virginia (Greenbrier Valley Medical Center) - Histiocytoid carcinoma

Wisconsin, Madison - Invasive ductal carcinoma
Wisconsin (Medical Assessment and Consultation) - Apocrine carcinoma
Wisconsin (The Medical College of Wisconsin) - Invasive ductal carcinoma with neuroendocrine differentiation
Australia (Royal Hobart Hospital) - Invasive ductal carcinoma (pleomorphic type)
Australia (Royal Prince Alfred Hospital) - Invasive apocrine carcinoma, alveolar pattern
Australia (St. Vincent's Hospital) - Lobular carcinoma, histiocytoid variant
Australia (The Royal Women's Hospital) - Apocrine carcinoma, breast
Brazil (CIDAP) - Apocrine carcinoma/myoepithelial carcinoma, adnexal cutaneous tumor
Canada (Pasqua Hospital) - Apocrine carcinoma
Canada (University of Sherbrooke) - Invasive ductal carcinoma, breast
Ireland (Bon Secours Hospital Tralee) - Apocrine carcinoma
Ireland (Galway Residents) - Apocrine carcinoma
Ireland (Kerry General Hospital) - Apocrine carcinoma
Japan (Asahi General Hospital) - Apocrine adenosis (2)
Japan (Setagaya-Ku) - Apocrine carcinoma
Japan (University of Yamanashi) - Apocrine carcinoma
Japan (Wakayama Medical University) - Invasive carcinoma of no special type
Oman (Khoulia Hospital) - Apocrine carcinoma DDX: Oncocytic carcinoma
Saudi Arabia (King Fahd Hospital) - Invasive apocrine carcinoma
Saudi Arabia (King Khalid University Hospital) - Invasive ductal carcinoma (oncocytic variant)
Singapore (Freelance/Locum Practice) - Extensive lobular carcinoma in-situ, invasive carcinoma (alveolar lobular type) cannot be excluded

Case 6 - Diagnosis:

Apocrine carcinoma, breast
 T-04000, M-85733

Case 6 - References:

Encapsulated apocrine papillary carcinoma of the breast--a tumour of uncertain malignant potential: report of five cases. *Virchows Arch* 2009; Dec;455(6): p477-83. Seal M; Wilson C, et al.
 Apocrine ductal carcinoma in situ involving a sclerosing lesion with adenosis: report of a case. *Arch Pathol Lab Med* 2009; Nov;133(11): p1817-21. Visscher DW.
 Fine-needle aspiration cytologic features of four special types of breast cancers: mucinous, medullary, apocrine, and papillary. *Diagn Cytopathol* 2007; Jul;35(7): p408-16. Haji BE; Das DK, et al.
 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.

Case No. 7, Accession No. 25497

January 2013

Fontana (Kaiser Permanente) - Adenoid cystic carcinoma
Glendale - Adenoid cystic carcinoma
Hayward/Fremont (St. Rose Hospital) - Ductal carcinoma, solid and cribriform
Long Beach (Long Beach Veterans Hospital) - Adenoid cystic carcinoma
Oakland (Alameda County Medical Center) - Invasive cribriform carcinoma
Orange (Orange County Pathology Medical Group) - Adenoid cystic carcinoma
Orange (UCI Medical Center Residents) - Cribriform carcinoma
Orinda (Kaiser Permanente) - Adenoid cystic carcinoma
Oxnard (St. John's Pleasant Valley Hospital) - Adenoid cystic carcinoma (3)
San Diego (Naval Medical Center) - Adenoid cystic carcinoma
Santa Barbara (Miramonte Laboratory) - Adenoid cystic carcinoma
Woodland Hills (Kaiser Permanente) - Invasive cribriform carcinoma
Arkansas (Associated Pathologists Laboratory) - Adenoid cystic carcinoma
Colorado (McKee Medical Center) - Adenoid cystic carcinoma
Colorado (University of Colorado) - Cribriform carcinoma

Delaware (Armed Forces Medical Examiner Systems) - Adenoid cystic carcinoma
Florida (Gastroenterology Associates of Ocala) - Adenoid cystic carcinoma
Florida (The Pathology Group of NW Florida) - Adenoid cystic carcinoma (2)
Georgia, Atlanta - Adenoid cystic carcinoma
Illinois (Heartland Regional Medical Center) - Adenoid cystic carcinoma
Illinois (Northshore University Health System) - Adenoid cystic carcinoma, high grade
Illinois, Oak Brook - Adenocarcinoma cribriform, basal cell
Kansas (Peterson Laboratory Services) - Adenoid cystic carcinoma (2)
Massachusetts (University of Massachusetts Medical Center) - Adenoid cystic carcinoma, high grade
Minnesota (Fairview Ridges Hospital) - Basaloid carcinoma (adenoid cystic carcinoma)
Nebraska (Creighton University Medical Center) - Basal type carcinoma
New York (Buffalo General Medical Center Residents) - Adenoid cystic carcinoma
New York (Erie County Medical Center) - Adenoid cystic carcinoma
New York (SUNY Downstate Medical Center) - Adenoid cystic carcinoma
Ohio, Union Town - Adenoid cystic carcinoma
Pennsylvania (Magee Women's Hospital) - Adenoid cystic carcinoma
Puerto Rico (University of Puerto Rico) - Adenoid cystic carcinoma with basaloid features, rule out invasive ductal carcinoma, NOS
South Carolina (Medical University of South Carolina) - Adenoid cystic carcinoma
Tennessee, Marysville - Invasive cribriform carcinoma
Texas (Anderson Cancer Center) - Adenoid cystic carcinoma
Texas (Crystal Beach) - Adenoid cystic carcinoma
Texas, Lubbock - Adenoid cystic carcinoma
Washington (Seattle VAMC) - Carcinoma with adenoid cystic growth pattern
West Virginia (Greenbrier Valley Medical Center) - Infiltrating basal cell carcinoma
Wisconsin, Madison - Infiltrating cribriform carcinoma
Wisconsin (Medical Assessment and Consultation) - Adenoid cystic carcinoma
Wisconsin (The Medical College of Wisconsin) - Adenoid cystic carcinoma
Australia (Royal Hobart Hospital) - Adenoid cystic carcinoma
Australia (Royal Prince Alfred Hospital) - Adenoid cystic carcinoma
Australia (St. Vincent's Hospital) - Adenoid cystic carcinoma
Australia (The Royal Women's Hospital) - Poorly differentiated carcinoma favoring basaloid carcinoma of breast
Brazil (CIDAP) - Adenoid cystic carcinoma
Canada (Pasqua Hospital) - Adenoid cystic carcinoma
Canada (University of Sherbrooke) - Adenoid cystic carcinoma, breast
Ireland (Bon Secours Hospital Tralee) - Cribriform carcinoma
Ireland (Galway Residents) - Adenoid cystic carcinoma
Ireland (Kerry General Hospital) - Adenoid cystic carcinoma
Japan (Asahi General Hospital) - Adenoid cystic carcinoma (1); Ductal carcinoma in-situ (1)
Japan (Setagaya-Ku) - Adenoid cystic carcinoma
Japan (University of Yamanashi) - Adenoid cystic carcinoma
Japan (Wakayama Medical University) - Adenoid cystic carcinoma
Oman (Khoula Hospital) - Solid variant adenoid cystic carcinoma; Small cell carcinoma
Saudi Arabia (King Fahad Hospital) - Adenoid cystic carcinoma, high grade
Saudi Arabia (King Khalid University Hospital) - Adenoid cystic carcinoma
Singapore (Freelance/Locum Practice) - Adenoid cystic carcinoma

Case 7 - Diagnosis:

Adenoid cystic carcinoma, breast
 T-04000, M-82013

Case 7 - References:

Expression of c-kit in adenoid cystic carcinoma of the breast. *Am J Clin Pathol* 2005; Nov;124(5): p733-9..Crisi GM; Marconi SA; Makari-Judson G; Goulart RA.
 Adenoid cystic carcinoma of breast, a special histopathologic type with excellent prognosis..*Breast Cancer Res Treat* 2005; Oct;93(3): p189-90. Page DL.

Adenoid cystic carcinoma arising in a fibroadenoma. *Ann Diagn Pathol* 2005; Jun;9(3): p157-9. Blanco M; Egozi L; Lubin D; Poppiti R.

Adenoid cystic carcinoma of the breast diagnosed by fine-needle aspiration. *Diagn Cytopathol* 2004; Apr;30(4): p271-4. Saqi A; Mercado CL; Hamele-Bena D.

Adenoid cystic carcinoma of the breast: molecular markers, treatment, and clinical outcome. *Cancer* 2002; Apr 15;94(8): p2119-27.. Arpino G; Clark GM; Mohsin S; Bardou VJ; Elledge RM.

Case No. 8, Accession No. 22923/26075

January 2013

Fontana (Kaiser Permanente) - Mucinous carcinoma

Glendale - Mucinous carcinoma

Hayward/Fremont (St. Rose Hospital) - Intracystic (encapsulated papillary) carcinoma

Long Beach (Long Beach Veterans Hospital) - Colloid carcinoma

Oakland (Alameda County Medical Center) - Mucinous carcinoma

Orange (Orange County Pathology Medical Group) - Colloid or mucinous carcinoma

Orange (UCI Medical Center Residents) - Mucinous adenocarcinoma, high grade

Orinda (Kaiser Permanente) - Mucinous carcinoma

Oxnard (St. John's Pleasant Valley Hospital) - Colloid mucinous infiltrating ductal carcinoma (3)

San Diego (Naval Medical Center) - Mucinous carcinoma

Santa Barbara (Miramonte Laboratory) - Mucinous carcinoma

Woodland Hills (Kaiser Permanente) - Mucinous carcinoma

Arkansas (Associated pathologists Laboratory) - Mucinous carcinoma

Colorado (McKee Medical Center) - Colloid (mucinous) carcinoma

Colorado (University of Colorado) - Mucinous carcinoma

Delaware (Armed Forces Medical Examiner Systems) - Invasive mucinous carcinoma

Florida (Gastroenterology Associates of Ocala) - Mucinous carcinoma

Florida (The Pathology Group of NW Florida) - Mucinous (colloid) carcinoma (2)

Georgia, Atlanta - Mucinous (colloid) carcinoma

Illinois (Heartland Regional Medical Center) - Mucinous carcinoma

Illinois (Northshore University Health System) - Mucinous carcinoma

Illinois, Oak Brook - Adenocarcinoma with colloid features

Kansas (Peterson Laboratory Services) - Mucinous colloid carcinoma (2)

Massachusetts (University of Massachusetts Medical Center) - Mucinous carcinoma

Minnesota (Fairview Ridges Hospital) - Mucinous carcinoma

Nebraska (Creighton University Medical Center) - Mucinous carcinoma

New York (Buffalo General Medical Center Residents) - Mucinous carcinoma

New York (Erie County Medical Center) - Mucinous carcinoma

New York (SUNY Downstate Medical Center) - Mucinous carcinoma

Ohio, Union Town - Mucinous carcinoma

Pennsylvania (Magee Women's Hospital) - Mucinous carcinoma

Puerto Rico (University of Puerto Rico) - Invasive mucinous carcinoma with DCIS

South Carolina (Medical University of South Carolina) - Mucinous carcinoma

Tennessee, Marysville - Solid papillary carcinoma with focal invasion

Texas (Anderson Cancer Center) - Invasive ductal carcinoma with mucinous and neuroendocrine features

Texas (Crystal Beach) - Colloid carcinoma

Texas, Lubbock - Adenoid cystic carcinoma

Washington (Seattle VAMC) - Carcinoma with mucus producing colloid growth pattern

West Virginia (Greenbrier Valley Medical Center) - Colloid (mucinous) adenocarcinoma

Wisconsin, Madison - Mucinous carcinoma

Wisconsin (Medical Assessment and Consultation) - Mucinous carcinoma

Wisconsin (The Medical College of Wisconsin) - Mucinous carcinoma

Australia (Royal Hobart Hospital) - Mucinous carcinoma

Australia (Royal Prince Alfred Hospital) - Mucinous carcinoma

Australia (St. Vincent's Hospital) - Mucinous carcinoma

Australia (The Royal Women's Hospital) - Mucinous carcinoma of breast, low grade DCIS
Brazil (CIDAP) - Papillary mucinous carcinoma
Canada (Pasqua Hospital) - Mucinous carcinoma
Canada (University of Sherbrooke) - Mucinous carcinoma, breast
Ireland (Bon Secours Hospital Tralee) - Mucinous carcinoma
Ireland (Galway Residents) - Mucinous carcinoma with intermediate grade DCIS
Ireland (Kerry General Hospital) - Mucinous carcinoma
Japan (Asahi General Hospital) - Mucinous carcinoma (2)
Japan (Setagaya-Ku) - Mucinous carcinoma
Japan (University of Yamanashi) - Mucinous carcinoma
Japan (Wakayama Medical University) - Mucinous carcinoma
Oman (Khoula Hospital) - Mucinous carcinoma
Saudi Arabia (King Fahad Hospital) - Mucinous carcinoma
Saudi Arabia (King Khalid University Hospital) - Mucinous carcinoma
Singapore (Freelance/Locum Practice) - Mucinous carcinoma

Case 8 - Diagnosis:

Mucinous carcinoma, breast
 T-04000, M-84803

Case 8 - References:

Expression of mucins (MUC1, MUC2, MUC5AC and MUC6) in mucinous carcinoma of the breast: comparison with invasive ductal carcinoma. *Histopathology* 2003; Jan;42(1): p26-36. Matsukita S; Nomoto M, et al.
 Can mucinous lesions of the breast be reliably diagnosed by core needle biopsy? *Am J Clin Pathol* 2002; Jul;118(1): p82-4. Renshaw AA.
 Pure mucinous carcinoma of the breast with extensive psammomatous calcification. *Histopathology* 2008; Apr;52(5): p650-2. Rao P; Lyons B.
 Performance characteristics of mucinous (colloid) carcinoma of the breast in fine-needle aspirates: observations from the College of American Pathologists Interlaboratory Comparison Program in Nongynecologic Cytopathology. *Arch Pathol Lab Med* 2011; Dec;135(12): p1533-8. Laucirica R; Bentz JS, et al.
 Cytohistological correlation of grading in breast carcinoma. *Diagn Cytopathol* 2011; Apr;39(4): p251-7. Lingegowda JB; Mudde Gowda PH, et al.

Case No. 9, Accession No. 26243

January 2013

Fontana (Kaiser Permanente) - Sclerosing papilloma
Glendale - Adenomyoepithelioma
Hayward/Fremont (St. Rose Hospital) - Pleomorphic adenoma
Long Beach (Long Beach Veterans Hospital) - Infiltrating ductal carcinoma, myoepithelial type
Oakland (Alameda County Medical Center) - Nipple adenoma vs. adenomyoepithelioma
Orange (Orange County Pathology Medical Group) - Adenomyoepithelioma
Orange (UCI Medical Center Residents) - Adenomyoepithelioma vs. tubular adenoma
Orinda (Kaiser Permanente) - Nipple adenoma
Oxnard (St. John's Pleasant Valley Hospital) - Benign adenoma (adenomyoepithelioma vs. nipple adenoma) (1);
 Tubular adenoma, nipple adenoma, adenomyoepithelioma (1); Adenoma (1)
San Diego (Naval Medical Center) - Tubular carcinoma
Santa Barbara (Miramonte Laboratory) - Tubular adenoma
Woodland Hills (Kaiser Permanente) - Nipple adenoma/tubular adenoma
Arkansas (Associated Pathologists Laboratory) - Tubular adenoma
Colorado (McKee Medical Center) - Tubular adenoma
Colorado (University of Colorado) - Tubular adenoma
Delaware (Armed Forces Medical Examiner Systems) - Adenomyoepithelioma
Florida (Gastroenterology Associated of Ocala) - Infiltrating ductal carcinoma
Florida (The Pathology Group of NW Florida) - Nipple duct adenoma (2)

Georgia, Atlanta - Adenomyoepithelioma
Illinois (Heartland Regional Medical Center) - Ductal adenoma
Illinois (Northshore University Health System) - Adenomyoepithelioma
Illinois, Oak Brook - Adenomyoepithelioma
Kansas (Peterson Laboratory Services) - Malignant adenomyoepithelioma (2)
Massachusetts (University of Massachusetts Medical Center) - Adenomyoepithelioma
Minnesota (Fairview Ridges Hospital) - Adenomyoepithelioma
Nebraska (Creighton University Medical Center) - Encapsulated papillary carcinoma
New York (Buffalo General Medical Center Residents) - Tubular adenoma
New York (Erie County Medical Center) - Low grade adenosquamous carcinoma
New York (SUNY Downstate Medical Center) - Adenomyoepithelioma
Ohio, Union Town - Infiltrating ductal carcinoma
Pennsylvania (Magee Women's Hospital) - Adenomyoepithelioma
Puerto Rico (University of Puerto Rico) - Adenomyoepithelioma
South Carolina (Medical University of South Carolina) - Tubular adenoma
Texas, Marysville - Tubular carcinoma
Texas (Anderson Cancer Center) - Adenomyoepithelioma
Texas (Crystal Beach) - Nipple adenoma
Texas, Lubbock - Metaplastic carcinoma
Washington (Seattle VAMC) - Nipple adenoma/florid papillomatosis
West Virginia (Greenbrier Valley Medical Center) - Nipple duct adenoma
Wisconsin, Madison - Florid sclerosing adenosis (adenosis tumor)
Wisconsin (Medical Assessment and Consultation) - Tubular adenoma
Wisconsin (The Medical College of Wisconsin) - Nipple adenoma
Australia (Royal Hobart Hospital) - Adenomyoepithelioma
Australia (Royal Prince Alfred Hospital) - Adenomyoepithelioma; DDx nipple adenoma
Australia (St. Vincent's Hospital) - Adenomyoepithelioma
Australia (The Royal Women's Hospital) - Benign proliferative lesion favoring adenomyoepithelioma of breast
Brazil (CIDAP) - Adenomyoepithelioma
Canada (Pasqua Hospital) - Duct carcinoma with focal squamous metaplasia
Canada (University of Sherbrooke) - Adenomyoepithelioma, breast
Ireland (Bon Secours Hospital Tralee) - Nodular sclerosing adenosis
Ireland (Galway Residents) - Adenomyoepithelioma
Ireland (Kerry General Hospital) - Invasive ductal carcinoma
Japan (Asahi General Hospital) - Nipple adenoma (1); Invasive ductal carcinoma (1)
Japan (Setagaya-Ku) - Ductal carcinoma, invasive
Japan (University of Yamanashi) - Microglandular adenosis
Japan (Wakayama Medical University) - Adenomyoepithelioma
Oman (Khoulia Hospital) - Adenomyoepithelioma
Saudi Arabia (King Fahad Hospital) - Adenomyoepithelioma
Saudi Arabia (King Khalid University Hospital) - Tubular carcinoma
Singapore (Freelance/Locum Practice) - Adenosis tumor

Case 9 - Diagnosis:

Adenomyoepithelioma, breast
 T-04000, M-89820

Case 9 - References:

Adenomyoepithelioma of the breast. *Tumori* 2007; Sep-Oct;93(5): p493-5. Huang CY; Sheen-Chen SM, et al..
 Adenomyoepithelioma: clinical, histologic, and immunohistologic evaluation of a series of related lesions. *Am J Surg Pathol* 2005; Oct;29(10): p1294-9. McLaren BK; Smith J, et al.
 Adenomyoepithelioma of the breast: a review stressing its propensity for malignant transformation. *J Clin Pathol* 2011; Jun;64(6): p477-84. Hayes MM.
 Fine-needle aspiration biopsy of benign adenomyoepithelioma of the breast: radiologic and pathologic correlation in four cases. *Diagn Cytopathol* 2007; Nov;35(11): p690-4. Mercado CL; Toth HK, et al.
 Fine-needle aspiration cytology of mammary adenomyoepithelioma: a study of 12 patients. *Cancer* 2006; Aug 25;108(4): p250-6. Iyengar P; Ali SZ; Brogi E.

Fontana (Kaiser Permanente) - Metaplastic carcinoma
Glendale - Metaplastic spindle and squamous cell carcinoma
Hayward/Fremont (St. Rose Hospital) - Infiltrating ductal carcinoma, in situ, focally metaplastic
Long Beach (Long Beach Veterans Hospital) - Metaplastic carcinoma
Oakland (Alameda County Medical Center) - Metaplastic carcinoma
Orange (Orange County Pathology Medical Group) - Metaplastic carcinoma
Orange (UCI Medical Center Residents) - Metaplastic carcinoma
Orinda (Kaiser Permanente) - Metaplastic carcinoma
Oxnard (St. John's Pleasant Valley Hospital) - Metaplastic sarcomatoid and adenocarcinoma (1); Metaplastic carcinoma (1); Carcinosarcoma (1)
San Diego (Naval Medical Center) - Metaplastic carcinoma
Santa Barbara (Miramonte Laboratory) - Metaplastic carcinoma
Woodland Hills (Kaiser Permanente) - Metaplastic carcinoma
Arkansas (Associated Pathologists Laboratory) - Adenosquamous carcinoma
Colorado (McKee Medical Center) - Metaplastic carcinoma
Colorado (University of Colorado) - Metaplastic carcinoma
Delaware (Armed Forces Medical Examiner Systems) - Metaplastic carcinoma
Florida (Gastroenterology Associates of Ocala) - Metaplastic carcinoma
Florida (The Pathology Group of NW Florida) - Metaplastic carcinoma (adenosquamous carcinoma, high grade)
Georgia, Atlanta - Metaplastic carcinoma
Illinois (Heartland Regional Medical Center) - Metaplastic carcinoma
Illinois (Northshore University Health System) - Metaplastic carcinoma
Illinois, Oak Brook - Metaplastic carcinoma
Kansas (Peterson Laboratory Services) - Metaplastic carcinoma (2)
Massachusetts (University of Massachusetts Medical Center) - Metaplastic carcinoma
Minnesota (Fairview Ridges Hospital) - Metaplastic carcinoma
Nebraska (Creighton University Medical Center) - Metaplastic carcinoma
New York (Buffalo General Medical Center Residents) - Metaplastic carcinoma
New York (Erie County Medical Center) - Metaplastic carcinoma
New York (SUNY Downstate Medical Center) - Metaplastic carcinoma
Ohio, Union Town - Metaplastic carcinoma
Pennsylvania (Magee Women's Hospital) - Metaplastic carcinoma
Puerto Rico (University of Puerto Rico) - Metaplastic carcinoma
South Carolina (Medical University of South Carolina) - Metaplastic carcinoma
Tennessee, Marysville - Carcinosarcoma
Texas (Anderson Cancer Center) - Sarcomatoid carcinoma
Texas (Crystal Beach) - Sarcomatoid carcinoma
Texas, Lubbock - Poorly differentiated infiltrating carcinoma
Washington (Seattle VAMC) - Carcinoma with metaplastic growth pattern
West Virginia (Greenbrier Valley Medical Center) - Carcinoma, spindle cell
Wisconsin, Madison - Metaplastic carcinoma
Wisconsin (Medical Assessment and Consultation) - Metaplastic carcinoma (some would dx this as carcinosarcoma)
Wisconsin (The Medical College of Wisconsin) - Metaplastic carcinoma
Australia (Royal Hobart Hospital) - High grade metaplastic carcinoma
Australia (Royal Prince Alfred Hospital) - Metaplastic carcinoma
Australia (St. Vincent's Hospital) - Metaplastic carcinoma (sarcomatoid)
Australia (The Royal Women's Hospital) - Metaplastic carcinoma, breast
Brazil (CIDAP) - Metaplastic carcinoma
Canada (Pasqua Hospital) - Metaplastic carcinoma
Canada (University of Sherbrooke) - Metaplastic carcinoma, breast
Ireland (Bon Secours Hospital Tralee) - Metaplastic carcinoma
Ireland (Kerry General Hospital) - Metaplastic carcinoma
Ireland (Galway Residents) - Metaplastic carcinoma
Japan (Asahi General Hospital) - Metaplastic carcinoma (1); Medullary carcinoma (1)

Japan (Setagaya-Ku) - Metaplastic carcinoma
Japan (University of Yamanashi) - Metaplastic carcinoma
Japan (Wakayama Medical University) - Spindle cell carcinoma
Oman (Khoula Hospital) - Metaplastic carcinoma
Saudi Arabia (King Kahad Hospital) - Metaplastic carcinoma
Saudi Arabia (King Khalid University Hospital) - Metaplastic carcinoma
Singapore (Freelance/Locum Practice) - Metaplastic carcinoma

Case 10 - Diagnosis:

Metaplastic carcinoma, breast
T-04000, M-80103

Case 10 - References:

Metaplastic carcinoma of the breast: a clinicopathological review. *J Clin Pathol* 2006; Oct;59(10): p1079-83. Tse GM; Tan PH; Putti TC; Lui PC; Chaiwun B; Law BK.
Metaplastic breast carcinoma: tumour histogenesis or dedifferentiation? *J Pathol* 2011; Aug;224(4): p434-7. van Deurzen CH; Lee AH; Gill MS; Menke-Pluijmers MB; Jager A; Ellis IO; Rakha EA.
Metaplastic breast carcinoma: clinical-pathologic characteristics and HER2/neu expression. *Breast Cancer Res Treat* 2005; May;91(2): p173-8. Barnes PJ; Boutilier R; Chiasson D; Rayson D.
Metaplastic breast carcinoma histologically mimicking cutaneous spindle cell squamous cell carcinoma. *Am J Dermatopathol* 2005; Jun;27(3): p250-4. De Rienzo DP; Barr RJ.
Clinicopathologic study of 53 metaplastic breast carcinomas: their elements and prognostic implications. *Hum Pathol* 2010; May;41(5): p679-85. Yamaguchi R; Horii R; Maeda I; Suga S; Makita M; Iwase T; Oguchi M; Ito Y; Akiyama F.
Wide spectrum screening keratin as a marker of metaplastic spindle cell carcinoma of the breast: An immunohistochemical study of 24 patients. *Histopathology* 2002; Jun;40(6): p556-62. Adem C; Reynolds C; Adlakha H; Roche PC; Nascimento AG.