

California Tumor Tissue Registry's
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"Breast Disorders"

Case 1:

An 11 y/o girl, who had recently started menstruating, noticed a rapidly enlarging mass in her left breast. A surgeon removed an 8 cm mass that was fleshy and had "multi-septated adhesions". The nodule extended from the skin down to the pectoral fascia. It was irregular, pink-tan and slightly mucoid.

Duarte – Juvenile fibroadenoma

Santa Barbara (Miramonte Laboratories) - Juvenile hypertrophy

Santa Rosa (Santa Rosa Memorial Hospital) - Juvenile fibroadenoma with cellular stroma / Juvenile fibroadenoma

Woodland Hills (Kaiser Permanente) - Juvenile fibroadenoma

Arkansas (The Lab of Path, P.A.) - Juvenile fibroadenoma

Georgia, Atlanta - Juvenile hypertrophy

Kansas (Peterson Laboratory Services) - Juvenile fibroadenoma

Louisiana, Shreveport (LSU Health Shreveport) - Juvenile fibroadenoma

Maryland, Baltimore - Juvenile fibroadenoma

New Mexico, Albuquerque - Juvenile fibroadenoma

New York, Buffalo (Buffalo General Medical Center - Juvenile fibroadenoma

Ohio, Columbus - Breast, left, juvenile fibroadenoma

Pennsylvania (Conemaugh Memorial Medical Center) - Juvenile fibroadenoma of breast

Pennsylvania, Philadelphia (Drexel University College of Medicine - Juvenile fibroadenoma

Texas, Victoria - Juvenile fibroadenoma

Canada Sherbrooke - Juvenile fibroadenoma

Hong Kong (Hong Kong Baptist Hospital) - Juvenile fibroadenoma

India, Kochi - Juvenile fibroadenoma

The Netherlands, Amstelveen - Juvenile fibroadenoma

Dx:

Juvenile fibroadenoma, breast

Refs:

Bloody nipple discharge in an adolescent girl: unusual presentation of juvenile fibroadenoma.

Pediatr Neonatol 2010 Jun;51(3): p190-2

Liu H; Yeh ML; Lin KJ; Huang CK; Hung CM; Chen YS

Beckwith-Wiedemann syndrome and juvenile fibroadenoma: a case report.

Ann Plast Surg 2010 Jun;64(6): p803-6

Poh MM; Ballard TN; Wendel JJ

Fibroadenoma of the breast in an 11-year-old girl.

Eur J Pediatr Surg 2004 Feb;14(1): p56-9

Stehr KG; Lebeau A; Stehr M; Grantzow R

FNA of breast fibroadenoma: observer variability and review of cytomorphology with cytohistological correlation.

Case 2:

A 15 y/o woman noted a moveable, non-tender mass in the right breast for two months. The mass varied in size with her menstrual periods. A solitary 2.0 cm hard irregular mass was noted in the 9 o'clock position of the breast. The cut surfaces revealed well demarcated, yellow, gritty ovoid nodules with a glistening focally gelatinous semitransparent stroma. The patient was alive and well after 2 years.

Duarte - Juvenile papillomatosis

Santa Barbara (Miramonte Laboratories) - Intraductal papillomatosis

Santa Rosa (Santa Rosa Memorial Hospital) - Juvenile papillomatosis / Florid Juvenile papillomatosis

Woodland Hills (Kaiser Permanente) - Juvenile papillomatosis

Arkansas (The Lab of Path, P.A.) - Juvenile papillomatosis

Georgia, Atlanta - Juvenile papillomatosis

Kansas (Peterson Laboratory Services) - Peripheral papillomatosis

Louisiana, Shreveport (LSU Health Shreveport) - Papilloma

Maryland, Baltimore - Juvenile papillomatosis

New Mexico, Albuquerque - Papillomatosis

New York, Buffalo (Buffalo General Medical Center – Juvenile papillomatosis with florid ductal hyperplasia

Ohio, Columbus - Breast, right, papillomatosis

Pennsylvania (Conemaugh Memorial Medical Center) - Juvenile papillomatosis of breast

Pennsylvania, Philadelphia (Drexel University College of Medicine - Juvenile papillomatosis

Texas, Victoria - Pap. Ductal hyperplasia/papillomatosis

Canada Sherbrooke - Juvenile papillomatosis

Hong Kong (Hong Kong Baptist Hospital) - Papillomatosis

India, Kochi - Juvenile papillomatosis

The Netherlands, Amstelveen - Juvenile papillomatosis

Dx:

Juvenile papillomatosis, breast

Refs:

Fine needle aspiration cytology of juvenile papillomatosis of breast: A case report.

Diagn Cytopathol 1993;9:457-460.

Ostrzega N.

Juvenile papillomatosis (JP) of the female breast (Swiss Cheese Disease) -- role of breast ultrasonography.

Ultraschall Med 2005 Feb;26(1): p42-5

Ohlinger R; Schwesinger G; Schimming A; Kohler G; Frese H

Multiple intraductal papillomas of breast clinically masquerading as malignancy.

Indian J Pathol Microbiol 2010 Jan-Mar;53(1): p112-4

Singh P; Misra V; Singh PA; Mehrotra R

From the archives of the AFIP: breast masses in children and adolescents: radiologic-pathologic correlation.

Radiographics 2009 May-Jun;29(3): p907-31
Chung EM; Cube R; Hall GJ; Gonzalez C; Stocker JT; Glassman LM

Mammary lesions diagnosed as "papillary" by aspiration biopsy: 70 cases with follow-up.

Cancer 2003 Jun 25;99(3): p156-65

Simsir A; Waisman J; Thorner K; Cangiarella J

Case 3:

This 17 y/o pregnant woman had a 2.0 cm lump removed from her right breast.

Duarte - Adenosis with lactational change

Santa Barbara (Miramonte Laboratories) - Lactating adenoma

Santa Rosa (Santa Rosa Memorial Hospital) - Lactating breast / Beingn lactating breast tissue

Woodland Hills (Kaiser Permanente) - Lactating adenoma

Arkansas (The Lab of Path, P.A.) - Lactating adenoma

Georgia, Atlanta - Pregnancy/lactational change

Kansas (Peterson Laboratory Services) - Nodular lactational hyperplasia

Lousiana, Shreveport (LSU Health Shreveport) - Lactating adenosis

Maryland, Baltimore - Benign breast tissue with lactational change

New Mexico, Albuquerque - Adenosis tumor

New York, Buffalo (Buffalo General Medical Center - Florid adenosis with early lactational changes

Ohio, Columbus - Breast, right, lactating adenoma

Pennsylvania (Conemaugh Memorial Medical Center) - Lactating adenoma of breast

Pennsylvania, Philadelphia (Drexel University College of Medicine - Lactating adenoma

Texas, Victoria - Lactating adenoma

Canada Sherbrooke - Florid adenosis with clear cell changes

Hong Kong (Hong Kong Baptist Hospital) - Lactating adenoma

India, Kochi - Lactating adenosis

The Netherlands, Amstelveen - Lactating adenoma/adenosis

Dx:

Lactating adenosis, breast

Refs:

Adenomas of the breast and ectopic breast under lactational influences.

Hum Pathol 1985;16:707-712.

Fine needle aspiration of benign and malignant breast masses associated with pregnancy. Acta Cytol 1991;35:678-686.

Case 4:

During the 2nd half of her 2nd pregnancy, this 27 y/o woman felt an enlarging mass in her left breast. It was up to 1.5 cm and continued to enlarge to 3 cm post-partum. The mass was freely movable. Upon sectioning, the cut surface was lobulated, fleshy, and shiny. There were poorly outlined pale grayish tan foci with streaky areas of recent hemorrhage. She was free of tumor approximately 1 year later.

Duarte - Lactating fibroadenoma

Santa Barbara (Miramonte Laboratories) - Tubular adenoma

Santa Rosa (Santa Rosa Memorial Hospital) - Lactating adenoma (3)
 Woodland Hills (Kaiser Permanente) - Lactational breast tissue with focal infarct
 Arkansas (The Lab of Path, P.A.) - Lactating adenoma
 Georgia, Atlanta - Lactational adenoma
 Kansas (Peterson Laboratory Services) - Nodular lactational hyperplasia
 Louisiana, Shreveport (LSU Health Shreveport) - Lactating adenoma
 Maryland, Baltimore - Lactating adenoma
 New Mexico, Albuquerque - Lactating adenoma
 New York, Buffalo (Buffalo General Medical Center) - Lactating adenoma
 Ohio, Columbus - Breast lactating adenoma with infarction
 Pennsylvania (Conemaugh Memorial Medical Center) - Lactating adenoma of breast
 Pennsylvania, Philadelphia (Drexel University College of Medicine) - Lactating adenoma
 Texas, Victoria - Lactating adenoma with infarction
 Canada Sherbrooke - Lactating adenoma
 Hong Kong (Hong Kong Baptist Hospital) - Lactating adenoma
 India, Kochi - Lactating fibroadenoma
 The Netherlands, Amstelveen - Lactating fibroadenoma

Dx:

Lactating fibroadenoma, breast

Refs:

Adenomas of the breast and ectopic breast under lactational influences.

Hum Pathol 1985;16:707-712.

Fine needle aspiration of benign and malignant breast masses associated with pregnancy. Acta Cytol 1991;35:678-686.

Case 5:

An 8 cm portion of breast encased a 1.5 cm well-circumscribed nodule. The nodule was rubbery, and pink-white.

Duarte - Adenomyoepithelioma

Santa Barbara (Miramonte Laboratories) - Microglandular adenoma

Santa Rosa (Santa Rosa Memorial Hospital) - Tubular adenoma (3)

Woodland Hills (Kaiser Permanente) - Tubular adenoma

Arkansas (The Lab of Path, P.A.) - Adenomyoepithelioma

Georgia, Atlanta - Adenomyoepithelioma

Kansas (Peterson Laboratory Services) - Adenomyoepithelioma

Louisiana, Shreveport (LSU Health Shreveport) - Micronodular adenosis

Maryland, Baltimore - Tubular adenoma

New Mexico, Albuquerque - Tubular adenoma

New York, Buffalo (Buffalo General Medical Center) - Adenomyoepithelioma

Ohio, Columbus - Breast, Tubular adenoma

Pennsylvania (Conemaugh Memorial Medical Center) - Tubular adenoma of breast

Pennsylvania, Philadelphia (Drexel University College of Medicine) - Tubular adenoma

Texas, Victoria - Tubular adenosis with myoepithelial proliferation

Canada Sherbrooke - Pure (tubular) adenoma

Hong Kong (Hong Kong Baptist Hospital) - Duct adenoma

India, Kochi - Adenomyoepithelioma

The Netherlands, Amstelveen - Adenomyoepithelioma

Dx:

Adenomyoepithelioma, breast

Refs:

Adenomyoepithelioma of the breast: a review stressing its propensity for malignant transformation.

J Clin Pathol 2011 Jun;64(6): p477-84

Hayes MM

Myoepithelial carcinoma arising in an adenomyoepithelioma of the breast: a case report of a rare entity.

Indian J Pathol Microbiol 2010 Apr-Jun;53(2): p310-2

Khurana A; Jalpota Y

Malignant adenomyoepithelioma: a tumor of low malignant potential despite basal phenotype.

Indian J Pathol Microbiol 2011 Jan-Mar;54(1): p230-2

Gandhi JS; Mehta A; Gupta G; Sardana M

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; Axelrod D; Cangiarella J

Adenomyoepithelioma of the breast.

Tumori 2007 Sep-Oct;93(5): p493-5

Huang CY; Sheen-Chen SM; Eng HL; Ko SF

Case 6:

Following a biopsy, a mastectomy was performed on the left breast of a 64 y/o woman. It was described as being 16.5 cm in greatest diameter, focally hemorrhagic, with a solid, slightly gelatinous appearance.

Duarte - Mucinous (colloid) carcinoma

Santa Barbara (Miramonte Laboratories) - Mucinous carcinoma

Santa Rosa (Santa Rosa Memorial Hospital) - Infiltrating ductal carcinoma with mucin (colloid carcinoma) / Invasive ductal carcinoma with mucinous features / Carcinoma with mucinous features

Woodland Hills (Kaiser Permanente) - Mucinous carcinoma

Arkansas (The Lab of Path, P.A.) - Mucinous carcinoma

Georgia, Atlanta - Mucinous/colloid carcinoma

Kansas (Peterson Laboratory Services) - Invasive ductal carcinoma with mucinous change

Louisiana, Shreveport (LSU Health Shreveport) - Mucinous carcinoma

Maryland, Baltimore - Mucinous (colloid) carcinoma

New Mexico, Albuquerque - Mucinous carcinoma

New York, Buffalo (Buffalo General Medical Center) - Mucoepidermoid carcinoma

Ohio, Columbus - Breast, left, mucinous (colloid) carcinoma

Pennsylvania (Conemaugh Memorial Medical Center) - Infiltrating ductal carcinoma with mucin secretion

Pennsylvania, Philadelphia (Drexel University College of Medicine) - Invasive mucinous adenocarcinoma

Texas, Victoria - Mucinous ca.

Canada Sherbrooke - Mucinous (colloid) carcinoma, cellular variant

Hong Kong (Hong Kong Baptist Hospital) - Mucinous Carcinoma
India, Kochi - Mucinous carcinoma
The Netherlands, Amstelveen - Mucinous (colloid) carcinoma

Dx:

Mucinous carcinoma, hypercellular variant, breast

Refs:

Mucinous breast lesions: diagnostic challenges.
J Clin Pathol 2008 Jan;61(1): p11-9
Tan PH; Tse GM; Bay BH

Distinguishing benign dissecting mucin (stromal mucin pools) from
invasive mucinous carcinoma.
Adv Anat Pathol 2008 Jan;15(1): p1-17
Molavi D; Argani P

Lobular carcinoma of the breast with extracellular mucin: new
variant of mucin-producing carcinomas?
Pathol Int 2009 Jun;59(6): p405-9
Rosa M; Mohammadi A; Masood S

Pure mucinous carcinoma of the breast with extensive psammomatous
calcification.
Histopathology 2008 Apr;52(5): p650-2
Rao P; Lyons B

Neovascularization in mucinous ductal carcinoma in situ suggests an
alternative pathway for invasion.
Histopathology 2008 Nov;53(5): p545-53
Gadre SA; Perkins GH; Sahin AA; Sneige N; Deavers MT; Middleton LP

See also case #12 discussion of CTTR 118th Cancer Seminar "Tumors of
the Breast".

Case 7:

A 72 y/o woman had an ill-defined 1.5 cm mass in the left breast.

Duarte - Papillary carcinoma
Santa Barbara (Miramonte Laboratories) - Intraductal carcinoma
Santa Rosa (Santa Rosa Memorial Hospital) - Papillary carcinoma (2) / Intraductal papillary
carcinoma
Woodland Hills (Kaiser Permanente) - Papillary carcinoma
Arkansas (The Lab of Path, P.A.) - Papillary carcinoma
Georgia, Atlanta - Ductal carcinoma in-situ
Kansas (Peterson Laboratory Services) - Papillary carcinoma
Louisiana, Shreveport (LSU Health Shreveport) - Papillary carcinoma
Maryland, Baltimore - DCIS, papillary and cribriform types
New Mexico, Albuquerque - Cystic intraductal carcinoma, cribriform type
New York, Buffalo (Buffalo General Medical Center) - Intraductal papillary carcinoma
Ohio, Columbus - Breast, left, papillomata with atypical epithelial proliferation with focal DCIS
Pennsylvania (Conemaugh Memorial Medical Center) - Intracystic papillary carcinoma of breast
Pennsylvania, Philadelphia (Drexel University College of Medicine) - Papilloma

Texas, Victoria - Papilloma with CIS
Canada Sherbrooke - Usual ductal hyperplasia, florid, with cholesterol granuloma
Hong Kong (Hong Kong Baptist Hospital) - Ductal carcinoma in situ (?neuroendocrine type)
India, Kochi - Papillary carcinoma
The Netherlands, Amstelveen - DCIS/papillary carcinoma.

Dx:

Papillary carcinoma, breast

Refs:

Loss of myoepithelium is variable in solid papillary carcinoma of the breast.

Histopathology 2007 Nov;51(5): p657-65

Nicolas MM; Wu Y, et al.

Encapsulated papillary carcinoma of the breast: an invasive tumor with excellent prognosis.

Am J Surg Pathol 2011 Aug;35(8): p1093-103

Rakha EA; Gandhi N, et al.

Intracystic papillary carcinomas of the breast are more similar to in situ carcinomas than to invasive carcinoma.

Comment: Am J Surg Pathol. 2011 Jan; 35(1):1-14/PMID:21084964

Am J Surg Pathol 2011 May;35(5): p778-9; author reply 779-81

Bhargava R; Esposito NN; Dabbs DJ

Papillary lesions of the breast: selected diagnostic and management issues.

Histopathology 2008 Jan;52(1): p20-9

Collins LC; Schnitt SJ

Fine needle aspiration cytology of papillary carcinoma of breast.

Cytopathology 2007 Oct;18(5): p321-4

Bhatia A; Dey P; Saikia UN; Kumar Y

Papilloma and papillary carcinoma.

Semin Diagn Pathol 2010 Feb;27(1): p13-30

Koerner F

Case 8:

A 45 y/o woman presented with a palpable, well-delineated 3.5 cm right breast nodule. The excised specimen appeared encapsulated, and had a fleshy bulging cut surface. It was tan-gray with focal central necrosis.

Duarte - Medullary carcinoma

Santa Barbara (Miramonte Laboratories) - Lymphoma

Santa Rosa (Santa Rosa Memorial Hospital) - Poorly differentiated malignant neoplasm /

Malignant neoplasm ?Pleomorphic lobular carcinoma / Carcinoma vs. melanoma vs. lymphoma needs immunostains

Woodland Hills (Kaiser Permanente) - Diffuse large B-cell lymphoma

Arkansas (The Lab of Path, P.A.) - Lobular carcinoma with giant cells

Georgia, Atlanta - Pleomorphic carcinoma

Kansas (Peterson Laboratory Services) - Poorly differentiated mammary carcinoma

Louisiana, Shreveport (LSU Health Shreveport) - Medullary carcinoma
Maryland, Baltimore - Pleomorphic lobular carcinoma
New Mexico, Albuquerque - Diffuse large B cell lymphoma
New York, Buffalo (Buffalo General Medical Center) - Invasive lobular carcinoma
Ohio, Columbus - Breast, right, malignant neoplasm, probably carcinoma, high grade
Pennsylvania (Conemaugh Memorial Medical Center) - Infiltrating ductal carcinoma with neuroendocrine feature
Pennsylvania, Philadelphia (Drexel University College of Medicine) - Invasive lobular carcinoma, pleomorphic type
Texas, Victoria - Melanoma (?)
Canada Sherbrooke - Invasive lobular carcinoma, pleomorphic type
Hong Kong (Hong Kong Baptist Hospital) - Invasive ductal carcinoma (?basal phenotype)
India, Kochi - Medullary carcinoma
The Netherlands, Amstelveen - Invasive ductal carcinoma

Dx:

Medullary carcinoma, breast

Refs:

Carcinoma of the breast with medullary-like features: diagnostic challenges and relationship with BRCA1 and EZH2 functions.
Arch Pathol Lab Med 2009 Nov;133(11): p1822-5
Kleer CG

Fine needle aspiration cytologic features of medullary carcinoma of the breast: a study of 20 cases with histologic correlation.
Acta Cytol 2009 Mar-Apr;53(2): p165-73
Akbulut M; Zekioglu O; Kapkac M; Ozdemir N

Fine-needle aspiration cytology of medullary breast carcinoma: report of two cases and review of the literature with emphasis on differential diagnosis.
Diagn Cytopathol 2007 Jun;35(6): p313-8
Racz MM; Pommier RF; Troxell ML

Distinguishing medullary carcinoma of the breast from high-grade hormone receptor-negative invasive ductal carcinoma: an immunohistochemical approach.
Histopathology 2010 Jun;56(7): p852-9
Flucke U; Flucke MT, et al.

Cytohistological correlation of grading in breast carcinoma.
Diagn Cytopathol 2011 Apr;39(4): p251-7
Lingegowda JB; Mudde Gowda PH; Ramakantha CK; Chandrasekar HR

Case 9:

This 65 y/o woman was admitted for a mass in the right breast. The mass was painless and there was no nipple discharge. An aspirate was performed followed by a radical mastectomy within two days. At excision, the nodule was 3 cm, cystic, and lined by ragged, reddish tan tissue.

Duarte - Metaplastic carcinoma

Santa Barbara (Miramonte Laboratories) - Sarcomatoid carcinoma
 Santa Rosa (Santa Rosa Memorial Hospital) - Malignant spindle cell tumor r/o angiosarcoma /
 Malignant spindle cell neoplasm / Metaplastic carcinoma
 Woodland Hills (Kaiser Permanente) - Metaplastic carcinoma
 Arkansas (The Lab of Path, P.A.) - Metaplastic carcinoma
 Georgia, Atlanta - Metaplastic carcinoma
 Kansas (Peterson Laboratory Services) - Metaplastic carcinoma
 Louisiana, Shreveport (LSU Health Shreveport) – Metaplastic carcinoma
 Maryland, Baltimore - Metaplastic carcinoma
 New Mexico, Albuquerque - Metaplastic carcinoma
 New York, Buffalo (Buffalo General Medical Center – Adenosquamous carcinoma
 Ohio, Columbus - Breast, right, metaplastic carcinoma
 Pennsylvania (Conemaugh Memorial Medical Center) - Metaplastic carcinoma of breast
 Pennsylvania, Philadelphia (Drexel University College of Medicine – Metaplastic carcinoma
 Texas, Victoria - Poorly differentiated adenocarcinoma
 Canada Sherbrooke - Metaplastic squamous carcinoma
 Hong Kong (Hong Kong Baptist Hospital) - Metaplastic carcinoma
 India, Kochi - Metaplastic carcinoma
 The Netherlands, Amstelveen - Metaplastic carcinoma

Dx:

Metaplastic carcinoma, breast

Refs:

Metaplastic carcinoma of the breast: cytological diagnosis and diagnostic pitfalls.

Acta Cytol 2011;55(4): p313-8

Joshi D; Singh P; Zonunfawni Y; Gangane N

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

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.

Challenges to diagnose metaplastic carcinoma of the breast through cytologic methods: an eight-case series.

Diagn Pathol 2011;6:7

Lale S; Kure K; Lingamfelter D

Metaplastic carcinoma of the breast.

Hum Pathol 2010 Jul;41(7): p960-70

Okada N; Hasebe T, et al.

Case 10:

A 58 y/o woman presented with this 3.8 cm left breast nodule. It was palpable, and found to be fixed to the pectoral muscle fascia.

Duarte - Poorly differentiated carcinoma
Santa Barbara (Miramonte Laboratories) - High-grade carcinoma
Santa Rosa (Santa Rosa Memorial Hospital) - Poorly differentiated malignant neoplasm /
Malignant neoplasm ?metaplastic carcinoma
Woodland Hills (Kaiser Permanente) - Metaplastic carcinoma
Arkansas (The Lab of Path, P.A.) - Invasive ductal carcinoma
Georgia, Atlanta - Pleomorphic neoplasm
Kansas (Peterson Laboratory Services) - Pleomorphic carcinoma
Louisiana, Shreveport (LSU Health Shreveport) - Pleomorphic carcinoma
Maryland, Baltimore - Poorly differentiated infiltrating ductal carcinoma with sebaceous features
New Mexico, Albuquerque - Infiltrating ductal carcinoma
New York, Buffalo (Buffalo General Medical Center – High grade ductal carcinoma
Ohio, Columbus - Breast, left, malignant neoplasm, probably carcinoma, high grade
Pennsylvania (Conemaugh Memorial Medical Center) - Anaplastic neoplasm, favor metaplastic carcinoma. High grade sarcoma need to be excluded.
Pennsylvania, Philadelphia (Drexel University College of Medicine) – High grade ductal carcinoma
Texas, Victoria - Undifferentiated. CA
Canada Sherbrooke - Undifferentiated carcinoma
Hong Kong (Hong Kong Baptist Hospital) - Metaplastic carcinoma
India, Kochi - Pleomorphic carcinoma
The Netherlands, Amstelveen - Poorly differentiated carcinoma

Dx:

Pleomorphic carcinoma, breast

Refs:

Pleomorphic giant cell ductal carcinoma of the breast.
Pathologica 2011 Jun;103(3): p68-70
Tacchini D; Mastrogiulio MG; Vassallo L; Ginori A

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 ductal carcinoma of the breast: predictors of decreased overall survival.
Am J Surg Pathol 2010 Apr;34(4): p486-93
Nguyen CV; Falcon-Escobedo R, 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