COLLEGE of AMERICAN PATHOLOGISTS

Protocol for the Examination of Biopsy Specimens From Patients With Ductal Carcinoma In Situ (DCIS) of the Breast

Version: Breast DCIS Biopsy 1.0.0.1 **Protocol Posting Date:** February 2020

The use of this protocol is recommended for clinical care purposes but is not required for accreditation purposes.

This protocol may be used for the following procedures AND tumor types:

Procedure	Description
Biopsy	Includes specimens designated needle biopsy, fine needle aspiration and others (for excisional biopsy, see below)
Tumor Type	**Description**
Ductal carcinoma in situ without invasive carcinoma or microinvasion	
Paget disease of the nipple not associated with invasive breast carcinoma	
Encapsulated papillary carcinoma without invasive carcinoma	
Solid papillary carcinoma without invasive carcinoma	

The following should NOT be reported using this protocol:

Procedure
Resection (consider Breast DCIS Resection protocol)
Excisional biopsy (consider Breast DCIS Resection protocol)
Tumor Type
Any tumor with invasive carcinoma (consider the Breast Invasive Carcinoma Biopsy protocol)
Lymphoma (consider the Hodgkin or non-Hodgkin Lymphoma protocols)
Sarcoma (consider the Soft Tissue protocol)

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Accreditation Requirements
The use of this biopsy case summary is recommended for clinical care purposes, but is not required for accreditation purposes. The core and conditional data elements are routinely reported for biopsy specimens. Non-core data elements are included to allow for reporting information that may be of clinical value.

Summary of Changes

v1.0.0.1
Added Architectural Pattern
Updated the Background Documentation (Notes)

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Surgical Pathology Cancer Case Summary

Protocol posting date: February 2020

DCIS OF THE BREAST: Biopsy

Notes:
This case summary is recommended for reporting biopsy specimens but is NOT REQUIRED for accreditation purposes. Core data elements are bolded to help identify routinely reported elements.

Select a single response unless otherwise indicated.

Procedure
___ Needle biopsy
___ Fine needle aspiration
___ Other (specify): _____
___ Not specified

Specimen Laterality
___ Right
___ Left
___ Not specified

Tumor Site (select all that apply)
___ Upper outer quadrant
___ Lower outer quadrant
___ Upper inner quadrant
___ Lower inner quadrant
___ Central
___ Nipple
___ Clock position (specify): _____o'clock
___ Distance from nipple (centimeters): _____cm
___ Other (specify): _____
___ Not specified

Histologic Type (Note A)
___ Ductal carcinoma in situ (DCIS)
___ Paget disease
___ Encapsulated papillary carcinoma without invasive carcinoma
___ Solid papillary carcinoma without invasive carcinoma

Architectural Patterns (select all that apply) (Note B)
___ Comedo
___ Paget disease (DCIS involving nipple skin)
___ Cribriform
___ Micropapillary
___ Papillary
___ Solid
___ Other (specify: _____)

Nuclear Grade (Note C)
___ Grade I (low)
___ Grade II (intermediate)
___ Grade III (high)

Necrosis (Note D)
___ Not identified
___ Present, focal (small foci or single cell necrosis)
___ Present, central (expansive “comedo” necrosis)

Additional Pathologic Findings (Note E)
Specify: _____

Microcalcifications (select all that apply) (Note F)
___ Not identified
___ Present in DCIS
___ Present in non-neoplastic tissue
___ Other (specify): _____

Ancillary Studies

Note: For hormone receptor and HER2 reporting, the CAP Breast Biomarker Template should be used. www.cap.org/cancerprotocols.

Biomarker Studies
___ Pending

Comment(s)

A. Histologic Type

This protocol applies only to cases of DCIS. The protocol for invasive carcinoma of the breast applies if invasion or microinvasion (less than or equal to 1 mm) is present. Pleomorphic lobular carcinoma in situ (LCIS) has overlapping features with DCIS and may be treated similarly, but at present there is insufficient evidence to establish definitive recommendations for treatment. Thus, pleomorphic LCIS is not currently included in the pTis classification.

When DCIS involves nipple skin only, without underlying invasive carcinoma or DCIS, the classification is DCIS (ie, pTis [Paget]). The majority of these cases are strongly positive for HER2.

B. Architectural Pattern

The architectural pattern has been reported traditionally for DCIS.[1-2] However, nuclear grade and the presence of necrosis are more predictive of clinical outcome.

References
1. Schwartz GF, Lagios MD, Carter D, et al. Consensus conference on the classification of ductal carcinoma in situ. *Cancer.* 1997;80:1798-1802.
2. Silverstein MJ, Lagios MD, Recht A, et al. Image-detected breast cancer: state of the art diagnosis and treatment. *J Am Coll Surg.* 2005;201:586-597.

C. Nuclear Grade

The nuclear grade of DCIS is determined using 6 morphologic features (Table 1).[1,2]

Table 1. Nuclear Grade of Ductal Carcinoma In Situ

Feature	Grade I (Low)	Grade II (Intermediate)	Grade III (High)
Pleomorphism	Monotonous (monomorphic)	Intermediate	Markedly pleomorphic
Size	1.5 to 2 x the size of a normal RBC or a normal duct epithelial cell nucleus	Intermediate	>2.5 x the size of a normal RBC or a normal duct epithelial cell nucleus
Chromatin	Usually diffuse, finely dispersed chromatin	Intermediate	Usually vesicular with irregular chromatin distribution
Nucleoli	Only occasional		Prominent, often multiple
Mitoses	Only occasional	Intermediate	May be frequent
Orientation	Polarized toward luminal spaces	Intermediate	Usually not polarized toward the luminal space

Definition: RBC, red blood cell.

References
1. Schwartz GF, Lagios MD, Carter D, et al. Consensus conference on the classification of ductal carcinoma in situ. *Cancer.* 1997;80:1798-1802.
2. Radiation Therapy Oncology Group (RTOG). *Evaluation of Breast Specimens Removed by Needle Localization Technique.* Available at: https://www.rtog.org/LinkClick.aspx?fileticket=G4Pamvh2mBg%3D&tabid=290. Accessed September 18, 2018.

D. Necrosis

The presence of necrosis[1] is correlated with the finding of mammographic calcifications (ie, most areas of necrosis will calcify). DCIS that presents as mammographic calcifications often recurs as calcifications. Necrosis can be classified as follows:

- **Central ("comedo"):** The central portion of an involved ductal space is replaced by an area of expansive necrosis that is easily detected at low magnification. Ghost cells and karyorrhectic debris are generally

present. Although central necrosis is generally associated with high-grade nuclei (ie, comedo DCIS), it can also occur with DCIS of low or intermediate nuclear grade. This type of necrosis often correlates with a linear and/or branching pattern of calcifications on mammography.

- **Focal (punctate):** Small foci, indistinct at low magnification, or single cell necrosis.

Necrosis should be distinguished from secretory material, which can also be associated with calcifications, cytoplasmic blebs, and histiocytes, but does not include nuclear debris.

References

1. Schwartz GF, Lagios MD, Carter D, et al. Consensus conference on the classification of ductal carcinoma in situ. *Cancer.* 1997;80:1798-1802.

E. Additional Pathologic Findings

If the biopsy was performed for a benign lesion and the DCIS is an incidental finding, this should be documented. An example would be the finding of DCIS in an excision for a palpable fibroadenoma. In some cases, other pathologic findings are important for the clinical management of patients.

F. Microcalcifications

DCIS found in biopsies performed for microcalcifications will almost always be at the site of the calcifications or in close proximity.[1,2,3] The presence of the targeted calcifications in the specimen should be confirmed by specimen radiography. The pathologist must be satisfied that the specimen has been sampled in such a way that the lesion responsible for the calcifications has been examined microscopically. The relationship of the radiologic calcifications to the DCIS should be indicated.

References

1. Owings DV, Hann L, Schnitt SJ, How thoroughly should needle localization breast biopsies be sampled for microscopic examination? A prospective mammographic/pathologic correlative study. *Am J Surg Pathol.* 1990;14:578-583.
2. Association of Directors of Anatomic and Surgical Pathology. *Recommendations for the Reporting of Breast Carcinoma.* Updated September 2004, Version 1.1. www.adasp.org/Checklists/Checklists.htm. Accessed June 18, 2008.
3. Silverstein MJ, Lagios MD, Recht A, et al. Image-detected breast cancer: state of the art diagnosis and treatment. *J Am Coll Surg.* 2005;201:586-597.