Breast Cancer – Ductal Carcinoma in Situ (DCIS)

Note: Consider Clinical Trials as treatment options for eligible patients.

PRESENTATION/DIAGNOSIS EVALUATION

DCIS
Stage 0
Tis N0 M0

- Pathology review[1]
- Bilateral diagnostic mammography
- Consider ultrasound of affected breast for any mammographic/pathologic/clinical findings that may suggest invasive disease including but not limited to: palpable finding, non-calcified imaging finding on mammograms, high-grade DCIS, size > 5 cm, possible axillary adenopathy
- Consider MRI breast with and without contrast for any of the following:
  - Pathology indicates micropapillary DCIS or concern for invasive disease
  - To exclude pectoralis fascia and/or nipple involvement
  - To assist with local disease staging for breast conservation surgery
  - Presence of germline mutations
  - Heterogeneously or extremely dense breast
  - High grade or non-calcified DCIS
- Genetic testing and counseling as indicated[2]
- Lifestyle risk assessment[3]
- Curative options[4] and potential complications counseling

LOCAL TREATMENT

A

Not a breast conservation candidate[5] or patient choice → Total mastectomy, with or without sentinel node dissection[6,7], with or without reconstruction → Invasive disease?

Yes → See Breast Cancer – Invasive Stage I-III algorithm

No →

- For patients with positive margins[8], consider re-excision if possible
- Post mastectomy radiation is not likely warranted; consider Radiation Oncology consult with multiple close/positive margins that cannot be surgically excised
- For patients who have had unilateral mastectomy, see Breast Cancer – Risk Reduction Therapy algorithm for risk reduction of a contralateral primary breast cancer
  - Tamoxifen[9] if pre-menopausal
  - Tamoxifen[9] or aromatase inhibitors[10] (anastrozole or exemestane[11]) if postmenopausal
- For patients who have had bilateral mastectomies, there is no indication for risk reduction therapy

→ See Page 3 for surveillance

Breast conservation candidate[5] → See Page 2

SYSTEMIC TREATMENT

See Breast Cancer – Invasive Stage I-III algorithm

[1] Pathology review to include:
- Tumor size
- Rule out invasive component
- Margin status
- Nuclear grade
- Lymph node status if lymph node surgery performed
- Histologic type/necrosis
- Estrogen receptor (ER)/progesterone receptor (PR) status, preferably on the surgical specimen (unless patient is undergoing bilateral mastectomy)

[2] See Genetic Counseling algorithm

[3] See Physical Activity, Nutrition, Obesity Screening and Management, and Tobacco Cessation Treatment algorithms

[4] Recently published randomized control trial found that women with grade 1 or 2 DCIS randomized to active monitoring with mammograms every 6 months did not have a higher rate of invasive cancer at 2 years compared with those randomized to surgical intervention. Longer follow-up will determine whether active monitoring offers durable safety and acceptability for patients.

[5] Candidates for breast conservation therapy:
- Tumor to breast size ratio allows for acceptable cosmetic result
- No evidence of diffuse microcalcifications on mammography
- Attempt 2 mm margins
- No contraindication to radiation therapy

[6] DCIS lymph node evaluation not recommended unless patient having total mastectomy which would preclude mapping at a later date if invasive disease noted on final pathology

[7] Contralateral risk-reducing mastectomy may be considered in patients with a high-risk for future breast malignancy (*e.g.*, mutation carrier including *BRCA*, *PALB2*, and/or *CHEK2*, strong family history of breast cancer, history of chest wall radiation)

[8] For patients undergoing mastectomy, no tumor on ink is an acceptable margin

[9] Tamoxifen is the primary choice for premenopausal patients, unless concerns for thromboembolism or history of uterine cancer/atypical hyperplasia. Starting dose of tamoxifen is 20 mg by mouth once daily; may reduce to 5 mg once daily if needed for patient tolerance.

[10] Off-label (Not FDA approved) but evidence-based

[11] If patient is intolerant of tamoxifen, anastrozole, and exemestane, the use of letrozole may be considered

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Breast Cancer – Ductal Carcinoma in Situ (DCIS)

Note: Consider Clinical Trials as treatment options for eligible patients.

DIAGNOSIS EVALUATION

Breast conservation candidate[1]

→ Resect to obtain negative margins

→ Negative margins[2]?

LOCAL TREATMENT

Yes

Consult Radiation Oncology for assessment of radiation therapy or omission

- If adequately low risk (non-palpable, extent of tumor < 2.5 cm, grade 1-2, margins ≥ 2 mm), consider discussing risks and benefits of omission of radiation therapy with possible use of genomic assays to assess personal risk of recurrence and radiation benefit[4]
- Consider accelerated partial breast irradiation (APBI)[3] for patients with tumor < 3 cm **and** age > 40 years
- Use hypofractionation whole breast schedules for all whole breast patients, regardless of age
- Strongly consider a tumor bed boost in patients receiving adjuvant radiation therapy

No

Positive margins:

- Re-excise[2] **or**
- Total mastectomy with or without reconstruction[5] (See Box A on Page 1)

SYSTEMIC TREATMENT

See Breast Cancer – Risk Reduction Therapy algorithm for risk reduction of a contralateral primary breast cancer and/or residual breast tissue of the involved breast

- Tamoxifen[6] if pre-menopausal
- Tamoxifen[6] or aromatase inhibitors[7] (anastrozole or exemestane[8]) if postmenopausal

→ See Page 3 for surveillance

[1] Candidates for breast conservation therapy:
- Tumor to breast size ratio allows for acceptable cosmetic result
- No evidence of diffuse microcalcifications on mammography
- Attempt 2 mm margin
- No contraindication to radiation therapy

[2] Negative net margins:
- If < 2 mm negative margins and planned radiation therapy, multidisciplinary planning to consider need to re-excise and consider radiation therapy boost 14-16 Gy as an alternative to re-excision
- If < 2 mm negative margins and no planned radiation therapy, re-excise

[3] 38.5 Gy twice daily in 10 fractions or 30 Gy in 5 fractions given every other day are regimens supported by phase III data for DCIS

[4] Limited prospective data exist for these assays, and enrollment on clinical trials to evaluate their utility in a prospective setting is recommended

[5] Contralateral risk-reducing mastectomy may be considered in patients with a high-risk for future breast malignancy (*e.g.*, mutation carrier including *BRCA, PALB2,* and/or *CHEK2*, strong family history, history of chest wall radiation)

[6] Tamoxifen is the primary choice for premenopausal patients, unless concerns for thromboembolism or history of uterine cancer/atypical hyperplasia. Starting dose of tamoxifen is 20 mg by mouth once daily; may reduce to 5 mg once daily if needed for patient tolerance.

[7] Off-label (Not FDA approved), but evidence-based if tamoxifen is contraindicated or not tolerated

[8] If patient is intolerant of tamoxifen, anastrozole, and exemestane (limited data in the use of exemestane), the use of letrozole may be considered

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Note: Consider Clinical Trials as treatment options for eligible patients.

SURVEILLANCE/FOLLOW-UP

- Physical exam every 6 months up to 5 years from date of diagnosis, then annually thereafter
- Imaging recommendations for patients assigned female at birth and transgender women who have breast tissue:
  - Routine imaging with mammography or tomosynthesis of the chest wall or reconstructed breast following mastectomy is not indicated
  - Diagnostic mammography[1] with or without tomosynthesis at 6 months following completion of radiation therapy for patients with breast conservation therapy, then annually for the first 3 years, followed by annual screening mammography thereafter (see Survivorship – Noninvasive Breast Cancer algorithm)
  - Consider additional MRI breast with and without contrast as indicated[2,3,4]
- Assess for compliance with endocrine therapy and assess for toxicities if appropriate
- Postmenopausal patients receiving tamoxifen should have close monitoring for symptoms of uterine cancer or endometrial hyperplasia
- Assess bone health[5] (see Survivorship - Breast Cancer: Bone Health algorithm)
- Encourage age appropriate cancer and general health guidelines including sexual health/fertility
- Referral to Physical Therapy for upper extremity range of motion and muscle strength assessment
- Consider referral to Physical Medicine and Rehabilitation for radiation induced restricted range of motion unrelieved by physical therapy, to discuss additional strategies for improved physical functioning
- Consider referral to Plastic Surgery for discussion of surgical interventions to reduce radiation fibrosis or symptoms of breast lymphedema
- Patient education regarding symptoms including radiation therapy complications if appropriate

[1] Diagnostic mammography for up to 3 years post diagnosis then screening mammography thereafter
[2] Consider additional MRI breast with and without contrast annually for patients with germline mutations (see Appendix A in the Breast Cancer Screening algorithm for type of mutation and recommended screening interval). Alternating mammography and MRI breast every 6 months is suggested if feasible.
[3] Consider additional MRI breast with and without contrast annually if diagnosis prior to age 50 years and have heterogeneously or extremely dense breasts. Alternating mammography and MRI breast every 6 months is suggested if feasible. This can be considered as delineated in the recommendation from the American College of Radiology (ACR) and the American Cancer Society (ACS). Note that the data supporting these guidelines are outdated (as per our internal analysis) and additional imaging is not recommended by the National Comprehensive Cancer Network (NCCN) survivorship guidelines. This approach is an active area of investigation within MD Anderson.
[4] If there's a contraindication to MRI (*e.g.*, lack of tolerance or access to MRI), may consider bilateral ultrasound breast or contrast-enhanced mammography (CEM)
[5] All postmenopausal women (especially those on aromatase inhibitors)

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Breast Cancer – Ductal Carcinoma in Situ (DCIS)

DEVELOPMENT CREDITS

This practice consensus algorithm is based on majority expert opinion of the faculty practicing in the Nellie B. Connally Breast Center at the University of Texas MD Anderson Cancer Center. It was developed using a multidisciplinary approach that included input from the following:

Core Development Team Leads

Gabriel N. Hortobagyi, MD (Breast Medical Oncology)
Nina Tamirisa, MD (Breast Surgical Oncology)

Workgroup Members

Sausan Abouharb, MD (Breast Medical Oncology)
Beatriz Adrada, MD (Breast Imaging)
Constance Albarracin, MD, PhD (Anatomical Pathology)
Elsa Arribas, MD, PhD (Breast Imaging)
Banu K. Arun, MD (Breast Medical Oncology)
Carlos Barcenas, MD (Breast Medical Oncology)
Robert C. Bast, MD (Experimental Therapeutics)
Abenaa Brewster, MD (Clinical Cancer Prevention)
Powel H. Brown, MD, PhD (Clinical Cancer Prevention)
Aman U. Buzdar, MD (Breast Medical Oncology)
Abigail Caudle, MD (Breast Surgical Oncology)
Mariana Chavez Mac Gregor, MD (Health Services Research-Clinical)
Hui Chen, MD (Anatomical Pathology)
Alejandro Contreras, MD (Anatomical Pathology)
Sarah DeSnyder, MD (Breast Surgical Oncology)
Olga N. Fleckenstein, BS♦
Sharon Giordano, MD (Health Services Research-Clinical)
Chelain Goodman, MD, PhD (Breast Radiation Oncology)
Monica Huang, MD (Breast Imaging)
Karen Hoffman, MD (Breast Radiation Oncology)
Kelly K. Hunt, MD (Breast Surgical Oncology)
Lei Huo, MD, PhD (Anatomical Pathology)
Rosa Hwang, MD (Breast Surgical Oncology)
Nuhad K. Ibrahim, MD (Breast Medical Oncology)
Meghan Karuturi, MD (Breast Medical Oncology)
Kimberly Koenig, MD (Breast Medical Oncology)
Savitri Krishnamurthy, MD (Anatomical Pathology)
Henry M. Kuerer, MD, PhD (Breast Surgical Oncology)
Huong Le-Petross, MD (Breast Imaging)
Jessica Leung, MD (Breast Imaging)
Jennifer Litton, MD (Breast Medical Oncology)
Anthony Lucci, MD (Breast Surgical Oncology)
Jonathan Malara, PharmD (Pharmacy Clinical Programs)
Funda Meric-Bernstam, MD (Investigational Cancer Therapeutics)
Lavinia Middleton, MD (Anatomical Pathology)
Melissa Mitchell, MD, PhD (Breast Radiation Oncology)
Rashmi Murthy, MD (Breast Medical Oncology)
Kevin Nead, MD (Epidemiology Clinical)
George Perkins, MD (Breast Radiation Oncology)
David Luis Ramirez, MD (Breast Medical Oncology)
Erika Resetkova, MD, PhD (Anatomical Pathology)
Merrick I. Ross, MD (Surgical Oncology)
Aysegul A. Sahin, MD (Anatomical Pathology)
Simona Shaitelman, MD (Breast Radiation Oncology)
Benjamin Smith, MD (Radiation Oncology)
Nour Sneige, MD (Anatomical Pathology)
Michael C. Stauder, MD (Breast Radiation Oncology)
Eric Strom, MD (Breast Radiation Oncology)
W. Fraser Symmans, MD (Anatomical Pathology)
Vicente Valero, MD (Breast Medical Oncology)
Mary Lou Warren, DNP, APRN, CNS-CC♦
Gary Whitman, MD (Breast Imaging)
Wendy Woodward, MD, PhD (Breast Radiation Oncology)
Yun Wu, MD, PhD (Anatomical Pathology)
Wei Yang, MD (Breast Imaging)

♦ Clinical Effectiveness Development Team

Department of Clinical Effectiveness V18
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