THE UNIVERSITY OF TEXAS MD Anderson Cancer Center
Making Cancer History®

Breast Cancer – Ductal Carcinoma in Situ (DCIS)

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

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 if pathology indicates micropapillary DCIS or concern for invasive disease, to exclude pectoralis fascia and/or nipple involvement, and to assist with local disease staging for breast conservation surgery
- Genetic testing and counseling as indicated[2]
- Lifestyle risk assessment[3]
- Curative options and potential complications counseling

LOCAL TREATMENT

Not a breast conservation candidate[4] or patient choice → Total mastectomy, with or without sentinel node dissection,[5,6] with or without reconstruction → Invasive disease?

Breast conservation candidate[4] → See Page 2

SYSTEMIC TREATMENT

Invasive disease?

- Yes → See Breast Cancer – Invasive Stage I-III algorithm
- No →
  - For patients who have had unilateral mastectomy, see Breast Cancer – Risk Reduction Therapy algorithm for risk reduction of a contralateral primary breast cancer
    - Tamoxifen[7]
    - Aromatase inhibitors (AI)[8] (anastrozole **or** exemestane)[9]
  - For patients who have had bilateral mastectomies, there is no indication for risk reduction therapy

→ See Page 3 for surveillance

[1] Pathology review to include:
- Tumor size
- Margin status
- Lymph node status if lymph node surgery performed
- Rule out invasive component
- Nuclear grade
- 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, and Tobacco Cessation algorithms

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

[5] 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

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

[7] 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.

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

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

Department of Clinical Effectiveness V17
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DIAGNOSIS EVALUATION

Breast conservation candidate[1]

Resect to obtain negative margins

Negative margins[2]?

LOCAL TREATMENT

Yes

Consider hypofractionation whole breast schedules for all whole breast patients, regardless of age

- If adequately low risk (non-palpable, extent of tumor < 2.5 cm, grade 1-2, adequate margins), consider discussing risks and benefits of omission of radiation therapy or accelerated partial breast irradiation (APBI)[3]
- Consider genomic assays to assess personal risk of recurrence and radiation benefit
- Strongly consider a tumor bed boost in patients receiving adjuvant radiation therapy

No

Positive margins:

- Re-excise[2] **or**
- Total mastectomy, with or without sentinel node dissection[4,5], with or without reconstruction

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]
- Aromatase inhibitors (AI)[7] (anastrozole **or** exemestane)[8]

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] 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

[5] Contralateral risk-reducing mastectomy may be considered in patients with a high-risk for future breast malignancy (*e.g.*, BRCA mutation carrier, 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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SURVEILLANCE/FOLLOW-UP

- Physical exam at least every 3-6 months for 5 years, then annually after year 5
- Imaging recommendations:
  - Routine imaging with mammography or tomosynthesis of the chest wall or reconstructed breast is not indicated following mastectomy
  - Diagnostic mammography[1,2] with or without tomosynthesis at 6 months following completion of radiation therapy for patients with breast conservation therapy, then annually for the first 5 years, followed by annual screening mammography thereafter (see Survivorship – Noninvasive Breast Cancer algorithm)
- Postmenopausal patients receiving tamoxifen should have close monitoring for symptoms of uterine cancer or endometrial hyperplasia
- Assess bone health (see Survivorship - Breast Cancer: Bone Health algorithm)
- Encourage age appropriate cancer and general health guidelines
- Lymphedema management as needed. If a compression sleeve is prescribed, then change at least every 6 months.
- Referral to Physical Therapy for improving range of motion
- Consider referral to Physical Medicine and Rehabilitation for radiation induced restricted range of motion unrelieved by physical therapy, with consideration for minimally invasive procedures and pharmacologic interventions
- Consider referral to Plastic Surgery for discussion of surgical interventions to reduce radiation fibrosis or symptoms of lymphedema

[1] Diagnostic mammography for up to 5 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) **or** diagnosis prior to age 50 years and have dense breasts[3]. Alternating mammography and MRI breast every 6 months is suggested if feasible.
Note: Additional imaging 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.

[3] Dense breast is defined as heterogeneously dense or extremely dense

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Breast Cancer – Ductal Carcinoma in Situ (DCIS)

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