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Neoplastic Diseases: Update for Practitioners
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SURGICAL MANAGEMENT OF THE AXILLA IN BREAST CANCER: HOW AND WHEN CAN INTRA-OPERATIVE EVALUATION HELP?

OBJECTIVES

- Discuss options for surgical management of the axilla in breast cancer
- Discuss current debates in the management of the axilla in breast cancer
- Discuss current surgical data in the management of the axilla in breast cancer
- Discuss how intra-operative axillary lymph node assessment can assist surgical planning
- Discuss current hot topics in breast cancer treatment

CURRENT SURGICAL OPTIONS FOR AXILLARY MANAGEMENT IN BREAST CANCER

- Sentinel lymph node biopsy
- Axillary dissection

SENTINEL LYMPH NODE BIOPSY

- Performed to stage the axilla
  - Can help determine need for chemotherapy
- Performed through axillary incision if patient is having a lumpectomy
- Requires the injection of dual tracers
  - Lymphazurian blue/methylene blue
- On average 2-5 LN removed
- Risk of lymphadema 5-10%

AXILLARY DISSECTION

- Removal of all level I and II LN in the axilla
- Increased risk of lymphedema (30%)
- Increased risk of nerve injury
  - Thoracodorsal nerve
    - Weakness of the shoulder girdle
  - Long thoracic nerve
    - Winged scapula
  - Intercostobracial nerve
    - Medial arm numbness
  - Used for local control of disease

THE DEVELOPMENT OF THE SENTINEL LYMPH NODE BIOPSY

- 1999: NSABP B-32
  - Analysis of the SLN biopsy in regards to survival and local control when compared to axillary dissection
  - Assess the clinical significance/survival when occult LN Mets are diagnosed on SLN biopsy

NSABP B-32

- 5611 woman randomized to SLN biopsy followed by axillary dissection vs SLN biopsy alone.
  - SLN biopsy successful in 5379 pts (97.2%)
  - Data analyzed for 5536 pts
    - Accuracy of 97.1%
    - False (-) rate of 9.8 %

ACOSOG Z0011

- May 1999-December 2004
- Woman with cT1-T2 tumors
- All underwent partial mastectomy followed by adjuvant RT
  - No clinical lymphadenopathy
  - 1-2 LN (+) out of 3 or greater found at time of SLN Bx
  - Randomized to Ax Diss versus no further treatment

ACOSOG Z0011 RESULTS

- No difference in OS or DFS
  - 5 yr survival 91.8 % versus 92.5 %
  - 5 yr DFS 82.2% versus 83.9%
  - 5 yr LRR 3.1% vs 1.6%
  - Axillary nodal RR 0.9%

CAVEATS TO ACOSOG Z0011

- Majority of breast cancers studied were low grade
- Majority of breast cancers studied ER (+)
- Debate as to radiation fields used during adjuvant treatment

ACOSOG Z1071

- Women with cT0-T4, N1-N2, M0 breast cancer
- All women received new-adjuvant chemotherapy
- Patients underwent SLN biopsy and Ax Diss at time of surgical intervention
  - Dual tracers utilized
    - Blue dye
    - Radiolabeled colloid

ACOSOG Z1071 RESULTS

- 757 patients, 649 enrolled, 525 eligible
- After completion of neoadjuvant chemo
  - Clinical exam (-) in 582 patients, 83%
  - Palpable adenopathy in 84 pts, 12%
  - 215 pts with complete pathological responses 41%
  - FNR 12.6% overall
    - 39 pts SLN (-) but (+) on Ax Diss
  - FNR 10.8% when dual tracers used and at least 3 LN identified

INTRA-OP SLN EVALUATION

- Frozen Section
  - Sensitivity and sensitivity about 50%
- Intra-Operative touch prep cytology
  - Sensitivity around 50% for ITC's.
  - Sensitivity between 60-70% for Macrometastasis.

    - Does ability to detect ITCs/micromets affect clinical practice?

- Hum Pathol. 2014 Dec;45(12):2497-501. doi: 10.1016/j.humpath.2014.09.004. Epub 2014 Oct 2.
- **Breast cancer detection in axillary sentinel lymph nodes: the impact of the method of pathologic examination.**
- Calhoun BC[1], Chambers K[2], Flippo-Morton T[2], Livasy CA[1], Armstrong EJ 3rd[2], Symanowski JT[2], Sarantou T[2], Greene FL[2], White RL Jr[3].

WHEN DO I USE INTRA-OP LN EVALUATION FOR BREAST CANCER AXILLARY STAGING?

- Using the protocols delineated in ACOSOG Z1071
  - When a LN is identified as (+) and patient undergoes neo-adjuvant chemo for breast Ca
  - When there is a good clinical and radiographic response to neo-adjuvant chemotherapy
  - When I can use two tracers, indentify 3 LN, and all those LN are (-) intra-op via frozen of intra-operative touch prep
    - All patient are consented for a possible Ax Diss should these criteria not be met

OTHER RESEARCH QUESTIONS/TOPICS FOR DISCUSSION.

- Margin evaluation with intra-operative technologies?
- Surveillance with low grade DCIS?
- Do patients with a complete pathological response need surgery at all?
- Can we forgo Ax diss in favor of radiation in patients with (+) LN on SLN Bx?
- Neo-adjuvant endocrine therapy?
- Do we need to excise benign fibroepithelial lesions to rule out phyllodes tumors of the breast?
- High risk lesions/benign breast disease that don’t need surgery?

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