SURGICAL MANAGEMENT OF THE AXILLA IN BREAST CANCER: HOW AND WHEN CAN INTRAOPERATIVE EVALUATION HELP?

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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
◊ Intercostobrachial 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
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?

◊ Breast cancer detection in axillary sentinel lymph nodes: the impact of the method of pathologic examination.
◊ Calhoun BC¹, Chambers K², Flippo-Morton T², Livasy CA¹, Armstrong EJ 3rd², Symanowski JT², Sarantou T², Greene FL², White RL Jr³.
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?
REFERENCES


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