Is Sentinel Lymph Node Biopsy Enough for Axillary Macrometastasis?

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RCT for SLND +

- Z 0011 study (ACOSOG) ---- Micro and Macro mets
- IBCSG 23-01 ---- Micromets
- AMAROS ---- Micro and Macro mets

Elias, JAMA Surg, 2004
RCT for SLND + Z 0011

- All BCS n=856
- T1-2 clinic N0 pts with 1-2 + sentinel lymph node(s)
  [Micro (40%) ITC+ and Macro mets]

ALND vs SLNd

Med FU 6.3 years

5 y OS 91.8 % vs 92.5 %

5 y DFS 82.2 % vs 83.9 %

Giuliano, JAMA 2011
RCT for SLND + Z 0011

T1-2 clinic N0 pts with 1-2 + sentinel lymph node(s)

[Micro (40%) ITC+ and Macro mets]

ALND ≈ SLND

Giuliano, JAMA 2011
RCT for SLND + Z 0011

Question from Rad onc:

what is the details radiotherapy fields?
RCT for SLND + IBCSG 23-01

- BCS and mastectomy (9%) \( n=931 \)
- T1-2 clinic N0 pts with 1-2 + sentinel lymph node(s)  
  
  [Micro (100%) ITC]

ALND vs SLND

5 y DFS
84.4% vs 87.8%

Galimberti, Lancet Oncol, 2013
RCT for SLND + IBCSG 23-01

- T1-2 clinic N0 pts with 1-2 + sentinel lymph node(s)

[Micro (100%) ITC]

\[\text{ALND} \cong \text{SLND}\]

Galimberti, Lancet Oncol, 2013
“the policy of avoiding full axillary clearance after 1-2 positive sentinel nodes is endorsed in situations of conservative surgery and radiotherapy (73% YES, 21% NO), including several comments that the inclusion criteria of available trial results should be considered”
228 patients’ detailed RT fields:

- 104/389 (26.7%) ALND
  - 61 of 104 (59%) received some form of lymphatic RT
    - SCV n=22 (21%)
    - PAB (posterior axillary boost) n=6 (6%)
    - High tangents n=33 (32%)

- 124/404 (30.7%) SLND
  - 73 of 124 (59%) received some form of lymphatic RT
    - SCV n=21 (17%)
    - PAB n=12 (10%)
    - high tangents n=40 (32%)
Radiation Field Design in the ACOSOG Z0011 (Alliance) Trial

Reshma Jagsi, Manjeet Chadha, Janaki Moni, Karla Ballman, Fran Laurie, Thomas A. Buchholz, Armando Giuliano, and Bruce G. Haffty

60 % of both arm received some form of lymphatic RT

Jagsi, JCO, 2014
RCT for SLND + AMAROS

- BCS and mastectomy (17%) n= 1425
- T1-2 clinic N0 pts with 1-2 + sentinel lymph node(s)
  [Micro (29%), ITC (12%), macro (59%)]

ALND vs Axillary RT

5 y axillary recurrence rates
0.54% vs 1.03%

Donker, Lancet Oncol, 2014
RCT for SLND + AMAROS

- T1-2 clinic N0 pts with 1-2 + sentinel lymph node(s)
  [Micro (29 %), ITC (12%), macro (59%)]

ALND ≅ Axillary RT

Donker, Lancet Oncol, 2014
Extra capsular extension (ECE)

- Z 0011 gross ECE not included
- IBCSG 23-01 not included
- AMAROS not evaluated

Giuliano, JAMA 2011
Galimberti, Lancet Oncol, 2013
Donker, Lancet Oncol, 2014
Extra capsular extension (ECE)

- pT1-2, cN0 with < 3 positive sentinel LN
  - With vs without
  - 20% vs 3 % had additional ≥ 4 positive nodes at ALND
- Pts with ECE
  - if the ECE < 2mm vs > 2mm
  - 9 % vs 33 % had additional ≥ 4 positive nodes at ALND

Gooch, Ann Surg Oncol, 2014
Mastectomy pts SLND +

- IBCSG 23-01 ---- 9 % of pts
  - Post mastectomy RT details is not reported

- AMAROS ---- 17 % of pts
  - 26% in ALND arm
  - 42% in axillary RT arm received Chest wall RT

Galimberti, Lancet Oncol, 2013
Donker, Lancet Oncol, 2014
RCT for SLND + Toxicity

- IBCSG 23-01 ALND vs SLND
  - Less sensory motor neuropathy and lymphedema with SLND

- AMAROS ALND vs axillary RT
  - Less lymphedema and more shoulder impairment w/ RT

Galimberti, Lancet Oncol, 2013
Donker, Lancet Oncol, 2014
<table>
<thead>
<tr>
<th>Trial</th>
<th>Micromet. SN</th>
<th>Macromet. SN</th>
<th>Extracapsular Extension</th>
<th>Randomization</th>
<th>Radiotherapy</th>
<th>Results (regional control)</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Z0011</td>
<td>=40% [ITC included].</td>
<td>≈60%</td>
<td>Gross ECE not included</td>
<td>ALND vs. SLND</td>
<td>Mastectomy (0%). Breast only RT. But at least 70% of both arms received some form of lymphatic RT</td>
<td>ALND ≈ SLND.</td>
<td>Regional radiotherapy may contribute to both arms</td>
</tr>
<tr>
<td>IBCSG 23-01</td>
<td>Yes [ITC included]</td>
<td>None</td>
<td>Not included</td>
<td>ALND vs. SLND</td>
<td>Mastectomy (9%). Breast only RT. PMRT details were not clear.</td>
<td>ALND ≈ SLND.</td>
<td>Less sensory-motor neuropathy and lymphedema with SLND</td>
</tr>
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<td>AMAROS</td>
<td>29% micromet; 12% ITC</td>
<td>59%</td>
<td>Not evaluated</td>
<td>ALND vs. Axillary RT</td>
<td>Mastectomy (17%). Breast only RT or PMRT [34 of 127 (26%) in ALND arm and 51 of 121 (42%) patients in axillary RT arm received CWRT].</td>
<td>ALND ≈ Axillary RT.</td>
<td>Less lymphedema with axillary RT</td>
</tr>
</tbody>
</table>

RT: radiotherapy; ALND: axillary lymph node dissection; SLND: sentinel lymph node dissection; SN: sentinel node; PMRT: postmastectomy radiotherapy; CWRT: chest wall Radiotherapy; ITC: isolated tumour cells
Is Sentinel Lymph Node Biopsy Enough for Axillary Micrometastasis?

- The answer is yes for BCS
- Individual decision making for cases with mastectomy.
Is SLNB Enough for Axillary Macrometastasis?

- The answer is NO
- During SLND Do not use frozen for cN0 (avoiding unneces. ALND)
- ALND and Axillary RT have equal results but less lymphedema with RT
- RT fields:
  - If gross ECE (i.e. > 2mm ) discuss ALND
  - Luminal A pts with 1-2 + SN ---- breast + high tangents (level I-II)
  - None luminal A patients with 1-2 + SN
    - Breast + supra+level1-3 RT
    - MI RT could be considered.

- Mastectomy pts: individual decision
Surgery of the Axilla

In patients with macro-metastases in 1-2 sentinel nodes, completion axillary dissection can safely be omitted following:

- Mastectomy (no radiotherapy planned) 0/100%/0 1Y/2N/9A
- Mastectomy (radiotherapy planned) 52%/48%/0 1Y/2N/9A
- Conservative resection with radiotherapy using standard tangents 67/33/0 1Y/2N/9A
- Conservative resection with radiotherapy using high tangents to include the lower axilla 94%/3%/2% 1Y/2N/9A
Thank you