Timing of Sentinel Node Biopsy: The Case for Doing it Prior to Pre-operative Systemic Therapy

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Considerations for Initial SNB

- Effective local regional treatment is important to long-term survival
- Guidelines for local regional RT have been developed based on the initial stage
- Pre-op treatment downstages disease, but the need for local regional RT based on this ‘down-staged’ disease is not known
The Issue: Who gets RT?

• This question has added significance with Lancet 2005 Overview publication showing reductions in LRR > 10% improve survival

• At the same time, nodal RT can be associated with significant side effects

• Hence, over or under treatment is a problem
Guidelines for RT after Initial Surgery

• RT is used if ≥ 4 nodes are positive or if T3/N+ based on a risk of LRR > 20% even with post-op chemotherapy

• There is controversy about which patients with T1,2/1-3+ cancers have a LRR rate > 10-15% and should also be treated
### Down-Staging with Pre-op Systemic Rx

(Ref: NSABP B-18, Fisher B et al. JCO 15: 2483, 1997)

<table>
<thead>
<tr>
<th></th>
<th>Post-op (n = 743)</th>
<th>Pre-op (n = 735)</th>
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<tbody>
<tr>
<td>% Path N⁺</td>
<td>57%</td>
<td>41%</td>
</tr>
<tr>
<td>% Path 1-3⁺</td>
<td>30%</td>
<td>24%</td>
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<tr>
<td>% Path ≥ 4⁺</td>
<td>27%</td>
<td>16%</td>
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Loss of Information

• 11% of patients initially with ≥ 4 + nodes become either N- or 1-3+

• We don’t yet know if these 11% will have low rates of LRR without RT

• There is limited published data on the LRR rates with pre-op treatment and no RT
LRR after Pre-op CTx followed by Mastectomy and no RT

- Retrospective analysis of 150 patients treated with either pre-op Adriamycin regimen or Taxol without post-op RT

- Stage: I - 1%; II - 43%; IIIA - 23%; IIIB - 25%; and IV - 7%

Pre-op Ctx and MRM, No RT

• Crude 5-Yr LRR related to pN:
  0+: 10%  1-3+: 17%  4-9+: 47%

• Among 18 patients with pT&N CR, the 5-Yr rate of LRR = 19% (CI: 6 - 48%)

• LRR rates after pre-op Ctx by nodal stage are greater than rates after initial surgery
5-Year LRR by # + Nodes: Post-op vs. Pre-op

- ADJ: 7%, 10%, 23% (p=0.143, p=0.087, p=0.001)
- NEO: 12%, 18%, 53%
Follow-Up Study (Anderson)

• Same 150 pre-op Ctx patients compared with 1030 patients treated with post-op Ctx without RT

• Clinical stage was more advanced for pre-op patients and here, matched by clinical stage

5-Year LRR by # + Nodes: Post-op vs. Pre-op (matched for clinical stage)
Clinical Implications:
Pre-op Ctx + MRM

• Response to Ctx does not reduce LRR rate based on final stage to that seen after same staging with initial surgery

• Both the initial and the final stage must be used to determine the LRR risk
Implications: Pre-op Ctx + MRM

- Stage III patients should receive post-mastectomy RT regardless of final path findings
- There is very limited published data on LRR risk after pre-op systemic therapy in patients with cT1,2 N0 breast cancer
Considerations for Initial SNB

- Effective local regional treatment is important to long-term survival
- Guidelines for local regional RT have been developed based on the initial stage
- Pre-op treatment downstages disease, but the need for local regional RT based on this ‘down staged’ disease is not known
Should This Patient Receive RT?

• 40 yo woman with a cT2 (3 cm) N0 cancer
• Core -> grade 3 IDC, ER low+, PR-, HER2- LVI+
• Receives pre-op dd AC -> T
• Has cPR and mastectomy and SNB reveals some residual disease in the breast (PM 3) and a negative SNB
Timing of SNB

• SNB after pre-op systemic therapy is more convenient and more prognostic

• However, until we have validated prognostic data on LRR risk using this approach, it seems prudent to do SNB prior to pre-op systemic therapy