The Impact of Radiation Therapy on Lymphedema Risk and the Agreement between Subjective and Objective Lymphedema Measures: NSABP B-32 Secondary Data Analysis

S. A. McCloskey¹, H. Bandos²,³, T.B. Julian³, J. Kopec², N. Wolmark², S.J. Anderson²,³, D. Krag², E.P. Mamounas²,⁴, P.A. Ganz¹,²

¹University of California Los Angeles, Los Angeles, CA, ²National Surgical Adjuvant Breast and Bowel Project (NSABP), Pittsburgh, PA, ³Department of Biostatistics, Graduate School of Public Health, University of Pittsburgh, Pittsburgh, PA, ⁴MD Anderson Cancer Center Orlando, Orlando, FL, ⁵Allegheny Cancer Center at Allegheny General Hospital
Background

• Lymphedema is a known consequence of loco-regional breast cancer therapies

• Lymphedema impacts arm function, body image, and quality of life

• We performed a secondary data analysis of NSABP B-32 clinical trial data to assess the impact of RT on lymphedema risk
## NSABP B-32 Secondary Data Analysis: Comparison Groups

<table>
<thead>
<tr>
<th>Objective metric (n=3894)</th>
<th>Sentinel Node Biopsy → Axillary Lymph Node Dissection</th>
<th>Sentinel Node Biopsy</th>
<th>Subjective metric (n=730)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiation</td>
<td>No Radiation</td>
<td>Radiation</td>
<td>No Radiation</td>
</tr>
<tr>
<td>1591 (83%)</td>
<td>331 (17%)</td>
<td>1629 (83%)</td>
<td>343 (17%)</td>
</tr>
<tr>
<td>272 (78%)</td>
<td>75 (22%)</td>
<td>303 (79%)</td>
<td>80 (21%)</td>
</tr>
</tbody>
</table>

- 93% underwent breast conserving surgery
- 97% received breast or chest wall only radiation (non regional nodal radiation)
Why would breast/chest wall radiation impact lymphedema risk?

Collateral Damage to Level 1/2 Axilla
No impact of RT on measured lymphedema...
Among Women Undergoing Axillary Lymph Node Dissection

No impact of RT on measured lymphedema...

No impact of RT on patient reported lymphedema...
Conclusions

• There is no evidence to suggest a detrimental impact of non regional nodal breast or chest wall RT on risk of lymphedema beyond surgery

• We found an interesting lack of agreement between patient reported bothersome lymphedema and measured lymphedema

• Further analyses are in progress to better understand optimal evaluation of lymphedema