

## Radiation

### 581161 - Can post-mastectomy radiation therapy be omitted in T1-2 clinically node-negative breast cancer patients with a positive sentinel lymph node biopsy?

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**Background/Objective:** The AMAROS trial demonstrated that both axillary radiation and axillary lymph node dissection (ALND) provide excellent locoregional control in patients with clinically node-negative T1-2 breast cancers and a positive sentinel lymph node biopsy (+SLNB). In that study, 18% of patients underwent total mastectomy (TM). We evaluate survival outcome of TM patients who do not require additional axillary treatment after identification of a +SLNB.

**Methods:** A prospective breast cancer database at a single institution was retrospectively reviewed from 1/2013 to 12/2017 to identify patients with clinically node-negative T1-2 breast cancers who underwent TM, were found to have a +SLNB, and who did not undergo ALND. Demographics and clinicopathologic features were evaluated. We compared outcomes in those patients who received post-mastectomy radiation therapy (PMRT) to those who did not.

**Results:** A total of 72 patients were identified: 50 subsequently received PMRT, and 22 did not. All patients received systemic therapy (ST). More patients in the PMRT- group had tumor size  $\leq 20$ mm compared with the PMRT+ group (70% vs 44%,  $p=0.04$ ). Although there was no difference in the number of lymph nodes identified, more patients in the PMRT+ group had  $>1$  +SLNB (24% vs 5%;  $p=0.04$ ). Extracapsular extension (ECE) was seen less in the PMRT- than PMRT + group (10% vs 32%,  $p=0.05$ ). Micrometastasis was found in 73% of PMRT- patients and in 30% of PMRT+ patients ( $p=0.001$ ). At median follow-up of 34 months, there were no loco-regional recurrences (LRR) in either group, and disease-free survival (DFS) was similar: 32.1 months in the PMRT+ group vs. 31.9 months in the PMRT- group.

**Conclusions:** PMRT is currently recommended + SLNB in cases where ALND is not done. With a limited number of patients, all of whom met AMAROS study criteria and received ST, our study showed that in selected cases with only one +SLNB, micrometastasis, no ECE and tumor size  $< 2$  cm, omitting axillary lymph node treatment did not increase LRR or decrease DFS in median 34 months follow-up.

**Table:**

N=72	PMRT (+) N= 50 (69 %)	PMRT (-) N=22 (31%)	p
Age, mean $\pm$ SD	53.3 $\pm$ 12.8	56.2 $\pm$ 14.5	0.38
<70 years old	46 (92%)	17 (77%)	0.08
$\geq$ 70 years old	4 (8%)	5 (23%)	
Tumor size; mm, mean $\pm$ SD	26.6 $\pm$ 24.0	17.6 $\pm$ 9.1	0.11
Tumor size $\leq$ 20 mm	21 (44%)	14 (70%)	0.04
Tumor size > 20 mm	27 (56%)	6 (30%)	
Follow up time, months, mean $\pm$ SD	33.6 $\pm$ 12.0	34.2 $\pm$ 15.5	0.88
Median follow-up (25%,75%)	34 (24,42)	34 (27,48)	0.99
Mean lymph nodes identified $\pm$ SD	3.6 $\pm$ 1.9	3.7 $\pm$ 1.7	0.86
Lymph node positive =1	38 (76%)	21 (95%)	0.04
Lymph node positive >1	12 (24%)	1 (5%)	
LNR (lymph node ratio) $\leq$ 15%	2 (4%)	2 (9%)	0.39
LNR (lymph node ratio) >15%	48 (96%)	20 (91%)	
LVI	0	0	
Micrometastasis	15 (30%)	16 (73%)	0.001
Macrometastasis	35 (70%)	6 (27%)	
ECE (-)	34 (68%)	19 (90%)	0.05
ECE (+)	16 (32%)	2 (10%)	
Triple negative	3 (6%)	2 (11%)	0.49
HER2 neu +	4 (8%)	1 (6%)	0.72
ER/PR (+) HER2 neu-	42 (86%)	15 (83%)	0.81
Loco-regional progression	0	0	
Distant metastasis	3 (6%)	2 (9%)	0.65
Death (breast cancer related)	1 (2%)	0 (0%)	0.50
Mean Disease free survival $\pm$ SD	32.1 $\pm$ 12.2	31.9 $\pm$ 14.6	0.94