

# 150PD - Breast cancer-specific survival in >4,600 patients with lymph node-positive (LN+) hormone receptor-positive (HR+) invasive breast cancer (BC) and 21-gene recurrence score® (RS) results in the SEER registries

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## Background

The 21-gene RS assay has been shown to predict BC recurrence and adjuvant chemotherapy benefit in LN + , HR + , HER2-negative BC. We assessed 5-year BC-specific survival (BCSS) in LN+ patients with 21-gene RS results in the SEER registries, a cancer surveillance program that covers 30% of the US population.

## Methods

All SEER BC cases diagnosed 2004-2012 were linked to 21-gene assays performed by the Genomic Health Clinical Laboratory. The analysis was restricted to single primary invasive BC, LN + , no distant metastases, HR+ (per SEER), HER2-negative (per RT-PCR). Using the actuarial method in SEER\*Stat, BCSS was assessed for those who were diagnosed 2004-2011 with survival follow-up through 2012, by RS category and by number of positive nodes.

## Results

The proportion of women with LN + , HR+ BC who had RS results (n = 7695) increased over time between 2004 (0.3%, n = 33) and 2012 (13.8%, n = 2010), and was lower with increasing nodal involvement, from micrometastases only (36.0%, n = 792) to 4+ nodes (2.6%, n = 81) in 2012. BCSS differed significantly by both RS category (log-rank p < 0.001) and number of positive nodes (p < 0.001). Five-year BCSS outcomes for those with RS <18 ranged from 99.4% (95% CI, 97.4%-99.9%) in those with micrometastases to 85.7% (95% CI, 33.4%-97.9%) in those with 4+ nodes. Similar patterns were found for those with RS 18-30 and RS ≥31 (Table).

	<b>RS &lt;18</b>	<b>RS 18-30</b>	<b>RS ≥31</b>
<b># of positive LNN</b>			
<b>5-y BCSS (95% CI)</b>	<b>N</b>	<b>5-y BCSS (95% CI)</b>	<b>N</b> <b>5-y BCSS (95% CI)</b>
Micromets only	1207 99.4 (97.4-99.9)	732 99.3 (98.2-99.7)	135 84.2 (69.2-92.2)
1	1084 99.2 (97.2-99.8)	675 96.3 (91.8-98.4)	135 91.3 (79.5-96.4)
2	300 97.9 (92.7-99.4)	192 96.0 (84.6-99.0)	36 73.2 (20.4-94.1)
3	103 94.7 (77.4-98.9)	70 94.0 (75.9-98.6)	22 85.4 (51.6-96.3)
4+	82 85.7 (33.4-97.9)	93 79.5 (58.0-90.8)	31 75.1 (39.2-91.6)

## **Conclusions**

Overall, 5-year BCSS is excellent in patients with RS <18 and few positive nodes and worsens with increasing number of involved lymph nodes and with higher RS. Updated data with longer follow-up is will be presented.

## **Clinical trial identification**

N/A

## **Legal entity responsible for the study**

Dave P. Miller, Megan Roberts, Lynne Penberthy

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## **Disclosure**

D.P. Miller, S. Shak: Employed by Genomic Health; stock ownership in Genomic Health

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