Adjuvant chemotherapy and anthracycline use in older adults with high oncotype DX scores: A SEER Medicare Analysis

Anna R. Schreiber, MD[1]; Elizabeth Molina Kuna, MPH[1]; Enrique Soto Pérez de Celis, MD[1]; Jennifer R. Diamond, MD[1]

1. Division of Medical Oncology University of Colorado Anschutz Medical Campus

Contact: anna.schreiber@cuanschutz.edu

Presentation ID: PS3-10-12

BACKGROUND

- Determining what chemotherapy regimen to use in older adults with high-risk, early-stage hormone receptor (HR)+ and human epidermal growth factor receptor 2 (HER2)- breast cancer can be challenging.
- Recent studies have demonstrated that patients with early-stage, node-negative HR+/HER2- breast cancer with oncotype recurrence scores (RS) > 31 may benefit from the addition of an anthracycline.[1] Though the benefit of adding anthracyclines in an older population with high-risk breast cancer remains unclear.
- Studies such as TAILORx and RxPONDER demonstrate that postmenopausal patients with RS ≥26 benefit with the addition of chemotherapy, though only a subset of patients evaluated were ≥ 65 years of age.[2,3]
- The purpose of this study was to investigate outcomes based on Oncotype DX score and type of adjuvant treatment among older patients with early-stage, HR+/HER2- breast cancer using the Surveillance, Epidemiology, and End Results (SEER)-Medicare database.

METHODS

- Using the SEER-Medicare database, we identified 5,439 women aged 66 years and older with a diagnosis of Stage I-III HR+, HER2- breast cancer between 2000 and 2019, and who had a recorded Oncotype DX score.
- We assessed patient characteristics, type of therapy received (anthracycline+cyclophosphamide+taxane chemotherapy [AC-T]), taxane+cyclophosphamide [TC], or endocrine therapy), and Oncotype DX recurrence score (low [<11], intermediate [11-25], high [≥26]).
- Kaplan Meier survival curves were generated to assess overall survival (OS) and cancer-specific survival (CSS) based on Oncotype DX scores and therapy received.

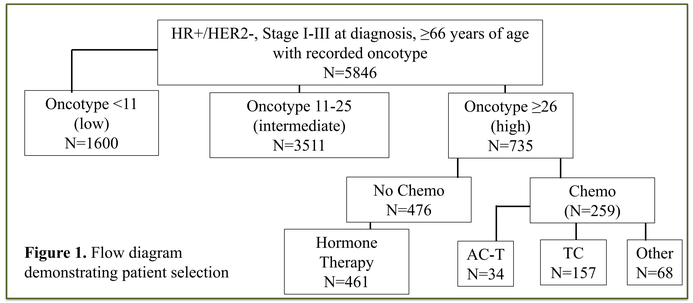


Figure 1. Flow diagram demonstrating patient selection

RESULTS

Table 1. Treatment selection based on patient characteristics

Characteristic	Values	Frequency Overall	Percent Overall with Attriubute	AC-T, %	TC, %	Endocrine Therapy, %	p-value
All Patients		5846					
Age Category	66-74	4463	76.34	94.74	84.05	76.31	<.0001
	75-84	1329	22.73	5.26	15.95	22.79	.
	85+	54	0.92	0.00	0.00	0.90	.
Race/Ethnicity	Non-Hispanic White	5141	87.94	91.23	89.49	87.67	0.6569
	Black	193	3.30	7.02	3.89	3.30	.
	American Indian/Alaska Native	21	0.36	0.00	0.39	0.33	.
	Asian/Pacific Islander	246	4.21	0.00	1.95	4.43	.
	Hispanic	217	3.71	1.75	4.28	3.77	.
	Unknown	28	0.48	0.00	0.00	0.51	.
Charlson Comorbidity Index Category	0	3610	61.75	49.12	63.81	61.97	0.1669
	1	1354	23.16	33.33	19.07	23.16	.
	2	521	8.91	14.04	10.89	8.72	.
	3+	361	6.18	3.51	6.23	6.15	.
Group Stage at DX	Stage I	3728	63.77	24.56	43.58	65.13	<.0001
	Stage II	2010	34.38	57.89	51.36	33.44	.
	Stage III	108	1.85	17.54	5.06	1.42	.
Oncotype Test score	Low	1600	27.37	7.02	3.89	28.68	<.0001
	Intermediate	3511	60.06	33.33	35.02	62.32	.
	High	735	12.57	59.65	61.09	9.00	.
Positive nodes	Node negative	4631	79.22	40.35	71.21	80.02	<.0001
	1-3 positive nodes	973	16.64	49.12	23.74	16.08	.
	4+ positive nodes	41	0.70	5.26	3.89	0.47	.
	Unknown node status	201	3.44	5.26	1.17	3.43	.
Any MACE ★	No	5124	87.65	85.96	84.82	88.18	0.0014
	Yes	722	12.35	14.04	15.18	11.82	.
Any comorbidity	No	1460	24.97	22.81	17.51	24.98	0.0078
	Yes	4386	75.03	77.19	82.49	75.02	.

★ MACE= Major adverse cardiovascular event

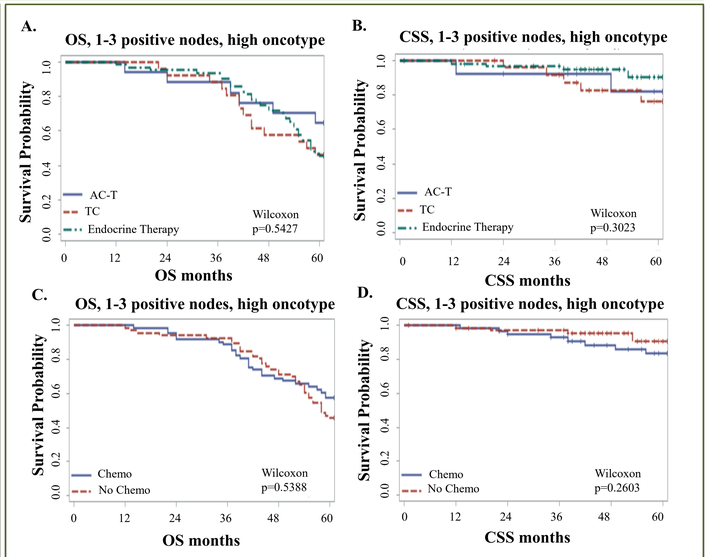


Figure 3. (A) OS and **(B)** CSS in patients with 1-3 positive nodes and a high oncotype treated with an AC-T, TC or endocrine therapy. (C) OS and (D) CSS in patients with 1-3 positive nodes and a high oncotype treated with chemotherapy or no chemotherapy.

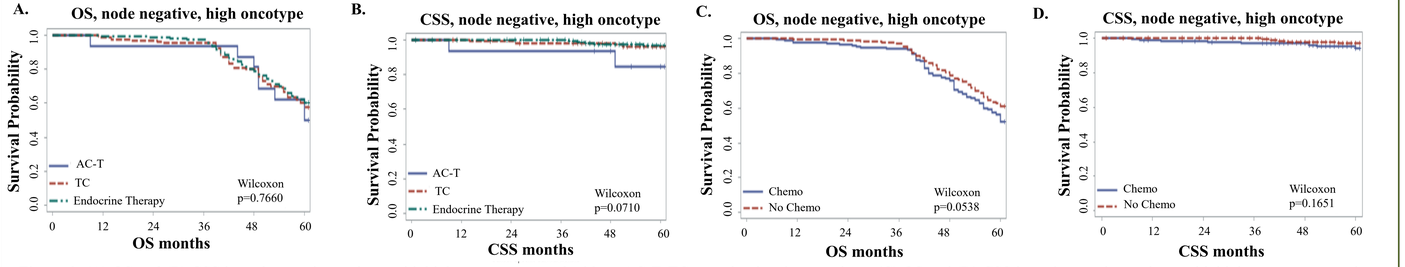


Figure 2. (A) OS and **(B)** CSS in node negative patients with high oncotype treated with an AC-T, TC or endocrine therapy alone. (C) OS and (D) CSS in node negative patients with high oncotype treated with chemotherapy or no chemotherapy.

CONCLUSIONS

- A majority of patients with oncotype scores ≥ 26 did not receive chemotherapy.
- AC-T did not improve OS and CSS when compared to TC in node negative and node positive patients with 1-3 lymph nodes who were ≥ 66 years of age and had an oncotype score ≥ 26.
- Chemotherapy in general also did not improve OS and CSS when compared to no chemotherapy in node negative and node positive patients with 1-3 lymph nodes who were ≥ 66 years of age and had an oncotype score ≥ 26.
- The use of chemotherapy in older patients should be an individualized decision carefully weighing risks and benefits.
- There was a relatively small number of patients who received AC-T, which may influence these results.

ACKNOLWEDGMENTS/FUNDING

This work was supported by the Women's Cancer Developmental Therapeutics Program as well as the National Institutes of Health (NIH) and the National Cancer Institute (NCI) through 5P30CA046934-25 (University of Colorado Cancer Center Support Grant).

REFERENCES:

1. Nan Chen et al,. Abstract GS3-03: Impact of Anthracyclines in High Genomic Risk Node-Negative HR+/HER2- Breast Cancer. *Clin Cancer Res* 15 June 2025; 31 (12_Supplement): GS3–03. https://doi.org/10.1158/1557-3265.SABCS24-GS3-03
2. Sparano JA, et al.. Adjuvant Chemotherapy Guided by a 21-Gene Expression Assay in Breast Cancer. N Engl J Med. 2018 Jul 12;379(2):111-121. doi: 10.1056/NEJMoa1804710. Epub 2018 Jun 3. PMID: 29860917; PMCID: PMC6172658.
3. Kalinsky K, et al.. 21-Gene Assay to Inform Chemotherapy Benefit in Node-Positive Breast Cancer. N Engl J Med. 2021 Dec 16;385(25):2336-2347. doi: 10.1056/NEJMoa2108873. Epub 2021 Dec 1. PMID: 34914339; PMCID: PMC9096864.

Copies of this poster are for personal use only and may not be reproduced without permission from SABCS® and the author.