Indications and Outcomes of Anthracycline-Based Regimens for Early-Stage Grade 3 Hormone Receptor-Positive Breast Cancer in a Real-World Scenario

Torres LG[1], Bines J[1], Testa L[1], Negrini D[1], Petry V[1], Baptista AC[1], Victor CR[1], Lima WA[2] , Naves R[1], Cavalcanti CA[1], Holland L[1] Divino PH[1], Nogueira M[1], Bessa JF[1], Ferrari A[1], Bonadio RC[1]

1. Instituto D'Or de Pesquisa e Ensino (IDOR), São Paulo, Brazil. 2. Instituto do Câncer do Estado de São Paulo, Faculdade de Medicina da Universidade de São Paulo, São Paulo, Brazil.

SAN ANTONIO BREAST CANCER SYMPOSIUM® DECEMBER 9-12, 2025 HENRY B. GONZALEZ CONVENTION CENTER • SAN ANTONIO, TX

Introduction

In hormone receptor-positive (HR+) breast cancer, anthracycline-free chemotherapy regimens, most commonly the TC regimen (docetaxel and cyclophosphamide)have been widely adopted, particularly for early-stage, node-negative disease. However, certain HR+ patients, such as those with higher genomic risk, may still benefit from anthracycline-based chemotherapy. This study aimed to evaluate real-world treatment practices in an intermediate- to high-risk population, specifically patients with grade 3 tumors.

Methods

We retrospectively reviewed records of patients with early-stage HR+ grade 3 breast cancer treated between 2018 and 2025 across a Brazilian cancer network. Eligible patients had received systemic therapy (neoadjuvant or adjuvant) for early-stage disease. Patients were categorized by chemotherapy regimen into anthracycline-based and anthracycline-free groups. We used logistic regression to assess the odds of receiving an anthracycline-based regimen based on clinical and demographic features. Event-free survival (EFS) was estimated using the Kaplan-Meier method, and factors associated with EFS were evaluated using Cox regression.

Results

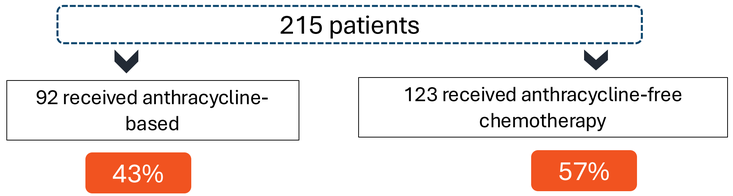
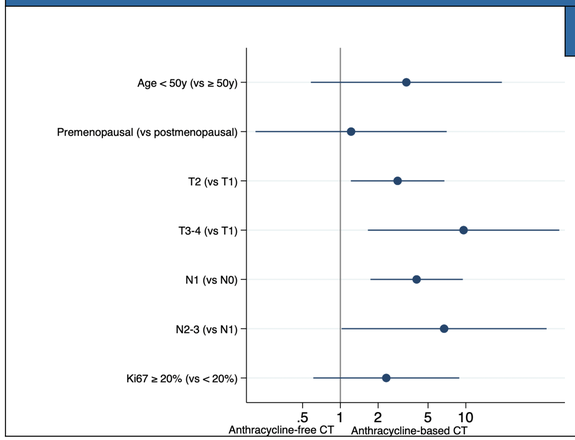


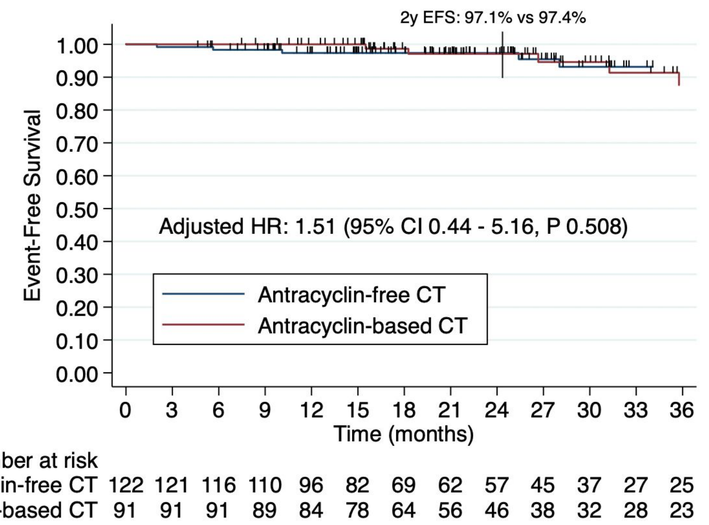
Table 1. Patients' characteristics

Variable	Anthracycline-based CT (n=92)	Anthracycline-free CT (123)	P-value
AGE < 50 years	66 (55.4%)	47 (38.2%)	0.014
PREMENOPAUSE	66 (55.4%)	54 (43.9%)	0.037
T2	45 (48.9%)	56 (45.5%	0.002
T3 -4	23 (25%)	3 (2.4%)	< 0.001
N1	36 (39.1%)	17 (13.8%)	< 0.001
N2-3	12 (13.0%	2 (1.6%)	< 0.001
Ki67 >= 20%	79 (85.9%)	96 (78.0%)	0.010

Figure 1. Multivariable analysis of factors associated with the use of anthracycline-based CT



	OR	95% CI
Age < 50y (vs ≥ 50y)	3.35	0.58 – 19.38
Premenopausal (vs postmenopausal)	1.21	0.21 – 7.04
T2 (vs T1)	2.86	1.21 – 6.75
T3-4 (vs T1)	9.60	1.65 – 55.64
N1 (vs N0)	4.05	1.71 – 9.47
N2-3 (vs N1)	6.71	1.02 – 44.07
Ki67 ≥ 20% (vs < 20%)	2.32	0.60 – 8.87



Conclusions

In this real-world cohort of patients with grade 3 HR+HER2- breast cancer, anthracycline-based chemotherapy was more frequently used in patients with higher-risk features, including younger age and more advanced stage. No difference in short-term EFS was observed between patients who received anthracycline and those who did not, although the analysis is limited by the small sample size, low event rate, and relatively short follow-up. We plan to expand the cohort and extend follow-up to further investigate this question.