EFFICACY OF NEOADJUVANT CHEMOTHERAPY IN LUMINAL TYPE A, EARLY BREAST CANCER

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INTRODUCTION

Breast cancer prognosis and treatment outcomes are dictated by the tumor's biological and pathological features, which vary due to its heterogeneous nature. Luminal type A breast is endocrine-responsive, with limited benefit from neoadjuvant chemotherapy (NACT). This study evaluates NACT outcomes in early-stage luminal A breast cancer at a tertiary center in Pakistan to determine its efficacy versus a more personalized approach.

METHODS

This retrospective observational study included 102 women with early-stage luminal type A breast cancer treated at Shaukat Khanum Memorial Cancer Hospital, Lahore, between 1 January and 30 June 2024. Clinical data including demographics, TNM stage, histology, tumor grade, treatment, and outcomes was retrieved from the hospital's Health Management Information System and analyzed using SPSS V23. Luminal A breast cancer was defined as ER+, PR+, Her2 Neg and Ki 67 of <20%.(1)

It included medically fit women of age 18-70 years, with early stage luminal type A breast cancers with no concurrent malignancies except nonmelanoma skin cancer and not having a gap of more than 5 days between chemotherapy cycles due to cytopenias.

RESULTS

TABLE 1: PATIENT CHARACTERISTICS (N=102)

Age in years	43.41 ± 6.98 standard deviation
Histology	
IDC	82 (80.39%)
ILC	17 (16.66%)
IDC with mucinous features	3 (2.94%)
Grade	
Grade 1	2 (1.96%)
Grade 2	85 (83.33%)
Grade 3	15 (14.7%)
T stage	
T0	2 (1.96%)
T1	16 (15.68%)
T2	84 (82.3%)
N Stage	
No	47 (46.07%)
N1	55 (53.92%)

TABLE 2: NEOADJUVANT CHEMOTHERAPY REGIMEN USED

DD ACx4 f/b DD Paclitaxel x4	58.8%
ECx3 f/b Docetaxel x 3	17.64%
DD ACx4 f/b Paclitaxelx12	12.74%
AC X 4 f/b Paclitaxelx12	4.9%
AC x 4 f/b Taxol x 4	2.94%
AC*4 f/b Docetaxel*4	1.96%
TCx4	0.98%

TABLE 3: TYPE OF SURGERY

Wide Local Excision &Sentinel Lymph Node Biopsy	18.62%
Wide Local Excision & Axillary Lymph Node Dissection	34.31%
Mastectomy & Axillary Lymph Node Dissection	34.31%
Mastectomy& Sentinel Lymph Node Biopsy	12.74%

TABLE 4: PATHOLOGICAL RESPONSE

Complete Response*	**4.2%**
Partial Response	**28.43%**
No Response	**32.35%**
Progression	**35.2%**

*** DD AC x4 cycles followed by DD Paclitaxel x4 cycles was the chemotherapy used**

TABLE 5: ADDITIONAL ADVERSE PATHOLOGICAL FEATURES OBSERVED

Lymphovascular Space Invasion	**22.54%**
Extranodal Extension	**37.25%**

CONCLUSION

This study shows the limited efficacy of neoadjuvant chemotherapy in early-stage luminal type A breast cancer. The findings support the existing data against the routine use of NACT in this subtype of breast cancer and highlight the need for more personalized treatment approaches that prioritize endocrine therapy over chemotherapy. This, in turn, may help spare patients from unnecessary toxicity and reduce the financial burden, particularly in resource-limited settings.

REFERENCES

1. Cardoso F, Kyriakides S, Ohno S, Penault-Llorca F, Poortmans P, Rubio IT, et al. Early breast cancer: ESMO Clinical Practice Guidelines for diagnosis, treatment and follow-up. *Ann Oncol*. 2019;30(8):1194–1220.
2. Simon J, Chaix M, Billa O, et al. Survival in patients with HR+/HER2− metastatic breast cancer treated with initial endocrine therapy versus initial chemotherapy: a French population-based study. *Br J Cancer*. 2020;123:1071–1077.
3. doi:10.1038Korde LA, Somerfield MR, Carey LA, et al. Neoadjuvant chemotherapy, endocrine therapy, and targeted therapy for breast cancer: ASCO guideline. *J Clin Oncol*. 2021;39(13):1485-1505. doi:10.1200/JCO.20.03399/s41416-020-0979-3