PATHOLOGICAL COMPLETE RESPONSE (pCR) ASSESSMENT IN PAKISTANI PATIENTS TREATED WITH TCHP REGIMEN FOR EARLY STAGE AND LOCALLY ADVANCED HER 2 POSITIVE BREAST CANCER

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BACKGROUND

Breast cancer is the most common cancer among women worldwide and the second leading cause of cancer deaths. Pakistan bears the highest burden in Asia, with 148,000 new cases and 100,000 deaths each year. HER2-positive breast cancer represents an aggressive subtype with historically poor prognosis. The TCHP regimen (Docetaxel, Carboplatin, Trastuzumab, Pertuzumab) has achieved high pathological complete response (pCR) rates globally. However, regional evidence on response and tolerability remains limited, highlighting the importance of regional data.

METHODOLOGY

This is a retrospective study conducted at the Dr. Ziauddin Hospital, Department of Oncology. After IRB approval, data of 26 patients was collected, who were treated with 6 cycles of neo-adjuvant TCHP and later proceeded for definitive surgery. All patients initially underwent liga-clipping. Pathological response was assessed on surgical specimen and categorized as:

Type of Response	ypT Status	ypN Status
Pathological Complete Response (pCR)	ypT0/Tis	ypN0
Near – pCR	ypT1mi – T1a	ypN0
Partial Pathological Response	ypT1-T3	ypN0-3
No pathological Response	ypT1-T4	ypN1-3

RESULTS

A total of 26 female patients with HER2-positive early or locally advanced breast cancer were included (mean age 45.3 ± 9.8 years). Fourteen (53.8%) were premenopausal and 12 (46.2%) postmenopausal, with diabetes, hypertension, and ischemic heart disease as the most common comorbidities. ER positivity was seen in 16 patients (61.5%). Pathological assessment showed complete response in 13 (50.0%) and near-complete in 3 (11.5%), yielding a major response rate of 61.5%. Major responses were achieved in 67.5% of ER-negative versus 40% of ER-positive patients, and in 78.6% of premenopausal versus 41.7% of postmenopausal women, indicating higher responsiveness in younger and ER-negative groups. Grade 2–3 toxicities, mainly cytopenias, diarrhea, mucositis, and nausea/vomiting, were well controlled, with treatment modifications.

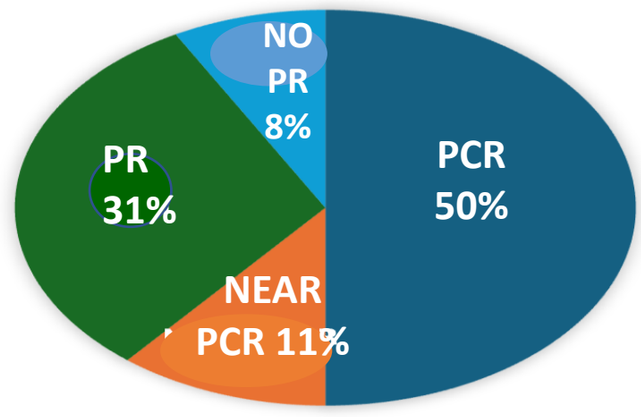

Figure 1: Frequencies of Pathological Responses

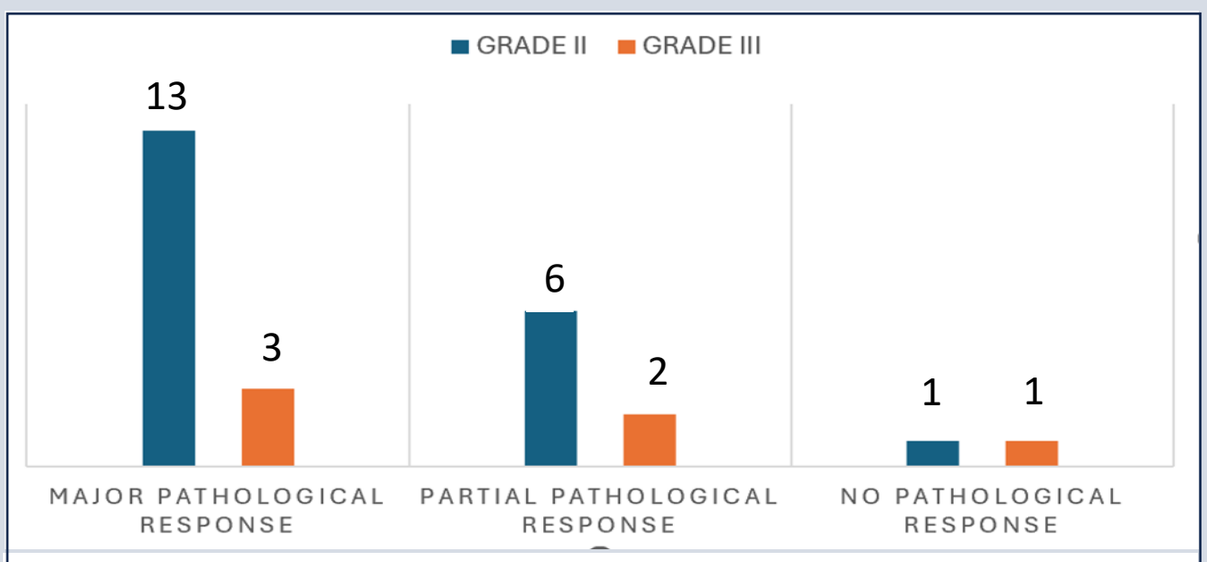

Figure 2: Association of Histopathological grade with pathological responses

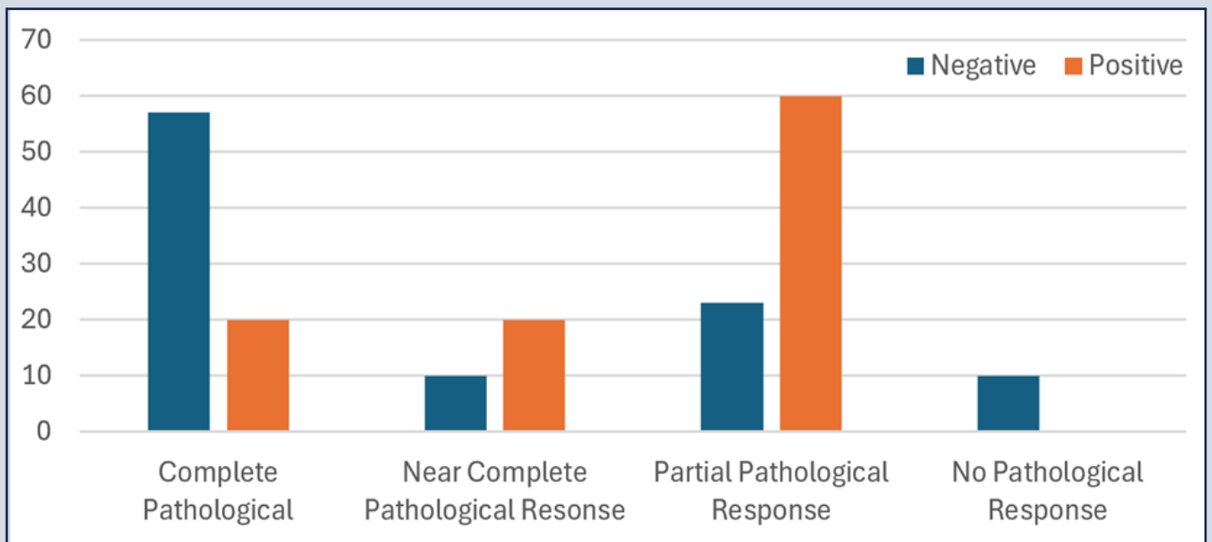

Figure 3: Pathological response associated with Estrogen Receptor

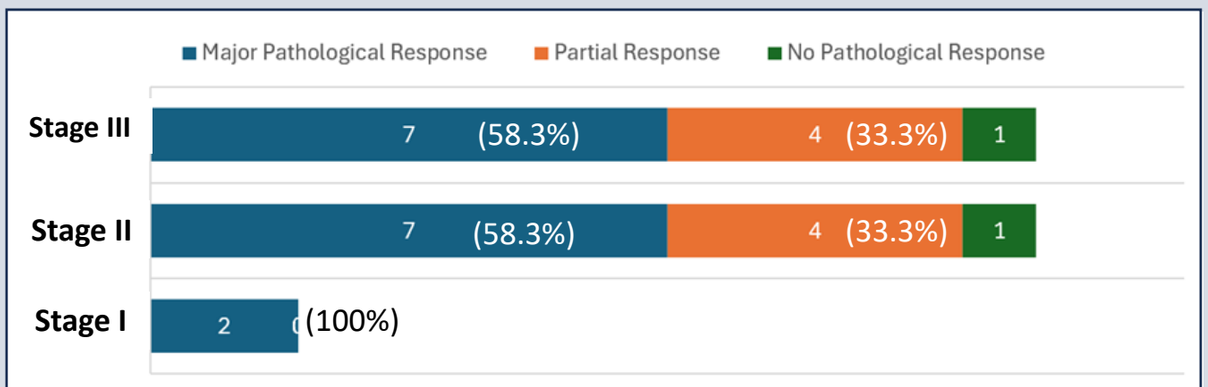

Figure 4: Pathological responses associated with Clinical Stage

CONCLUSION

- Despite the small sample size, this study underscores the effectiveness of neoadjuvant chemoimmunotherapy in high-risk HER2-positive localized breast cancer.
- Pathological response rates were comparable to Western data, with manageable toxicities.
- These findings support the need for larger, longitudinal studies to further validate TCHP as a standard neoadjuvant regimen in this population.