Backbone optimization with dose-dense anthracyclines and prophylactic G-CSF improves pCR without added febrile neutropenia in pembrolizumab-treated TNBC: real-world evidence from Latin America

Authors
Bustos, Diego MD [1]; Callahan, Maureen MD [2]; Vera, Macarena [3]; Saffie, Isabel MD
FUNDACIÓN ARTURO LÓPEZ PÉREZ, Santiago, CHILE. diego.bustos@falp.org

Background

Pembrolizumab combined with neoadjuvant chemotherapy (NACT) is the standard of care for early triple-negative breast cancer (TNBC) based on KEYNOTE-522. Real-world data from Latin America are scarce, and the contribution of dose-dense anthracyclines (ACdd) to efficacy and safety remains underreported.

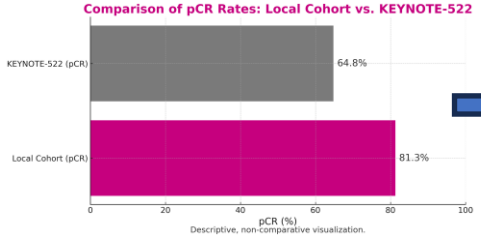
Methods

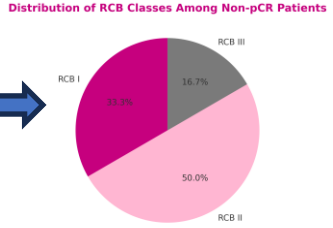
We conducted a retrospective, single-institution study including patients with stage II–III TNBC treated with pembrolizumab–NACT. The primary endpoint was pathologic complete response (pCR, ypT0/is ypN0). Secondary endpoints included Residual Cancer Burden (RCB), treatment-related immune toxicity, and febrile neutropenia (FN). Adverse events were graded per CTCAE v5.0.

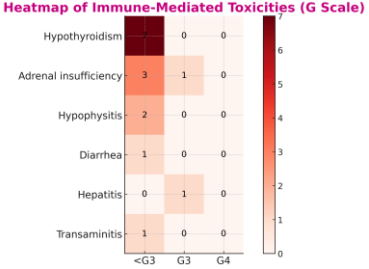
Results

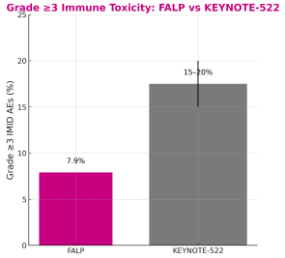
A total of 40 patients were evaluated. Median age was 49. ACdd was administered in 80% (n=32). Following completion of NACT, surgery was performed. Among 36 patients who underwent surgery with evaluable pathology, pCR (RCB-0) was achieved in 26/32 (81.3%). Among non-pCR cases, 2 were RCB-1 (6.3%), 3 were RCB-2 (9.4%), and 1 was RCB-3 (3.1%). In the entire cohort (n=40), febrile neutropenia (FN) occurred in 5/40 (12.5%), while grade ≥3 neutropenia was observed in 25% (9 grade 3, 1 grade 4). The FN rate was comparable to KEYNOTE-522 (15.1%), despite the high prevalence of ACdd in this cohort. The most frequent immune-related adverse events were hypothyroidism (n=4) and adrenal insufficiency (n=4). Grade 3 toxicities included adrenal insufficiency (n=1), hepatitis (n=1), and rash (n=1). No grade 4–5 events were observed.

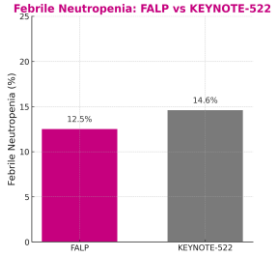
Variable	Local Cohort (n=40)	KEYNOTE-522
Age (median)	49 years	49 years
Stage II	28 (70%)	590 (75.3%)
Stage III	12 (30%)	194 (24.7%)
T3–T4	10 (26.3%)	204 (26%)
Node-positive	21 (55.3%)	405 (51.7%)
Dose-dense AC + G-CSF	32 (80%)	0%
Chemotherapy dose reduction	6 (15%)	18%
Dose delay	6 (15%)	20-25%
Treatment discontinuation	3 (7.5%)	17%











Conclusions

In this Latin American real-world cohort, pembrolizumab–NACT achieved a high PCR rate (81.3%) with an acceptable hematologic and immune-related safety profile. The widespread use of ACdd (80%) with prophylactic G-CSF may have contributed to enhanced efficacy without new safety concerns. These findings highlight the relevance of backbone optimization when integrating immunotherapy into TNBC treatment and provide valuable evidence from underrepresented regions

References
Citron ML et al. Dose-dense AC in breast cancer. J Clin Oncol. 2003.
Schmid P et al. Pembrolizumab in early TNBC. N Engl J Med. 2020.
Schmid P et al. Pembrolizumab: EFS/OS update. N Engl J Med. 2022
Sung H et al. GLOBOCAN 2020: Global cancer statistics. CA Cancer J Clin. 2021