Prognostic evaluation of HER2-low status in patients with early breast cancer who underwent neoadjuvant chemotherapy

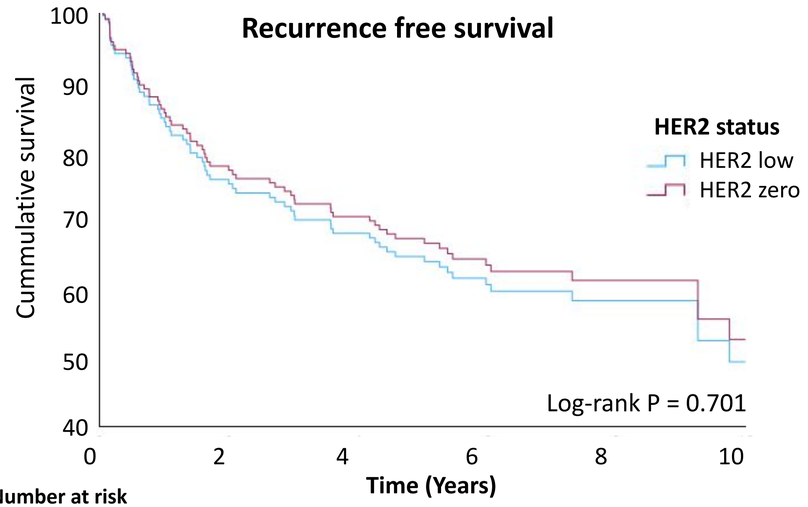
Sofia Giusti Alves[1], Márcia Silveira Graudenz[1], Gustavo Vasconcelos Alves[1 2], Christina Pimentel Oppermann[2], Jeziel Basso[1], Marina Morás[1], Letícia Gonçalves de Oliveira[1], Guilherme Luís França Rêgo[1], Ana Paula Lopes Silva[1], Emanuele de Farias Barra[1], Victoria Cristina Rodrigues Borges[1], Aline Baggio Pereira[1], Daniela Dornelles Rosa[1]
Affiliated institutions: [1] Hospital de Clínicas de Porto Alegre, [2] Grupo Hospitalar Conceição

Introduction

- In the last few years, several studies have highlighted the prognostic and therapeutic implications concerning the heterogeneity of HER2 expression in breast cancer (BC).
- In the metastatic setting, antibody-drug-conjugates (ADCs) targeting HER2 are approved for patients with low HER2 expression and showed significant overall survival benefit. The role of HER2 low is still under investigation in the early setting.
- We aim to determine if HER2 low tumors show differences in pathological complete response (pCR) and survival outcomes when compared to HER2 zero.

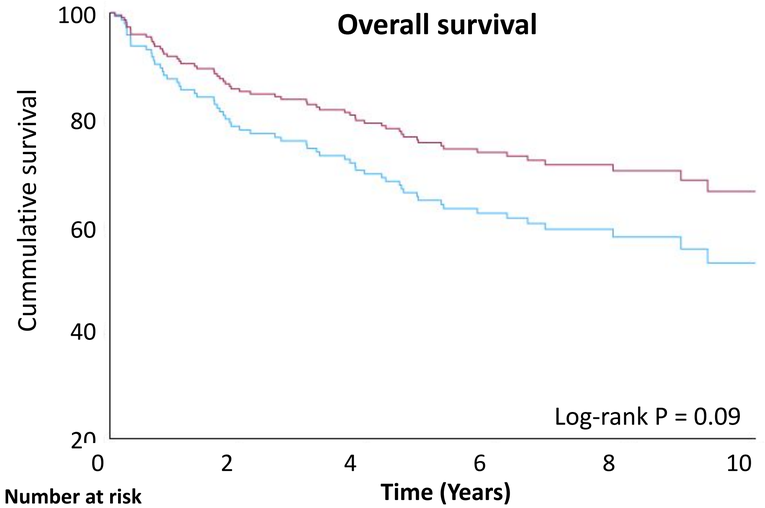
Methods

- Retrospective cohort in Hospital de Clínicas de Porto Alegre, an academic hospital in the South of Brazil.
- Inclusion criteria: adult patients with stage I-III invasive BC who underwent neoadjuvant chemotherapy (NCT) between 2010-2020. Exclusion criteria: positive, unknown or inconclusive HER2.
- HER2 low: 1+ on immunohistochemistry (IHC) or 2+ on IHC without amplification in the Silver-enhanced in situ hybridization (SISH). HER2 zero: as 0+ on IHC.
- Main outcomes: pCR rate, recurrence free survival (RFS) and overall survival (OS).



Number at risk

HER2 low	88	63	55	35	20	6
HER2 zero	85	59	55	33	14	8



Number at risk

HER2 low	89	71	61	41	23	7
HER2 zero	85	67	63	42	18	9

Results

- N = 173 female patients
- Mean (standard deviation) age: 49.24 (10.41) years.
- Median (interquartile range) follow up: 5.69 (4.71) years.
- Menopausal status: 89 (51.44%) premenopausal.
- Stage at diagnosis: 55 (31.8%) II and 117 (67.63%) III.
- Hormonal receptors (HR) positive in 121 (69.94%) patients.
- NCT was anthracycline-based in 167 (96,50%) patients.
- HER2 status: 88 (50.87%) low and 85 (49.13%) zero.
- HER2 low patients had a higher frequency of positive HR (82.96 vs. 56.47% respectively, Chi square P < 0.001).
- pCR rates were 15.61% in the whole sample, 10.23% in HER2 low and 21.18% in HER2 zero patients; however, statistical significance was not reached (Chi square P = 0.076).
- RFS rate: 67.05% in 5 years and 61.27% in 10 years, with no difference in RFS between HER2 low and zero (Hazard ratio [HR] 0.91, 95% Confidence Interval [CI] 0.56-1.47, P= 0.702).
- OS rate: 70.52% in 5 years and 65.32% in 10 years, also with no difference between HER2 low and zero (HR 0.64, 95% CI 0.39 to 1.08, P = 0.092).

Conclusion

- In our study, HER2 low and zero patients had similar pCR, recurrence and survival rates.
- More studies should be conducted to verify possible differences in oncological outcomes which may change clinical practice in early BC.

Contact information

Sofia Giusti Alves
Institution: Hospital de Clínicas de Porto Alegre
Email: sofiagiustia@gmail.com

References

- Modi, Shanu, et al. "Trastuzumab deruxtecan in previously treated HER2-low advanced breast cancer." New England Journal of Medicine 387.1 (2022): 9-20.
- Loibl, Sibylle, et al. "Early breast cancer: ESMO Clinical Practice Guideline for diagnosis, treatment and follow-up☆." Annals of Oncology 35.2 (2024): 159-182.

This presentation is the intellectual property of the author/presenter. Contact them at sofiagiustia@gmail.com for permission to reprint and/or distribute.

© Poster Template by Genigraphics® 1.800.790.4001 www.genigraphics.com