#483: Cross-country Treatment Practices after pCR Following Neoadjuvant Trastuzumab (H) and Pertuzumab (P) in HER2+ Early Breast Cancer: Preliminary Results from the PEARL-HER2 Study

S. Lobo-Martins[1], G. Gentile[1], H. Gouveia[2], N. Teixeira Tavares[3], M. Gonzalez-Rodriguez[4], E. Campôa[5], B. Pereira[6], T. PinaCabral[7], E. Agostinetto[1], D. Cabuk[8], D. Alpuim Costa[9], F. P Duhoux[10], P. Mandó[11], T. Cunha Pereira[12], P. Simões[13], H. Wildiers[14], L.Arecco[1], R. Gerosa[1], C. Dauccia[1], S. Ramalho[2], M. Carvalho Couto[3], T. Pascual[4], N. Cunha[5], F. Sarmento[6], A. Martins[7], E. Kolemen[8], M. Delgado da Silva[15], C. van Marcke[10], S. Rivero[11], A. Garcia[12], G. Nader-Marta[16], M. Piccart[1], P. Kristanto[17], E. de Azambuja[1]

1. Academic Trials Promoting Team (Atpt), Institut Jules Bordet, Brussels, Belgium; 2. Breast Unit, Champalimaud Foundation, Lisbon, Portugal; 3. Oncology, ULS De São João, Porto, Portugal; 4. Oncology, Cancer Institute And Blood Diseases, Hospital Clinic De Barcelona, Barcelona, Spain; 5. Oncology, ULS Algarve, Faro, Portugal; 6. Oncology, IPO De Lisboa Francisco Gentil, Lisbon, Portugal; 7. Oncology, ULS Lisboa Ocidental, Lisbon, Portugal; 8. Oncology, Kocaeli University, Kocaeli, Turkey; 9. Oncology, Hospital De Cascais, Lisbon, Portugal; 10. Oncology, Cliniques Universitaires Saint-luc, Brussels, Belgium; 11. Grupo Cooperativa Argentino Para El Estudio Y La Investigación Del Cáncer De Mama, Suma, Buenos Aires, Argentina; 12. Oncology, IPO De Coimbra Francisco Gentil, Coimbra, Portugal; 13. Oncology, Unidade Localde Saúde De Loures / Odivelas, Loures, Portugal; 14. Oncology, Uz Leuven, Leuven, Belgium; 15. Pharmaceutical Services, Hospital De Cascais, Lisbon, Portugal; 16. Breast Oncology Program, Oncology, Dana-Farber Cancer Institute, Harvard Medical School, Boston, Usa; 17. Clinical Biostatistics Unit, Institut Jules Bordet, Brussels, Belgium.

BACKGROUND

- Neoadjuvant HER2 blockade with HP and chemotherapy (NACT-HP) significantly increases pCR rates (up to 60-65%) in HER2-positive early breast cancer (eBC).
- Recurrence risk after pCR varies with initial tumor burden and stage. Post-pCR adjuvant strategy remains uncertain, with no trials evaluating the benefit of continuing P.
- Treatment practices differ internationally, partly driven by reimbursement-dependent access to P. Here, we characterize cross-country post-pCR management and its variability.

METHODS

- PEARL-HER2 study is an **international and global, multicentric, retrospective cohort study** including patients **(pts) with HER2-positive eBC achieving pCR (ypT0/Tis ypN0) after NACT-HP**.
- Eligible pts started NACT between Jan-2014 and Dec-2023.
- **Primary objective:** To compare invasive disease-free survival (iDFS) of adjuvant HP versus H after pCR in the high-risk population (cT3–4 or cN+ at diagnosis)
- This descriptive analysis, data cut-off of 20-Jun-2025, summarizes diagnostic, and treatment data stratified by country.

RESULTS

- A total of 1045 patients were screened across 5 countries; **649 achieved pCR and were included in this preliminary analysis**.
- Reasons for exclusion are presented in **Fig. 1**.

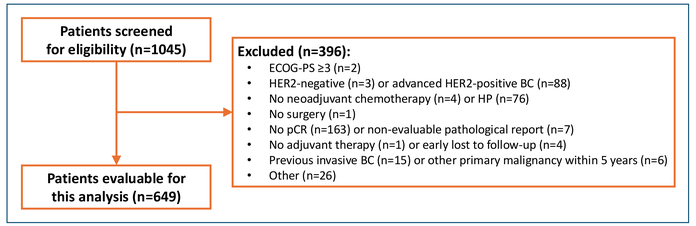


Fig. 1. Patient flowchart.

- **Table 1** shows baseline features, imaging, neoadjuvant regimens and adjuvant therapy.
- MRI use was high in Spain, Portugal and Belgium; FDG-PET was frequent in Turkey and Belgium.
- Anthracycline-free regimens were common in Argentina and Belgium, rare in Portugal and Turkey.
- Adjuvant P after pCR varied: >90% (Belgium) to <10% (Iberia) and 0% (Turkey).

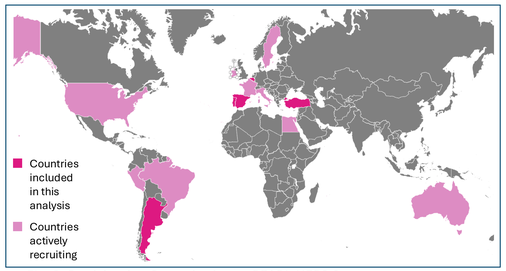


Fig. 2. Participating Countries in the PEARL-HER2 Study

- Endocrine therapy was near-universal in ER-positive disease, but OFS use remained low.
- With a **median follow-up of 44 months** (IQR 29-67), only **35 relapses (5.4%)** were reported, **18 (51%) of which in CNS.**
- **Survival outcomes were not analyzed (iDFS maturity 5.4%)**
- **Fig. 2** shows participating countries in the PEARL-HER2 study.

Table. 1. Country-Level Differences in Patient Characteristics, Imaging and Treatment Practices

Characteristics	Total (n=649)	Argentina (n=18)	Belgium (n=86)	Portugal (n=437)	Spain (n=80)	Turkey (n=28)	p-value
Age at diagnosis in years, median (IQR)	51.9 (44.4-62.0)	52.9 (40.9-63.2)	52.7 (43.9-64.2)	52.1 (45.0-61.4)	53.8 (42.5-62.1)	48.6 (45.2-57.9)	0.729
Pre-/peri-menopausal status, n (%)	303 (46.7)	10 (55.6)	36 (41.9)	208 (47.7)	35 (43.8)	14 (50.0)	0.039
NST subtype, n (%)	595 (91.8)	15 (88.2)	81 (94.2)	396 (90.6)	75 (93.8)	28 (100.0)	0.788
Lobular subtype, n (%)	18 (2.8)	1 (5.9)	4 (4.7)	11 (2.5)	2 (2.5)	0 (0.0)	-
Grade 3, n (%)	322 (49.7)	8 (47.1)	54 (62.8)	216 (49.4)	31 (38.8)	13 (46.4)	0.318
ER-negative, n (%)	314 (48.4)	14 (77.8)	36 (41.9)	207 (47.4)	39 (48.8)	18 (64.3)	<0.001
Ki-67 <20%, n (%)	58 (10.2)	0 (0.0)	7 (8.1)	30 (8.3)	15 (18.8)	6 (21.4)	<0.001
DCIS present, n (%)	191 (29.5)	0 (0.0)	32 (37.2)	113 (25.9)	39 (48.8)	7 (25.0)	<0.001
Tumor size in mm, median (IQR)	32.0 (23.0-50.0)	52.0 (25.0-66.0)	31.0 (22.0-47.0)	32.0 (23.0-49.0)	28.0 (21.0-52.5)	30.0 (23.0-40.0)	0.246
Clinical N0, n (%)	251 (38.8)	2 (11.1)	16 (18.6)	185 (42.3)	37 (46.3)	11 (42.3)	<0.001
Genetic testing performed, n (%)	185 (28.5)	5 (27.8)	27 (31.4)	122 (27.9)	26 (32.5)	5 (18.5)	0.667
Breast MRI performed, n (%)	552 (85.2)	13 (72.2)	80 (93.0)	375 (85.8)	80 (100.0)	4 (14.8)	<0.001
FDG-PET used, n (%)	144 (22.3)	5 (27.8)	38 (44.2)	65 (14.9)	19 (23.8)	17 (65.4)	<0.001
Anthracycline-based NACT, n (%)	536 (82.6)	0 (0.0)	56 (65.1)	396 (90.6)	57 (71.3)	27 (96.4)	<0.001
Adjuvant pertuzumab, n (%)	137 (21.1)	14 (77.8)	81 (94.2)	37 (8.5)	5 (6.3)	0 (0.0)	<0.001
ET use among ER+, n (%)	336 (96.8)	5 (83.3)	45 (91.8)	231 (97.9)	44 (100.0)	11 (91.7)	0.028
OFS use among pre/peri, n (%)	74 (22.0)	0 (0.0%)	10 (22.3)	46 (19.9)	16 (36.4)	2 (18.2)	0.042

CONCLUSIONS

PEARL-HER2 study is ongoing, and additional academic collaborators are welcome.

- Marked **international variability** was seen in post-pCR management of HER2-positive early BC. Interpretation should consider uneven country representation (>2/3 from Portugal).
- **Over half of relapses involved the CNS.**
- PEARL-HER2 continues to accrue and follow patients to clarify the role of adjuvant P in this setting.

CONTACT
Soraia Lobo-Martins, MD
Institut Jules Bordet, Academic Trials Promoting Team
@S_LoboMartins @Soraia Lobo Martins soraia.lobomartins@bordet.be

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The author has no COI related with the study.