# Breast surgery and systemic treatment continuation for patients with de novo metastatic breast cancer and locoregional oligoprogression: a cohort study

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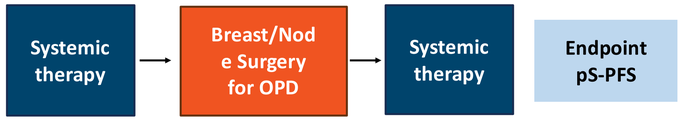
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## Background

- In patients with *de novo* metastatic breast cancer (mBC), two randomized clinical trials demonstrated that upfront breast surgery does not improve clinical outcomes.
- The role of breast surgery in patients with a locoregional oligoprogression (OPD), in the breast or lymph nodes, who previously had a response to systemic treatment is unknown. This approach may allow to maintain the same systemic treatment and prolong the time to treatment failure.

## Methods and Materials

- Retrospective, single-center, cohort study including all consecutive patients with *de novo* mBC, who experienced an OPD in the breast and/or locoregional lymph nodes (with other sites maintaining the best response), underwent breast surgery, and continued the same systemic treatment after surgery, according to the indication of the multidisciplinary tumor board at the European Institute of Oncology (Milan, Italy) from January 2007 to March 2025.




- Locoregional OPD was defined as radiologic progression per RECIST 1.1 in in the breast and/or locoregional lymph nodes, with at least one other metastatic site maintaining the disease control
- The primary endpoint was post-surgery progression-free survival (pS-PFS), defined as the time from the first radiographic evidence of locoregional OPD to subsequent progression or death.

## Results

- 59 patients were included: 28 (47%) had Hormone Receptor (HR)+/HER2- disease, 30 (51%) HER2+, and 1 (2%) triple-negative **(Table 1)**.
- When OPD occurred, the median line of treatment was 1 (IQR: 1-2), and the median pre-OPD PFS was 15.2 months (95% CI, 12.0-18.4). In the HR+/HER2- subgroup 22/28 (79%) patients were receiving an endocrine therapy-based therapy, in the HER2+ subgroup 19/30 (63%) were on trastuzumab/pertuzumab maintenance.
- The median time between OPD and surgery was 1.5 months (95% CI, 1.3-1.7). 12 (20%) patients underwent lumpectomy, 45 (75%) mastectomy, 5 (9%) sentinel lymph node biopsy, and 27 (46%) lymph node dissection.

**Table 1** Patients' characteristics.

| | All (N=59) | HR+/HER2- (n=28) | HER2+ (n=30) |
|---|---|---|---|
| Age at diagnosis, median (IQR) | 53 (45-49) | 54 (46-61) | 52 (43-59) |
| Female, n (%) | 57 (97) | 27 (96) | 29 (97) |
| Histology | | | |
| Ductal, n (%) | 53 (90) | 23 (82) | 29 (97) |
| Lobular, n (%) | 5 (8) | 4 (14) | 1 (3) |
| Other, n (%) | 1 (2) | 1 (4) | 0 (0) |
| Oligoprogression | | | |
| Line of treatment, median (IQR) | 1 (1-2) | 1 (1-2) | 1 (1-2) |
| Treatment | | | |
| ET, n (%) | 22 (37) | 22 (79) | 0 (0) |
| ET+TT, n (%) | 13 (22) | 13 (46)* | 0 (0) |
| HER2-targeting agents, n (%) | 30 (51) | 0 (0) | 30 (100) |
| HP+/-ET maintenance, n (%) | 19 (32) | 0 (0) | 19 (63) |
| T-DM1, n (%) | 7 (12) | 0 (0) | 7 (23) |
| T-DXd, n (%) | 1 (2) | 0 (0) | 1 (3) |
| CT+anti-HER2, n (%) | 3 (5) | 0 (0) | 3 (10)** |
| Oral chemotherapy, n (%) | 7 (12) | 6 (21) | 0 (0) |
| Visceral disease, n (%) | 38 (64) | 12 (43) | 25 (83) |
| ORR, % (95% CI) | 64% (51-77%) | 50% (31-69%) | 80% (61-92%) |
| Pre-oligoprogression PFS (months), median (95% CI) | 15.2 (12.0-18.4) | 15.2 (12.9-17.5) | 10.7 (1.5-19.8) |
| Locoregional oligoprogression, n (%) | | | |
| Breast, n (%) | 50 (85) | 23 (82) | 26 (87) |
| Lymph nodes, n (%) | 3 (5) | 3 (11) | 0 (0) |
| Breast and lymph nodes, n (%) | 6 (10) | 2 (7) | 4 (13) |
| Surgery | | | |
| Age at surgery, median (IQR) | 54 (47-62) | 56 (48-66) | 53 (46-61) |
| Type of breast surgery | | | |
| Lumpectomy, n (%) | 12 (20) | 7 (25) | 5 (17) |
| Mastectomy, n (%) | 45 (76) | 19 (68) | 25 (83) |
| Type of axillary surgery | | | |
| Sentinel lymph node biopsy, n (%) | 5 (9) | 1 (4) | 4 (13) |
| Lymph node dissection, n (%) | 27 (46) | 12 (43) | 14 (47) |

## Results

- After a median follow-up of 54.1 months (95% CI 44.2-64.0), 38 pS-PFS events occurred in all patients, 21 in the HR+/HER2- subgroup, and 15 in the HER2+ subgroup.
- The median pS-PFSs was 15.0 months (95% CI, 3.7-26.3) in all patients **(Figure 1).**
- The median pS-PFSs were 9.0 months (95% CI, 4.9-13.1) in the HR+/HER2- subgroup and 24.2 months (95% CI, 8.2-40.3) in the HER2+ subgroup **(Figure 2A).**
- Among patients with a pre-OPD PFS ≥12 months, the median pS-PFSs was 21.4 months (95% CI, 10.2-32.6) as compared with 10.5 months (95% CI, 4.4-16.6) among those with a pre-OPD PFS <12 months (log-rank test: p=.027) **(Figure 2B).**

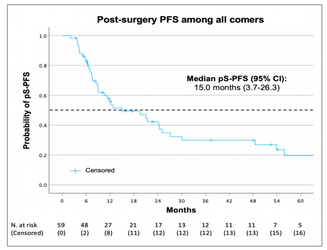
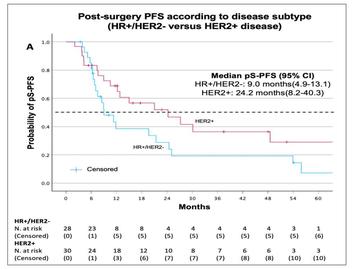



**Figure 1.** Kaplan-Meier analysis of pS-PFS in all pts patients with *de novo* mBC and locoregional oligoprogression.



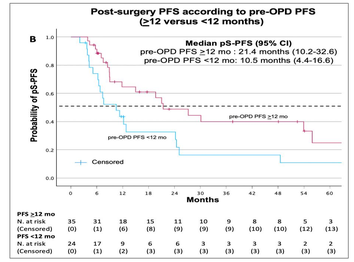




**Figure 2 A-B.** Kaplan-Meier analysis of pS-PFS in pts with de novo mBC and locoregional oligoprogression, according to disease subtype (A) and pre-oligoprogression PFS (B).

## Conclusions

This study suggests that selected patients with de novo mBC and locoregional OPD can benefit from breast surgery while maintaining the same systemic treatment, especially in case of HER2+ disease or a longer a pre-OPD PFS.

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