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| --- | --- | --- | --- | --- | --- | --- |
| **S1 Table** |  |  |  |  |  |  |
| **Clinico-pathologic characteristics of primary tumors in all lymph-node-positive cases (*n* = 231)**  |  |  |
|  |  |  |  |  |  |  |
| **Variable** |  |  | **N** | **(%)** |  |  |
| **Operation type** |  |  |  |  |  |  |
| Mastectomy |  |  | 161 | ( 69.6 ) |  |  |
| Breast conserving surgery |  |  | 69 | ( 30.0 ) |  |  |
| Core needle biopsy a |  |  | 1 | ( 0.4 ) |  |  |
| **Histologic type** |  |  |  |  |  |  |
| Ductal carcinoma |  |  | 195 | ( 84.4 ) |  |  |
| Lobular carcinoma |  |  | 30 | ( 13.0 ) |  |  |
| Mucinøs carcinoma |  |  | 2 | ( 0.9 ) |  |  |
| Undifferentiated |  |  | 2 | ( 0.9 ) |  |  |
| Others |  |  | 2 | ( 0.9 ) |  |  |
| **Histologic grade** |  |  |  |  |  |  |
| Grade 1 |  |  | 63 | ( 27.3 ) |  |  |
| Grade 2 |  |  | 116 | ( 50.2 ) |  |  |
| Grade 3 |  |  | 52 | ( 22.5 ) |  |  |
| **Tumor diameter (PT)** |  |  |  |  |  |  |
| ≤ 2 cm |  |  | 132 | ( 57.1 ) |  |  |
| ˃ 2 cm |  |  | 99 | ( 42.9 ) |  |  |
| **Type of LN operation** |  |  |  |  |  |  |
| SN and AXLN dissection |  |  | 101 | ( 44.1 ) |  |  |
| Only axillary dissection |  |  | 122 | ( 53.3 ) |  |  |
| Only SN biopsy |  |  | 6 | ( 2.6 ) |  |  |
| Missing\*  |  |  | 2 | (0.8) |  |  |
| **Positive nodes** |  |  |  |  |  |  |
| 1-3 nodes |  |  | 168 | ( 73.0) |  |  |
| ˃ 4 nodes |  |  | 62 | ( 27.0 ) |  |  |
| Missing\*\* |  |  | 1 | ( 0.4 ) |  |  |
| **Type of metastasis b** |  |  |  |  |  |  |
| Micrometastasis  |  |  | 42 | ( 19.5 ) |  |  |
| Macrometastasis |  |  | 173 | ( 80.5 ) |  |  |
| **ER status** |  |  |  |  |  |  |
| Positive |  |  | 193 | ( 83.5 ) |  |  |
| Negative |  |  | 38 | ( 16.5 ) |  |  |
| **PR status** |  |  |  |  |  |  |
| Positive |  |  | 154 | ( 66.7 ) |  |  |
| Negative |  |  | 77 | ( 33.3 ) |  |  |
| **Her2 status** |  |  |  |  |  |  |
| Positive |  |  | 33 | ( 14.3 ) |  |  |
| Negative |  |  | 197 | ( 85.7) |  |  |
| Missing |  |  | 1 | ( 0.4 ) |  |  |
| **Molecular subtypes c** |  |  |  |  |  |  |
| Luminal A |  |  | 91 | ( 39.6 ) |  |  |
| Luminal B HER2 neg |  |  | 90 | ( 39.1 ) |  |  |
| Luminal B HER2 pos |  |  | 18 | ( 7.8 ) |  |  |
| HER2 positive |  |  | 15 | ( 6.5 ) |  |  |
| Triple negative |  |  | 16 | ( 7.0 ) |  |  |
| **Multifocal tumor (PT)** |  |  |  |  |  |  |
| Yes |  |  | 35 | ( 15.2 ) |  |  |
| No |  |  | 195 | ( 84.8 ) |  |  |
| Missing |  |  | 1 | ( 0.4 ) |  |  |
| **Distant metasasis** |  |  |  |  |  |  |
| Yes |  |  | 79 | ( 34.2 ) |  |  |
| No |  |  | 152 | ( 65.8 ) |  |  |
| **Location of recurrence** |  |  |  |  |  |  |
| Skeletal |  |  | 49 | ( 21.2 ) |  |  |
| Lung |  |  | 27 | ( 11.7 ) |  |  |
| Liver |  |  | 43 | ( 18.6 ) |  |  |
| Brain |  |  | 18 | ( 7.8 ) |  |  |
| Pleura |  |  | 9 | ( 3.9 ) |  |  |
| Axilla |  |  | 5 | ( 2.0 ) |  |  |
| Skin |  |  | 3 | ( 1.3 ) |  |  |
| Adrenal gland |  |  | 1 | ( 0.4 ) |  |  |
| Peritoneum |  |  | 3 | ( 1.3 ) |  |  |
| **Status** |  |  |  |  |  |  |
| Alive  |  |  | 131 | ( 56.7 ) |  |  |
| Alive with metastasis |  |  | 34 | ( 14.7 ) |  |  |
| Death breast cancer |  |  | 48 | ( 20.8 ) |  |  |
| Death other reasons |  |  | 18 | ( 7.8 ) |  |  |
|  |  |  |  |  |  |  |
| a Core Needle Biopsy was performed on PT and LN in one case because of locally advanced cancer disease with deteriorated clinical conditionb Missing cases: 10 cases with missing tumor tissue, 6 cases with FNAC. Type of lymph node metastasis ( micrometastasis < 2 mm, macrometastasis ≥ 2 mm) |  |  |
| c Hormonal positivity was determined as positivity for ER and /or PR (St.Gallen 2015).\*Two cases were missing with respect to the type of lymph node removal procedure; one With CNB and the other with FNAC from unspecified lymph node.\*\* One case with no available information about the number of positive nodes because of locally Advanced cancer with conglomerated metastatic lymph nodes.  |
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