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| --- | --- | --- | --- | --- | --- | --- | --- |
| **Supplementary table 1.** Sociodemographic features in young women with breast cancer | | | | | | | |
|  | **Patients without mutation** | | **Patients with mutation** | |  | **Total** |  |
|  | n= 95 (88%) | | n=12 (11%) | | p | (n=108) |  |
| **Region of origin** |  |  |  |  |  |  |  |
| Center | 74 | 77.1 | 9 | 75 | 0.834 | 83 | 76.9 |
| South | 17 | 17.7 | 3 | 25 |  | 20 | 18.5 |
| West | 5 | 5.2 | 0 | 0 |  | 5 | 4.6 |
| **Marital status** |  |  |  |  |  |  |  |
| Married | 61 | 63.5 | 10 | 83.33 | 0.149 | 71 | 65.7 |
| Single | 35 | 36.5 | 2 | 16.67 |  | 37 | 34.3 |
| **Education** |  |  |  |  |  |  |  |
| Primary | 12 | 12.5 | 1 | 8.3 | 0.355 | 13 | 12 |
| Secondary school | 23 | 24 | 5 | 41.7 |  | 28 | 25.9 |
| Highschool | 24 | 25 | 4 | 33.3 |  | 28 | 25.9 |
| College | 37 | 38.5 | 2 | 16.7 |  | 39 | 36.1 |
| **Occupation** |  |  |  |  |  |  |  |
| Professional | 19 | 19.8 | 1 | 8.3 | 0.406 | 20 | 18.5 |
| Employee | 11 | 11.5 | 1 | 8.3 |  | 12 | 11.1 |
| Self-employee | 12 | 12.5 | 1 | 8.3 |  | 13 | 12.1 |
| Housewife | 53 | 55.2 | 8 | 66. 7 |  | 61 | 56.5 |
| Student | 1 | 1 | 1 | 8. 3 |  | 2 | 1.9 |

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| **Supplementary table 2.** Tumor characteristics of patients with mutations | | | | | | | | | |
| **Patient ID** | **Mutated Gene** | **Tumor histology** | **Clinical stage AJCC** | **Molecular subtype** | **Histologic grade** | **ki67** | **Side of tumor** | **Tumor size at diagnosis (cm)** | **Method of detection** |
| **I** | *BRCA1* | IDC | IIIA | Luminal B | High | 40 | Left | 6 | Self-detection of a lump |
| **II** | *BRCA1* | IDC | IIIA | Triple negative | High | 70 | Right | 3 | Self-detection of a lump |
| **III** | *BRCA1* | IDC | IIA | Triple negative | Intermediate | 60 | Right | 1.3 | Self-detection of a lump + pain |
| **IV** | *BRCA2* | ILC | IIIB | Luminal A | Low | 5 | Left | 4.5 | Self-detection of a lump |
| **V** | *BRCA2* | IDC | IIA | Triple-negative | High | 50 | Right | 6 | Self-detection of a lump |
| **VI** | *BRCA2* | IDC | IIA | Luminal B | High | 10 | Left | 3.5 | Self-detection of a lump |
| **VII** | *BRCA2* | Mixed | IA | Luminal A | Intermediate | 10 | Bilateral | 5 | Self-detection of a lump |
| **VIII** | *BRCA2* | IDC | IIIA | Triple-negative | Intermediate | 10 | Left | 1.8 | Self-detection of a lump |
| **IX** | *PALB2* | IDC | IIIB | Luminal B | Intermediate | 60 | Right | 11 | Self detection, breast asymmetry |
| **X** | *PALB2* | DCIS | IIIB | Luminal A | Intermediate | 10 | Left | 2.1 | Self-detection of a lump |
| **XI** | *TP53* | IDC | IIB | Luminal B | High | 20 | Right | 5 | Self-detection of a lump |
| **XII** | *RAD51C* | IDC | IIIA | Luminal B | High | 50 | Right | 5 | Self-detection of a lump |
| IDC, Invasive Ductal Carcinoma; ILC, Invasive Lobular Carcinoma; DCIS, Ductal Carcinoma In Situ. Mixed | | | | | | | | | |

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| **Supplementary table 3.** Treatment characteristics for patients with germline mutations | | | | | |
| **Patient ID** | **Mutated Gene** | **Surgery** | **Chemotherapy** | **Radiotherapy** | **Recurrence (No, site)** |
| **I** | *BRCA1* | Mastectomy | Neoadjuvant | Yes | No |
| **II** | *BRCA1* | Mastectomy | Neoadjuvant | Yes | No |
| **III** | *BRCA1* | Mastectomy | Adyujant | No | No |
| **IV** | *BRCA2* | Mastectomy | Neoadjuvant | Yes | No |
| **V** | *BRCA2* | Mastectomy | Adjuvant | Yes | No |
| **VI** | *BRCA2* | Mastectomy | Neoadjuvant | No | Yes, Ganglion |
| **VII** | *BRCA2* | Breast-conserving | Adjuvant | No | Yes, Local |
| **VIII** | *BRCA2* | Mastectomy | Neoadjuvant | Yes | No |
| **IX** | *PALB2* | Breast-conserving | Neoadjuvant | No | Yes, Lung |
| **X** | *PALB2* | Mastectomy | Adjuvant | Yes | No |
| **XI** | *TP53* | Mastectomy | Neoadjuvant | Yes | No |
| **XII** | *RAD51C* | Mastectomy | Neoadjuvant | Yes | No |

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| **Supplementary table 4.** Familial and sociodemographic characteristics of patients with germline mutations | | | | | | | |
|  | | | **Family history of cancer** | | **Sociodemograpic information** | | |
| **Patient ID** | **Mutated Gene** | **Age at diagnosis** | **First degree** | **Second degree** | **State of origin** | **Marital status** | **Occupation** |
| **I** | *BRCA1* | 26 | No | No | Morelos | Married | Housewife |
| **II** | *BRCA1* | 21 | No | Yes | Oaxaca | Single | Agriculture |
| **III** | *BRCA1* | 35 | No | No | Mexico city | Married | Housewife |
| **IV** | *BRCA2* | 38 | No | Yes | Mexico city | Married | Housewife |
| **V** | *BRCA2* | 29 | No | No | Edo.de México | Married | Housewife |
| **VI** | *BRCA2* | 28 | Yes | No | Oaxaca | Married | Housewife |
| **VII** | *BRCA2* | 38 | No | Yes | Veracruz | Married | Housewife |
| **VIII** | *BRCA2* | 27 | Yes | Yes | Mexico city | Single | Employee |
| **IX** | *PALB2* | 27 | No | No | Tlaxcala | Married | Housewife |
| **X** | *PALB2* | 40 | Yes | Yes | Mexico city | Married | Profesional |
| **XI** | *TP53* | 19 | Yes | No | Morelos | Single | Student |
| **XII** | *RAD51C* | 38 | No | Yes | Guerrero | Married | Housewife |

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| **Supplementary table 5.** Reproductive variables in patients with germline mutations | | | | | | | | | | |
| **Patient ID** | **Gene** | **Age at menarche (years)** | **Pregnancy (number)** | **Children (number)** | **Abortions** | **Pregnant at diagnosis** | **Age at first pregnancy (years)** | **Age at last pregnancy (years)** | **Breastfeeding (time in months)** | **Hormonal contraceptive use (time in months)** |
| **I** | *BRCA1* | 12 | 2 | 2 | 0 | No | 21 | 24 | 24 | 48 |
| **II** | *BRCA1* | 12 | 0 | 0 | 0 | No | NA | NA | NA | 0 |
| **III** | *BRCA1* | 15 | 4 | 4 | 0 | No | 20 | 26 | 48 | 0 |
| **IV** | *BRCA2* | 13 | 3 | 3 | 0 | No | 22 | 34 | 36 | 0 |
| **V** | *BRCA2* | 13 | 2 | 2 | 0 | Yes | 21 | 29 | 12 | 3 |
| **VI** | *BRCA2* | 13 | 6 | 2 | 4 | No | 17 | 25 | 18 | 72 |
| **VII** | *BRCA2* | 13 | 3 | 2 | 1 | No | 28 | 33 | 15 | 96 |
| **VIII** | *BRCA2* | 11 | 0 | 0 | 0 | No | NA | NA | NA | 0 |
| **IX** | *PALB2* | 14 | 1 | 0 | 0 | No | 24 | 24 | 24 | 0 |
| **X** | *PALB2* | 15 | 2 | 2 | 0 | No | 30 | 38 | 18 | 0 |
| **XI** | *TP53* | 12 | 1 | 1 | 0 | No | 15 | 15 | 36 | 0 |
| **XII** | *RAD51C* | 12 | 2 | 1 | 1 | No | 31 | 31 | 18 | 0 |