**Supplementary Table I**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Total subjects (n=120)** | **No sign of recurrence****(*n*= 63)** | **Distant metastases****(*n*= 57)** |
| **Range** | **mean (SD)** | **Range** | **mean (SD)** | **Range** | **mean (SD)** |
| Age at diagnosis (yrs) | 28 - 74 | 53.31 (10.352) | 34 - 73 | 54.51 (10.426) | 28 - 74 | 51.98 (10.197) |
| Tumour Size (mm)\* | 3 - 110 | 25.75 (15.1) | 3 - 70 | 22.8 (11.7) | 10 - 110 | 29.4 (18.0) |
| Height (m) | 1.47 – 1.80 | 1.63 (0.06) | 1.52 – 1.78 | 1.63 (0.056) | 1.47 – 1.80 | 1.63 (0.66) |
| Weight at diagnosis (kg) | 47.7 – 117.0 | 71.1 (13.7) | 51.7 – 102.6 | 69.8 (12.7) | 47.7 – 117.0 | 72.54 (14.67) |
| Weight at year 1 (kg)\*\* | 49.0 – 124.1 | 73.8 (14.4) | 49.0 – 99.8 | 72.8 (14.1) | 53.0 – 124.09 | 74.84 (14.84) |
| IgA1 level | 0.612 – 30.248 | 5.738 (3.501) | 1.857 – 12.951 | 5.485 (2.770) | 0.612 – 30.248 | 6.018 (4.171) |
| HPA level | 0.620 – 214.411 | 25.314 (26.138) | 0.620 – 56.125 | 21.234 (11.084) | 3.233 – 214.411 | 29.823 (35.726) |
| HPA: IgA ratio | 0.06 – 49.97 | 5.573 (5.96) | 0.06 – 15.76 | 4.836 (3.368) | 0.25 – 49.97 | 6.388 (7.845) |
|  | **n** | **%** | **n** | **%** | **n** | **%** |
| Grade 1 | 11 | 9.2 | 8 | 12.7 | 3 | 5.3 |
| Grade 2 | 53 | 44.2 | 27 | 42.9 | 26 | 46.4 |
| Grade 3 | 55 | 45.8 | 28 | 44.4 | 27 | 47.4 |
| Unknown | 1 | 0.8 |  |  | 1 | 1.8 |
| Lymph node positive | 77 | 64.2 | 38 | 60.3 | 39 | 68.4 |
| ER positive | 88 | 73.3 | 49 | 77.8 | 39 | 31.6 |
| ER negative | 32 | 26.7 | 14 | 22.2 | 18 | 68.4 |
| PR positive | 43 | 35.8 | 25 | 39.7 | 18 | 31.6 |
| PR negative | 30 | 25.0 | 11 | 17.5 | 19 | 33.3 |
| PR unknown | 47 | 39.2 | 27 | 42.9 | 20 | 35.1 |
| HER2 positive | 26 | 21.7 | 11 | 17.5 | 15 | 26.3 |
| HER2 negative | 54 | 45.0 | 27 | 42.9 | 27 | 47.4 |
| HER2 status unknown | 40 | 33.3 | 25 | 39.7 | 15 | 26.3 |
| Chemotherapy - yes | 95 | 79.2 | 46 | 27.0 | 49 | 86.0 |
| Chemotherapy – no | 25 | 20.8 | 17 | 73.0 | 8 | 14.0 |
| Primary chemotherapy – yes | 8 | 6.7 | 2 | 3.2 | 6 | 10.5 |
| Primary chemotherapy - no | 112 | 93.3 | 61 | 96.8 | 51 | 89.5 |
| Radiotherapy - yes | 102 | 85.0 | 10 | 15.9 | 8 | 14.0 |
| Radiotherapy - no | 18 | 15.0 | 53 | 84.1 | 49 | 86.0 |
| Intra-operative radiotherapy - yes | 2 | 1.7 | 2 | 3.2 |  |  |
| Intra-operative radiotherapy - no | 99 | 82.5 | 53 | 84.1 | 46 | 86.8 |
| Intra-operative radiotherapy - unknown | 19 | 15.8 | 8 | 12.7 | 11 | 19.3 |
| Post-operative radiotherapy - yes | 100 | 83.3 | 51 | 81.0 | 49 | 86.0 |
| Post-operative radiotherapy - no | 18 | 15.0 | 11 | 17.5 | 7 | 12.3 |
| Post-operative radiotherapy - unknown | 2 | 1.7 | 1 | 1.6 | 1 | 1.8 |
| Post-operative hormone therapy -Tamoxifen | 64 | 53.3 | 35 | 55.6 | 29 | 50.9 |
| Post-operative hormone therapy -Herceptin | 16 | 13.3 | 7 | 11.1 | 9 | 15.8 |
| Post-operative hormone therapy -Aromatase | 29 | 24.2 | 17 | 27.0 | 12 | 21.1 |
| Post-operative hormone therapy -Endocrine | 87 | 72.5 | 49 | 77.8 | 38 | 66.7 |
| Blood Group A | 45 | 37.5 | 26 | 41.9 | 19 | 32.8 |
| Blood Group B | 13 | 10.8 | 6 | 9.7 | 7 | 12.1 |
| Blood Group AB | 11 | 9.2 | 5 | 8.1 | 6 | 10.3 |
| Blood Group O | 51 | 42.5 | 25 | 40.3 | 26 | 44.8 |
| Side of breast affected: Left | 55 | 45.8 | 25 | 39.7 | 40 | 70.2 |
| Side of breast affected: Right | 65 | 54.2 | 38 | 60.3 | 17 | 29.8 |
| Smoking status: Current smoker | 9 | 7.5 | 6 | 9.5 | 3 | 5.3 |
| Smoking status: Never smoker | 72 | 60.0 | 32 | 50.8 | 40 | 70.2 |
| Smoking status: Past smoker | 38 | 31.7 | 24 | 38.1 | 14 | 24.6 |
| Smoking status: Unknown | 1 | 0.8 | 1 | 1.6 |  |  |
| Alcohol drinker: Current | 94 | 78.3 | 47 | 74.6 | 47 | 82.5 |
| Alcohol drinker: Never | 16 | 13.3 | 10 | 15.9 | 6 | 10.5 |
| Alcohol drinker: Past | 9 | 7.5 | 5 | 7.9 | 4 | 7.0 |
| Alcohol drinker: Unknown | 1 | 0.8 | 1 | 1.6 |  |  |

\* tumour size data only available for 114 individuals. All 6 missing cases those with DM

\*\* weight information missing at year 1 for 1 individual (with DM)