| **Table 3 Univariable and multivariable logistic regression analyses of characteristics predictive of re-excision** | | | | | | |
| --- | --- | --- | --- | --- | --- | --- |
|  | **Re-excision** | |  | **Odds ratio†** | |  |
|  | **No (n = 15 425)** | **Yes (n = 2763)** |  | **Univariable analysis (n = 18 188)** | **Multivariable analysis (n = 18 188)** | **P‡** |
| **Type of surgery** |  |  |  |  |  | <0⋅001 |
| BCS | 11 128 (84⋅4) | 2057 (15⋅6) |  | 1⋅00 (reference) | 1⋅00 (reference) |  |
| Volume displacement | 3567 (85⋅5) | 604 (14⋅5) |  | 0⋅92 (0⋅83, 1⋅01) | 0⋅91 (0⋅83, 1⋅01) |  |
| Volume reduction | 609 (89⋅7) | 70 (10⋅3) |  | 0⋅62 (0⋅48, 0⋅79) | 0⋅61 (0⋅47, 0⋅78) |  |
| Volume replacement | 121 (79⋅1) | 32 (20⋅9) |  | 1⋅43 (0⋅95, 2⋅09) | 1⋅54 (1⋅01, 2⋅26) |  |
| **Year of operation** |  |  |  |  |  | 0⋅438 |
| 2012 | 2295 (86⋅1) | 372 (13⋅9) |  | 1⋅00 (reference) | 1⋅00 (reference) |  |
| 2013 | 2332 (85⋅3) | 401 (14⋅7) |  | 1⋅06 (0⋅91, 1⋅24) | 1⋅05 (0⋅90, 1⋅22) |  |
| 2014 | 2330 (84⋅7) | 421 (15⋅3) |  | 1⋅11 (0⋅96, 1⋅30) | 1⋅11 (0⋅95, 1⋅29) |  |
| 2015 | 2208 (84⋅1) | 418 (15⋅9) |  | 1⋅17 (1⋅00, 1⋅36) | 1⋅18 (1⋅01, 1⋅37) |  |
| 2016 | 2144 (84⋅6) | 389 (15⋅4) |  | 1⋅12 (0⋅96, 1⋅31) | 1⋅10 (0⋅94, 1⋅29) |  |
| 2017 | 2083 (84⋅1) | 393 (15⋅9) |  | 1⋅16 (1⋅00, 1⋅36) | 1⋅15 (0⋅99, 1⋅35) |  |
| 2018 | 2033 (84⋅6) | 369 (15⋅4) |  | 1⋅12 (0⋅96, 1⋅31) | 1⋅13 (0⋅96, 1⋅32) |  |
| **Age (years)\*** | 61⋅8 (11⋅5) | 60⋅0 (11⋅3) |  | 0⋅99 (0⋅98, 0⋅99) | 0⋅99 (0⋅98, 0⋅99) | <0⋅001 |
| **Charlson Co-morbidity Index score** |  |  |  |  |  | <0⋅001 |
| 0 | 11 790 (84⋅3) | 2197 (15⋅7) |  | 1⋅00 (reference) | 1⋅00 (reference) |  |
| 1 | 2148 (85⋅9) | 352 (14⋅1) |  | 0⋅88 (0⋅78, 0⋅99) | 0⋅87 (0⋅76, 0⋅98) |  |
| 2 | 962 (86⋅0) | 156 (14⋅0) |  | 0⋅87 (0⋅73, 1⋅03) | 0⋅88 (0⋅74, 1⋅05) |  |
| ≥3 | 525 (90⋅1) | 58 (9⋅9) |  | 0⋅59 (0⋅45, 0⋅77) | 0⋅60 (0⋅45, 0⋅78) |  |
| **Histological finding** |  |  |  |  |  | <0⋅001 |
| Ductal | 12 614 (85⋅4) | 2163 (14⋅6) |  | 1⋅00 (reference) | 1⋅00 (reference) |  |
| Lobuler | 1527 (80⋅9) | 361 (19⋅1) |  | 1⋅38 (1⋅22, 1⋅56) | 1⋅42 (1⋅25, 1⋅61) |  |
| Other | 1269 (84⋅3) | 236 (15⋅7) |  | 1⋅08 (0⋅94, 1⋅25) | 1⋅10 (0⋅95, 1⋅27) |  |
| Unknown | 15 (83⋅3) | 3 (16⋅7) |  | 1⋅17 (0⋅27, 3⋅54) | 1⋅12 (0⋅26, 3⋅43) |  |
| **Differentiation grade** |  |  |  |  |  | <0⋅001 |
| I | 4246 (88⋅3) | 563 (11⋅7) |  | 1⋅00 (reference) | 1⋅00 (reference) |  |
| II | 6658 (83⋅7) | 1300 (16⋅3) |  | 1⋅47 (1⋅33, 1⋅64) | 1⋅48 (1⋅33, 1⋅65) |  |
| III | 3141 (83⋅8) | 606 (16⋅2) |  | 1⋅46 (1⋅29, 1⋅65) | 1⋅46 (1⋅29, 1⋅65) |  |
| Not determined | 1269 (84⋅3) | 236 (15⋅7) |  | 1⋅40 (1⋅19, 1⋅65) | 1⋅42 (1⋅20, 1⋅68) |  |
| Unknown | 111 (65⋅7) | 58 (34⋅3) |  | 3⋅94 (2⋅82, 5⋅46) | 4⋅12 (2⋅93, 5⋅74) |  |
| **Oestrogen receptor (%)** |  |  |  |  |  | 0⋅001 |
| <10 | 1902 (83⋅7) | 370 (16⋅3) |  | 1⋅00 (reference) | 1⋅00 (reference) |  |
| ≥10 | 13 490 (85⋅0) | 2377 (15⋅0) |  | 0⋅91 (0⋅80, 1⋅02) | 0⋅91 (0⋅81, 1⋅03) |  |
| Unknown | 33 (67⋅3) | 16 (32⋅7) |  | 2⋅49 (1⋅32, 4⋅50) | 2⋅59 (1⋅37, 4⋅71) |  |
| **HER2 status** |  |  |  |  |  | <0⋅001 |
| Negative | 13 775 (85⋅6) | 2311 (14⋅4) |  | 1⋅00 (reference) | 1⋅00 (reference) |  |
| Positive | 1496 (78⋅1) | 420 (21⋅9) |  | 1⋅67 (1⋅49, 1⋅88) | 1⋅69 (1⋅50, 1⋅90) |  |
| Unknown | 154 (82⋅8) | 32 (17⋅2) |  | 1⋅24 (0⋅83, 1⋅79) | 1⋅22 (0⋅81, 1⋅77) |  |
| **T category** |  |  |  |  |  | <0⋅001 |
| T1 | 12 284 (85⋅9) | 2018 (14⋅1) |  | 1⋅00 (reference) | 1⋅00 (reference) |  |
| T2 | 3097 (81⋅7) | 693 (18⋅3) |  | 1⋅36 (1⋅24, 1⋅50) | 1⋅38 (1⋅26, 1⋅52) |  |
| T3 | 37 (43⋅5) | 48 (56⋅5) |  | 7⋅90 (5⋅14, 12⋅22) | 8⋅13 (5⋅24, 12⋅69) |  |
| Unknown | 7 (63⋅6) | 4 (36⋅4) |  | 3⋅48 (0⋅91, 11⋅53) | 3⋅75 (0⋅97, 12⋅73) |  |
| **N category** |  |  |  |  |  | <0⋅001 |
| N0 | 10 865 (85⋅9) | 1784 (14⋅1) |  | 1⋅00 (reference) | 1⋅00 (reference) |  |
| N1 | 3501 (83⋅0) | 719 (17⋅0) |  | 1⋅25 (1⋅14, 1⋅37) | 1⋅25 (1⋅14, 1⋅38) |  |
| N2 | 521 (77⋅4) | 152 (22⋅6) |  | 1⋅78 (1⋅47, 2⋅14) | 1⋅75 (1⋅44, 2⋅11) |  |
| N3 | 243 (77⋅6) | 70 (22⋅4) |  | 1⋅75 (1⋅33, 2⋅29) | 1⋅76 (1⋅33, 2⋅30) |  |
| Unknown | 295 (88⋅6) | 38 (11⋅4) |  | 0⋅78 (0⋅55, 1⋅09) | 0⋅83 (0⋅58, 1⋅15) |  |
| Values in parentheses are percentages unless indicated otherwise; \*values are mean(s.d.) and †values in parentheses are 95 per cent confidence intervals. BCS, breast-conserving surgery; HER2, human epidermal growth factor receptor 2. †Adjusted for type of surgery, year of operation, age, histological finding, differentiation grade, oestrogen receptor, HER2 status, T and N category. ‡Wald test. | | | | | | |