Supplementary Table 2. Distribution of Clinical Variables by RSI Subtype

Variable	Level	Total	Sensitive	Intermediate	Resistant	P Value
				N (%)		
Age	Median(Range)	44 (23, 50)	44 (23,50)	43(27,50)	44 (23, 50)	0.5469
RT Total dose	<=66Gy	242 (70.8%)	59 (68.6%)	124 (71.7%)	59 (71.1%)	0.8801
	>66Gy	100 (29.2%)	27 (31.4%)	49 (28.3%)	24 (28.9%)	
	Total	342	86 (25.1%)	173 (50.6%)	83 (24.3%)	
Origin	Dutch	148 (43.1%)	37 (42.5%)	77 (44.5%)	34 (41%)	0.8688
	French	195 (56.9%)	50 (57.5%)	96 (55.5%)	49 (59%)	
	Total	343	87 (25.4%)	173 (50.4%)	83 (24.2%)	
Local_Recurrence	No Recurrence	224 (65.3%)	57 (65.5%)	113 (65.3%)	54 (65.1%)	1.0000
	Recurrence	119 (34.7%)	30 (34.5%)	60 (34.7%)	29 (34.9%)	
	Total	343	87 (25.4%)	173 (50.4%)	83 (24.2%)	
T stage	pT1	216 (63.3%)	52 (60.5%)	110 (63.6%)	54 (65.9%)	0.7701
	pT2-3	125 (36.7%)	34 (39.5%)	63 (36.4%)	28 (34.1%)	
	Total	341	86 (25.2%)	173 (50.7%)	82 (24%)	
Surgical margin	marg+	37 (11.2%)	12 (14%)	18 (10.8%)	7 (8.9%)	0.5688
	marg-	294 (88.8%)	74 (86%)	148 (89.2%)	72 (91.1%)	
	Total	331	86 (26%)	166 (50.2%)	79 (23.9%)	
Surgical margins - invasive	MargInv+	21 (6.5%)	7 (8.3%)	12 (7.5%)	2 (2.6%)	0.2737
	MargInv-	302 (93.5%)	77 (91.7%)	149 (92.5%)	76 (97.4%)	
	Total	323	84 (26%)	161 (49.8%)	78 (24.1%)	
Surgical margins - DCIS	MargDCIS+	8 (4.3%)	3 (6.1%)	5 (5.8%)	0 (0%)	0.2163
	MargDCIS-	176 (94.1%)	46 (93.9%)	80 (93%)	50 (96.2%)	
	MargDCIS?	3 (1.6%)	0 (0%)	1 (1.2%)	2 (3.8%)	
	Total	187	49 (26.2%)	86 (46%)	52 (27.8%)	
N stage	pN+	122 (36.2%)	29 (34.5%)	57 (33.1%)	36 (44.4%)	0.2089
	pN-	215 (63.8%)	55 (65.5%)	115 (66.9%)	45 (55.6%)	
	Total	337	84 (24.9%)	172 (51%)	81 (24%)	
RT boost	boost	248 (72.5%)	63 (73.3%)	124 (71.7%)	61 (73.5%)	0.9492
	no boost	94 (27.5%)	23 (26.7%)	49 (28.3%)	22 (26.5%)	
	Total	342	86 (25.1%)	173 (50.6%)	83 (24.3%)	
Chemotherapy (CT)	CT	133 (38.9%)	37 (42.5%)	58 (33.7%)	38 (45.8%)	0.1270
	no CT	209 (61.1%)	50 (57.5%)	114 (66.3%)	45 (54.2%)	
	Total	342	87 (25.4%)	172 (50.3%)	83 (24.3%)	
Hormonal therapy	HT	31 (9.1%)	10 (11.5%)	11 (6.4%)	10 (12%)	0.2201

(HT)						
	no HT	311 (90.9%)	77 (88.5%)	161 (93.6%)	73 (88%)	
	Total	342	87 (25.4%)	172 (50.3%)	83 (24.3%)	
Histology shape	multinodular	16 (4.9%)	4 (4.9%)	10 (6%)	2 (2.6%)	0.0646
	sharply demarcated	86 (26.5%)	31 (37.8%)	38 (22.8%)	17 (22.4%)	
	stellate	223 (68.6%)	47 (57.3%)	119 (71.3%)	57 (75%)	
	Total	325	82 (25.2%)	167 (51.4%)	76 (23.4%)	
Histology type	ductal	292 (85.1%)	74 (85.1%)	149 (86.1%)	69 (83.1%)	0.2071
	lobular	26 (7.6%)	3 (3.4%)	15 (8.7%)	8 (9.6%)	
	other type	25 (7.3%)	10 (11.5%)	9 (5.2%)	6 (7.2%)	
	Total	343	87 (25.4%)	173 (50.4%)	83 (24.2%)	
Grade	EEI	55 (16.2%)	13 (15.3%)	29 (16.9%)	13 (15.9%)	0.0764
	EEII	147 (43.4%)	27 (31.8%)	79 (45.9%)	41 (50%)	
	EEIII	137 (40.4%)	45 (52.9%)	64 (37.2%)	28 (34.1%)	
	Total	339	85 (25.1%)	172 (50.7%)	82 (24.2%)	
tubuleformation	NA	9 (2.6%)	4 (4.6%)	3 (1.7%)	2 (2.4%)	0.5312
	tubule50-90%	79 (23%)	14 (16.1%)	46 (26.6%)	19 (22.9%)	
	tubule<10%	235 (68.5%)	63 (72.4%)	115 (66.5%)	57 (68.7%)	
	tubule>90%	20 (5.8%)	6 (6.9%)	9 (5.2%)	5 (6%)	
	Total	343	87 (25.4%)	173 (50.4%)	83 (24.2%)	
Polymorphism	polymorph1	15 (4.5%)	2 (2.4%)	11 (6.5%)	2 (2.5%)	0.0207
	polymorph2	131 (39.3%)	23 (27.7%)	69 (40.8%)	39 (48.1%)	
	polymorph3	187 (56.2%)	58 (69.9%)	89 (52.7%)	40 (49.4%)	
	Total	333	83 (24.9%)	169 (50.8%)	81 (24.3%)	
Mitotic index	mitotic1	174 (52.9%)	33 (40.2%)	96 (57.5%)	45 (56.3%)	0.0033
	mitotic2	59 (17.9%)	11 (13.4%)	33 (19.8%)	15 (18.8%)	
	mitotic3	96 (29.2%)	38 (46.3%)	38 (22.8%)	20 (25%)	
	Total	329	82 (24.9%)	167 (50.8%)	80 (24.3%)	
DCIS inside	DCIS inside	93 (38%)	20 (28.6%)	47 (41.2%)	26 (42.6%)	0.1544
	No DCIS inside	152 (62%)	50 (71.4%)	67 (58.8%)	35 (57.4%)	
	Total	245	70 (28.6%)	114 (46.5%)	61 (24.9%)	
DCIS - outside	DCIS outside	75 (31.9%)	19 (31.7%)	39 (33.3%)	17 (29.3%)	0.8504
	No DCIS outside	160 (68.1%)	41 (68.3%)	78 (66.7%)	41 (70.7%)	
	Total	235	60 (25.5%)	117 (49.8%)	58 (24.7%)	
DCIS present	DCIS	211 (64.1%)	50 (60.2%)	109 (66.5%)	52 (63.4%)	0.6148
	No DCIS	118 (35.9%)	33 (39.8%)	55 (33.5%)	30 (36.6%)	
	Total	329	83 (25.2%)	164 (49.8%)	82 (24.9%)	
DCIS - grade	DCIS high grade	120 (57.4%)	32 (64%)	61 (57%)	27 (51.9%)	0.5841
	DCIS intermed grade	69 (33%)	12 (24%)	37 (34.6%)	20 (38.5%)	
	DCIS low grade	20 (9.6%)	6 (12%)	9 (8.4%)	5 (9.6%)	

	Total	209	50 (23.9%)	107 (51.2%)	52 (24.9%)	
LCIS	LCIS present	31 (9.3%)	3 (3.7%)	19 (11.2%)	9 (11.1%)	0.1274
	No LCIS	301 (90.7%)	79 (96.3%)	150 (88.8%)	72 (88.9%)	
	Total	332	82 (24.7%)	169 (50.9%)	81 (24.4%)	
Lympho-vascular invasion (LVI)	LVI present	11 (4.2%)	0 (0%)	6 (4.3%)	5 (7.9%)	0.0788
	No LVI	254 (95.8%)	61 (100%)	135 (95.7%)	58 (92.1%)	
	Total	265	61 (23%)	141 (53.2%)	63 (23.8%)	
LVI quadrant	1 LVI	11 (13.8%)	0 (0%)	6 (17.6%)	5 (22.7%)	0.0305
	2-5 LVI	31 (38.8%)	8 (33.3%)	17 (50%)	6 (27.3%)	
	>5 LVI	38 (47.5%)	16 (66.7%)	11 (32.4%)	11 (50%)	
	Total	80	24 (30%)	34 (42.5%)	22 (27.5%)	
p53	p53+	24 (24.7%)	7 (26.9%)	13 (26.5%)	4 (18.2%)	0.7822
	p53-	73 (75.3%)	19 (73.1%)	36 (73.5%)	18 (81.8%)	
	Total	97	26 (26.8%)	49 (50.5%)	22 (22.7%)	
ER status	0	75 (21.9%)	28 (32.2%)	30 (17.3%)	17 (20.5%)	0.0246
	1	268 (78.1%)	59 (67.8%)	143 (82.7%)	66 (79.5%)	
	Total	343	87 (25.4%)	173 (50.4%)	83 (24.2%)	
PR status	0	138 (40.2%)	42 (48.3%)	64 (37%)	32 (38.6%)	0.2015
	1	205 (59.8%)	45 (51.7%)	109 (63%)	51 (61.4%)	
	Total	343	87 (25.4%)	173 (50.4%)	83 (24.2%)	
Her-2-neu status	0	290 (84.5%)	76 (87.4%)	145 (83.8%)	69 (83.1%)	0.7139
	1	53 (15.5%)	11 (12.6%)	28 (16.2%)	14 (16.9%)	
	Total	343	87 (25.4%)	173 (50.4%)	83 (24.2%)	
Proliferative Index_	0	173 (50.4%)	34 (39.1%)	97 (56.1%)	42 (50.6%)	0.0348
	1	170 (49.6%)	53 (60.9%)	76 (43.9%)	41 (49.4%)	
	Total	343	87 (25.4%)	173 (50.4%)	83 (24.2%)	
Molecular subtype	HER2	14 (4.1%)	2 (2.3%)	9 (5.2%)	3 (3.6%)	0.0249
	LUMA	145 (42.3%)	29 (33.3%)	83 (48%)	33 (39.8%)	
	LUMB	87 (25.4%)	21 (24.1%)	43 (24.9%)	23 (27.7%)	
	LUMHER	39 (11.4%)	9 (10.3%)	19 (11%)	11 (13.3%)	
	TN	58 (16.9%)	26 (29.9%)	19 (11%)	13 (15.7%)	
	Total	343	87 (25.4%)	173 (50.4%)	83 (24.2%)	
Triple Negative	Not TN	285 (83.1%)	61 (70.1%)	154 (89%)	70 (84.3%)	0.0004
	TN	58 (16.9%)	26 (29.9%)	19 (11%)	13 (15.7%)	
	Total	343	87 (25.4%)	173 (50.4%)	83 (24.2%)	

P Value is calculated using Chi square Test using exact method with Monte Carlo estimation.