Supplement

- **Supplementary Table S1.** Representativeness of study participants.
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Supplementary Table S1. Representativeness of Study Participants.

Cancer type(s)/subtype(s)/stage(s)/condition	Triple negative breast cancer (TNBC)
Considerations related to:	
Sex	TNBC, as with all other subtypes of breast cancer, is a predominantly female disease and is rare in men. Male breast cancer represents only between 0.5 and 1% of all breast cancers diagnosed each year.
Age	In the United States, the mean age of diagnosis of breast cancer is 62. The mean age of diagnosis of TNBC is lower (59), compared to non-TNBC cases (62). The median age of diagnosis of breast cancer in Asian women is younger than for non-Hispanic white women (57 vs. 63 years).
Race/ethnicity	There are differences among women with breast cancer depending upon race and ethnicity. In women under the age of 50, TNBC accounts for 24% of breast cancers in non-Hispanic Black women, 17% of breast cancers in Hispanic women, 13% of breast cancer in non-Hispanic White women and 10% of breast cancers in Asian women. In women over the age of 50, TNBC accounts for 20% of breast cancers in non-Hispanic Black women, 11% of breast cancers in Hispanic women and 9% of breast cancers in Asian and non-Hispanic White women. Among Asian patients under 50, TNBC proportionally affects South Asians most (15%) followed by Koreans (13%) and Southeast Asians (13%).

Geography	The study had 5 sites participate: three sites within Asia (two in South Korea and one in Singapore). Two sites were in the United States (New York and North Carolina). Most patients enrolled in the study were Asian (70% and 82%, respectively). All other patients were White. The demographics of South Korea are relatively homogenous with an absolute majority of the Korean ethnicity. The population of Singapore is largely Asian as well, categorised into four main groups: Chinese, Malays, Indians, and Other. The United States accrued a minority of patients to the study encompassing White participants. In the United States, the percentage of Black population is 13.6%.
Overall Representativeness of Study	The median age of our patient cohort was 48 and 51.5 in both cohorts. The age distribution of our study is similar to the average age distribution of TNBC in the literature. There were no men in our study. Due to the small sample size of our study and predominant accrual in Asian sites, our cohort of patients are primarily Asians, mostly Koreans and Southeast Asians; unfortunately, we did not enroll any Black patients, although this was not an exclusion criteria.

Supplementary Table S2. Baseline characteristics.

Characteristic	Olaparib alone (*n* = 23)	Olaparib plus durvalumab (*n* = 22)
Median (range) age, years	48 (35–77)	51.5 (25–72)
Age, years		
<40	2 (9)	5 (23)
40–65	17 (74)	16 (73)
>65	4 (17)	1 (5)
Race		
Asian	16 (70)	18 (82)
White	5 (22)	4 (18)
Other	1 (4)	0
Missing	1 (4)	0
ECOG performance status		
0	16 (70)	13 (59)
1	7 (30)	8 (36)
2	0	1 (5)
Most recent platinum regimen		
1st line	18 (78)	19 (86)
2nd line	5 (22)	3 (14)
Prior platinum regimen		
Carboplatin	16 (70)	10 (45)
Weekly	9 (39)	5 (23)
Every 3 weeks	7 (30)	5 (23)

Cisplatin	7 (30)	12 (55)
Weekly	0	1 (5)
Every 3 weeks	7 (30)	11 (50)
Prior platinum partner		
Single-agent platinum	2 (9)	6 (27)
Platinum doublet with taxane	14 (61)	9 (41)
Platinum doublet with gemcitabine	7 (30)	7 (32)
Median (range) duration of prior platinum, months	2.9 (1.4–5.9)	2.7 (1.4–22.3)
Best response to prior platinum		
CR	2 (9)	1 (5)
PR	12 (52)	12 (55)
SD	9 (39)	9 (41)
Germline *BRCA* status		
Deleterious mutation	1 (4)[a]	7 (32)[b]
No mutation detected/variant of unknown significance	13 (57)	6 (27)
Not tested[c]	9 (39)	9 (41)
Tumor cells positive for estrogen receptor		
<1%	21 (91)	21 (95)
≥1–≤10%	2 (9)	0
Missing	0	1 (5)
Tumor cells positive for progesterone receptor		
<1%	23 (100)	0
≥1–≤10%	0	1 (5)

DFI from initial diagnosis to advanced/metastatic TNBC		
De novo	7 (30)	4 (18)
≤1 year	3 (13)	2 (9)
>1 year	13 (57)	16 (73)
Median (range) interval between metastatic diagnosis and randomization, months	5.3 (2.7–61.2)	4.9 (2.5–14.6)
Metastatic sites at study enrollment		
Lung	11 (48)	11 (50)
Liver	7 (30)	4 (18)
Pleura	1 (4)	4 (18)
Bone	13 (57)	7 (32)
Brain	0	2 (9)
Regional lymph nodes	9 (39)	10 (45)
Distant lymph nodes	6 (26)	4 (18)
Histology		
Invasive ductal carcinoma	23 (100)	21 (95)
Invasive lobular carcinoma	0	1 (5)

Note: Data are *n* (%) unless otherwise specified.
ECOG, Eastern Cooperative Oncology Group; **CR,** complete response; **PR,** partial response; **SD,** stable disease; **DFI,** disease-free interval; **TNBC,** triple-negative breast cancer

[a]*BRCA2*.
[b]All *BRCA1*.
[c]*BRCA* testing is less readily available at Asian sites.

Supplementary Table S3. Summary of response.

Response	Olaparib alone (*n* = 23)	Olaparib + durvalumab (*n* = 22)
Overall response rate	5 (22) [8–44]	3 (14) [3–35]
Best overall response		
Complete response	2 (9) [1–28]	1 (5) [0–23]
Partial response	3 (13) [3–34]	2 (9) [1–29]
Stable disease	7 (30) [13–53]	12 (55) [32–76]
Disease progression	11 (48) [27–69]	6 (27) [11–50]
Not evaluable	0	1 (5) [0–23]

Note: Data are *n* (%) [95% confidence interval].

Supplementary Figure S1. Oncoplot of somatic variants assessed by next generation sequencing (Tempus xT) in archival tumor samples