Abstract 548088: Time on Treatment for systemic therapies for patients with hormone-receptor positive breast cancer with BRCA1, BRCA2, or PALB2 pathogenic variants.

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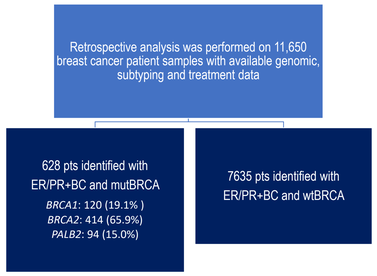
BACKGROUND

- Poly (ADP-ribose) polymerase inhibitors (PARPi), result in longer progression free survival (PFS) in patients with pathogenic variants in *BRCA1*, *BRCA2* or *PALB2* (mutBRCA). Some data suggests a shorter PFS with CDK4/6 inhibitors (CDK4/6i) for mutBRCA.
- It is unknown whether there are differences in PFS for other common systemic therapies including aromatase inhibitors (AI) and Selective Estrogen Receptor Degraders (SERDs).
- We compared time-on-treatment (TOT), a real-world surrogate for PFS, for mutBRCA when treated with endocrine therapies (ET), CDK4/6i, or PARPi.

METHODS

- DNA and RNA somatic sequencing were performed on tumors submitted to Caris Life Sciences.
- Hormone receptor status was defined by IHC per ASCO/CAP.
- Time on treatment (TOT) was calculated from first to last of treatment time based on insurance claims.
- Univariable Cox-proportional hazard analyses were utilized to assess TOT between mutBRCA vs wtBRCA for each therapy (ET, PARPi and CDK4/6i).

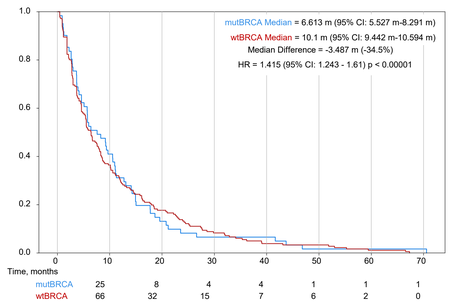
RESULTS/GRAPHS/DATA



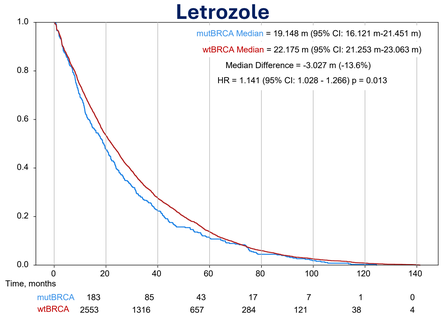
	ER/PR+BC wtBRCA	ER/PR+BC mutBRCA
Median age (range)	63 (22 - 89)	57 (23 - 89)
Female	7512	604
Male	123	24
White	4512	329
Black or African American	970	84
Asian or Pacific Islander	211	29
Unknown/Other	1942	186
PARP inhibitors: (olaparib, niraparib, or rucaparib or talazoparib)	33	156
CDK4/6 inhibitors: (Palbociclib. ribociclib or abemaciclib)	3571	285

Time on Treatment (TOT) by Systemic Therapy

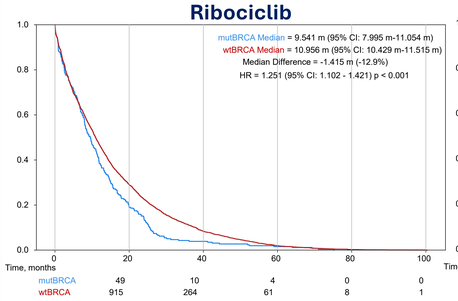
TOT on Fulvestrant



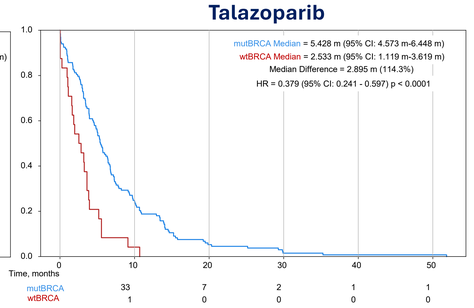
TOT on Anastrozole, Exemestane or Letrozole



TOT on Abemaciclib, Palbociclib or Ribociclib

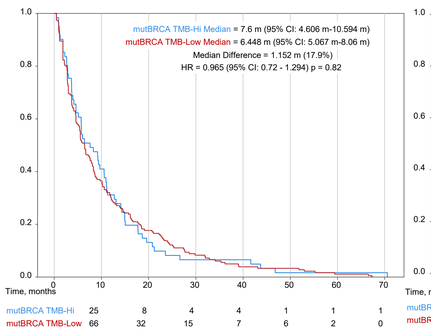


TOT on Niraparib, Olaparib, Rucaparib or Talazoparib

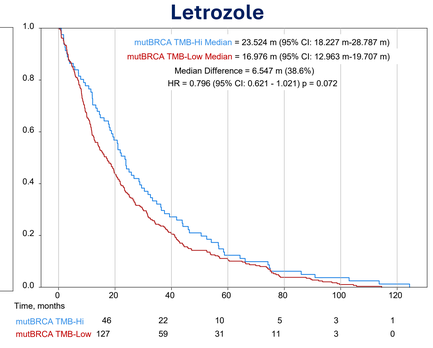


Time on Treatment for mutBRCA by Tumor Mutational Burden Status

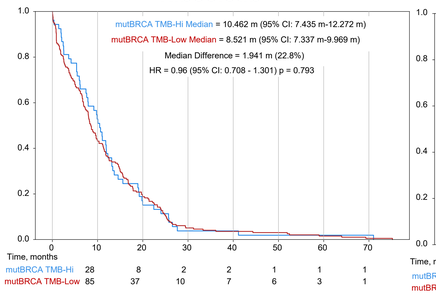
TOT on Fulvestrant



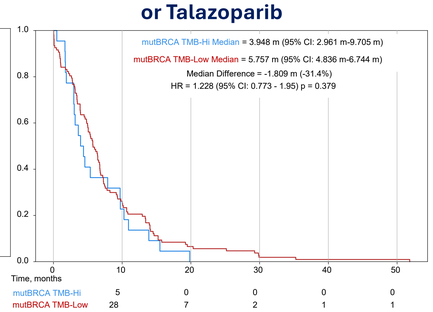
TOT on Anastrozole, Exemestane or Letrozole



TOT on Abemaciclib, Palbociclib or Ribociclib



TOT on Niraparib, Olaparib, Rucaparib or Talazoparib



CONCLUSIONS

This real-world data analysis demonstrates distinct TOT patterns among ET, CDK4/6i and PARPi for mutBRCA patients when compared to wtBRCA.

For mutBRCA, when compared to wtBRCA there was shorter TOT for ET and CDK4/6i. Longer TOT for PARPi.

For mutBRCA, TMB-Hi (compared to TMB-Low) had longer TOT for ET, CDK4/6i, but shorter TOT for PARPi (though significance was not reached).

ACKNOWLEDGEMENTS & CONTACT INFORMATION

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