Real World BRCA and PD-L1 Testing among First-Line Triple-Negative Metastatic Breast Cancer Patients

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SAN ANTONIO BREAST CANCER SYMPOSIUM®
DECEMBER 10–13, 2024
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Introduction

- Biomarker testing is an important component in guiding care for metastatic triple-negative breast cancer (mTNBC).
- Current NCCN guidelines recommend germline BRCA testing for all patients (pts) with metastatic breast cancer to identify candidates for poly (ADP-ribose) polymerase inhibitors (PARPi).
- PD-L1 testing, defined as a combined positive score (CPS) ≥10, guides utilization of pembrolizumab in combination with chemotherapy.
- Data are limited on the occurrence of biomarker testing of mTNBC patients in a real-world setting.

Objective:

- This study describes patterns and timing of BRCA and PD-L1 testing among pts with metastatic tripl-negative breast cancer (mTNBC) who initiated treatment.

Methods and Materials

Inclusion Criteria
- Diagnosed with mTNBC
- Initiated tx on or after 1/1/2021

Data Collection
- 720 pts evaluated via manual chart abstraction using Integra PrecisionQ's de-identified database

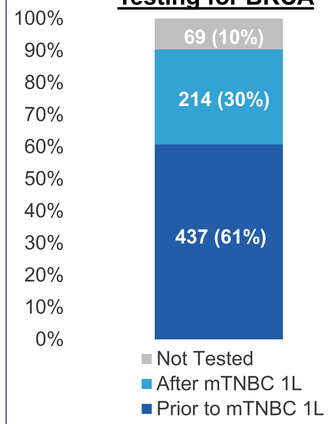
Patients were assessed by:

Age	Sex	Race
ECOG	Diagnosis Type	Treatment Patterns

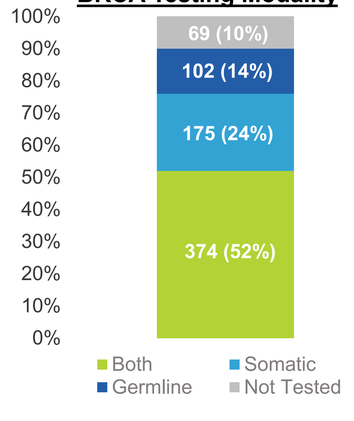
- Metastatic status and biomarker information were verified through manual chart review, including extraction from unstructured clinical notes, genomic reports and pathology reports.
- The review captured hormone receptor and HER2 status, as well as documentation of BRCA and PD-L1 testing.
- Descriptive analyses compared testing rates by demographics, ECOG status, recurrent vs. de novo presentation, and treatment patterns.

Results

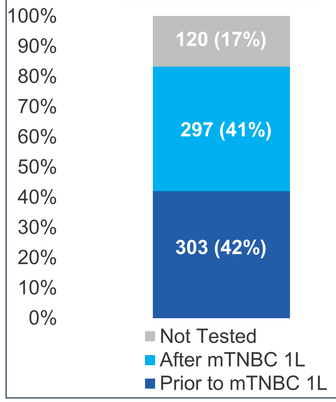
Testing for BRCA



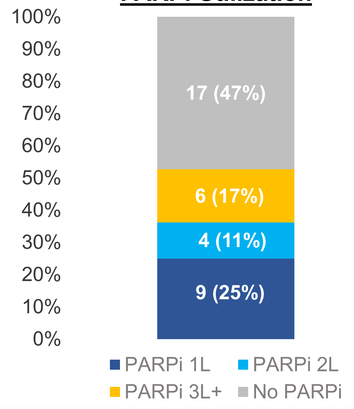
BRCA Testing Modality



Testing for PD-L1



BRCAm PD-L1-Negative PARPi Utilization



Discussion

Table 1. Baseline Characteristics and BRCA and PD-L1 Testing in mTNBC patients

	All pts (N=720)	BRCA Tested (n=651)	Not BRCA Tested (n=69)	PD-L1 Tested (n=540)	Not PD-L1 Tested (n=180)
Mean Age (SD)					
Age	59.4 (13.4)	58.9 (13.4)	63.7 (13.1)	59.4 (13.5)	59.4 (13.2)
Gender					
Female	715 (99.3%)	647 (99.4%)	68 (98.6%)	535 (99.1%)	180 (100.0%)
Male	3 (0.4%)	3 (0.5%)	0 (0.0%)	3 (0.6%)	0 (0.0%)
Unknown	2 (0.3%)	1 (0.2%)	1 (1.4%)	2 (0.4%)	0 (0.0%)
Race					
White	455 (63.2%)	413 (63.4%)	42 (60.9%)	352 (65.2%)	103 (57.2%)
Black	161 (22.4%)	143 (22.0%)	18 (26.1%)	111 (20.6%)	50 (27.8%)
Asian	13 (1.8%)	11 (1.7%)	2 (2.9%)	8 (1.5%)	5 (2.8%)
Other	91 (12.5%)	84 (12.9%)	7 (10.0%)	69 (12.8%)	22 (11.7%)
ECOG					
ECOG 0-1	477 (66.3%)	433 (66.5%)	44 (63.8%)	351 (65.0%)	126 (70.0%)
ECOG 2+	64 (8.9%)	54 (8.3%)	10 (14.5%)	50 (9.3%)	14 (7.8%)
Unknown	179 (24.9%)	164 (25.2%)	15 (21.7%)	139 (25.7%)	40 (22.2%)
Diagnosis Type					
De novo	209 (100.0%)	191 (91.4%)	18 (8.6%)	153 (73.2%)	56 (26.8%)
Recurrence	511 (100.0%)	460 (90.0%)	51 (10.0%)	387 (75.7%)	124 (24.3%)
Prior PD-L1 Treatment Status (pre mTNBC)					
Treated	42 (5.8%)	41 (6.3%)	1 (1.4%)	31 (5.7%)	11 (6.1%)
Not treated	678 (94.2%)	610 (93.7%)	68 (98.6%)	509 (94.3%)	169 (93.9%)

Conclusions

Of all pts who had testing identified, only 42% of pts received PD-L1 testing and 61% received BRCA testing prior to initiating first-line treatment for mTNBC. Further opportunities for timely testing should be explored to optimize treatment choice.

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References

1. National Comprehensive Cancer network. Breast Cancer. Version 4.2025. https://www.nccn.org/professionals/physician_gls/pdf/breast.pdf

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