Precision Medicine for Ovarian Cancer

Discover guidelines-recommended actionable biomarkers in ovarian cancer.

Biomarker Testing Is Transforming the Management of Ovarian Cancer

Biomarker testing in ovarian cancer can predict treatment response, prognosis, and suitability for targeted therapy, informing decisions at each step of the treatment journey, from diagnosis through recurrence.[1]

Test All Newly Diagnosed Patients With Advanced Ovarian Cancer for Actionable Biomarkers

NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®) for ovarian cancer recommend biomarker testing for patients with advanced or recurrent epithelial ovarian cancer that done previously, for all patients with advanced ovarian cancer.[1]

In the upfront setting, germline testing may optimize the identification of molecular alterations that can inform the use of interventions for patients with homologous recombination deficiency (HRD).[1] HRD can be caused by mutations in BRCA1/2 or BRCA2, or in the absence of a BRCA mutation, by other genomic alterations, such as loss of heterozygosity, telomeric allelic imbalance, telomeric allelic imbalance (TAI), and large-scale state transitions (LST).[1]

NCCN Guidelines® recommendations[1]:

Following on from the NCCN Guidelines, consider following the ASCO and SGO recommendations to carry out both germline and somatic testing, including HRD, or tumor testing for HRD if germline testing is not performed or is negative.[2]

ASCO and SGO provide actionable recommendations for ovarian testing. They recommend germline genetic testing for ovarian cancer susceptibility genes including BRCA1/2, and somatic testing for tumor mutations in BRCA1/2 and other homologous recombination (HR) genes. They also additionally state that somatic testing (tissue) should be measured if germline instability including LOH, LST, TAI, to inform upfront treatment.[2]

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Recommendations from the SGO practice statement[3]

Adapted from Stewart et al. 2021[3]

ASCO, American Society of Clinical Oncology; BRCA1/2, BRCA (tumor suppressor) gene 1/2; CBC, comprehensive biomarker; GC, germline genetic; HRD, homologous recombination deficiency; LOH, loss of heterozygosity; MMR, DNA mismatch repair; MSI, microsatellite instability; NCCN, National Comprehensive Cancer Network; SGO, Society of Gynecologic Oncology; TC, tumor cell; TMB, tumor mutational burden.

Test for All Actionable Germline and Somatic Biomarkers at Diagnosis and Upon Recurrence[2,3]

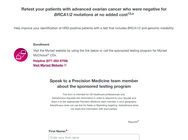
NCCN Guidelines recommend biomarker testing for patients with cancer, including but not limited to, ovarian cancer, fallopian tube cancer, or primary peritoneal cancer[4]

Biomarker	What to test?	At diagnosis	What to test?	Recurrence (relapse) or persistence (include those receiving maintenance)
Germline BRCA1 and BRCA2 mutations	✓		✓	
Somatic BRCA1 and BRCA2 mutations	✓		✓	
LOH	✓		✓	
HRD status	✓	In the absence of germline BRCA1/2 mutation	✓	
PALB2 (FA)	✓		✓	
HER2 (by IHC)	✓		✓	
KRAS	✓		✓	
MMR	✓		✓	
TMB	✓		✓	
BRAF	✓		✓	
NTRK	✓		✓	
ATRXR	✓		✓	

ASCO, American Society of Clinical Oncology; BRCA1/2, BRCA (tumor suppressor) gene 1/2; CBC, comprehensive biomarker; GC, germline genetic; HRD, homologous recombination deficiency; LOH, loss of heterozygosity; MMR, DNA mismatch repair; MSI, microsatellite instability; NCCN, National Comprehensive Cancer Network; SGO, Society of Gynecologic Oncology; TC, tumor cell; TMB, tumor mutational burden.

Approximately Half of Advanced Ovarian Cancer Cases Are HRD Positive[5,6]

HRD status (consisting of BRCA1/2 and genomic instability (GI)) measures provides predictive, prognostic, and tactical insights to inform upfront treatment decisions with PARPs.[5,6]



*Homologous recombination status can be characterized as HRD-positive or HRD-negative/HRP.

Comprehensive HRD testing (including germline and somatic BRCA1/2 and GIS testing) can provide[5,6]:

- Predictive insights by indicating treatment eligibility and providing information on the magnitude of benefit of PARPs in certain patients with ovarian cancer
- Prognostic insights—BRCA1/2+ provides insight over the course of disease
- Partial insights—germline BRCA1/2+ only is a factor for assessment

BRCA1/2, BRCA (tumor suppressor) gene 1/2; CBC, comprehensive biomarker; GC, germline genetic; HRD, homologous recombination deficiency; HRP, homologous recombination proficiency; LOH, loss of heterozygosity; LST, large-scale state transition; MMR, DNA mismatch repair; MSI, microsatellite instability; TC, tumor cell; TMB, tumor mutational burden.

Sponsored Testing Program for Myriad MyChoice® CDx

Retest your patients with advanced ovarian cancer who have been negative for BRCA1/2 mutations at no added cost[7,8]

Help improve your identification of HRD-positive patients with a test that includes BRCA1/2 and genomic instability.

Enrollment

Visit the Myriad website to carry the link below or call the sponsored testing program for Myriad MyChoice CDx:

Helpline (877-381-4159)
Visit Myriad Website ↗

Speak to a Precision Medicine team member about the sponsored testing program

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BRCA1/2, BRCA (tumor suppressor) gene 1/2; CBC, comprehensive biomarker; HRD, homologous recombination deficiency.

Considerations for Your Practice

Investigator, action, or review MUST prerequisite for identifying patients eligible for biomarker testing, such as HRD status and BRCA1/2 mutations:

- Review pre-enrollment all eligible patients with ovarian cancer requires a biomarker test as recommended by NCCN Guidelines and the National Ovarian and Prostate Cancer Network[9]
- Provide consent as well as genomic testing to increase the detection of mutations and inform treatment[10]
- Consider the impact of the test on the patient's ability to receive a PARP inhibitor based on BRCA1/2 mutations[11]
- Find ways reducing patient wait times which can patients biomarker testing
- Find solutions to overcome challenges you may face during biomarker testing

ASCO, American Society of Clinical Oncology; BRCA1/2, BRCA (tumor suppressor) gene 1/2; CBC, comprehensive biomarker; HRD, homologous recombination deficiency; NCC, multidisciplinary team; NCCN, National Comprehensive Cancer Network; SGO, Society of Gynecologic Oncology.

Helpful Resources

Check out these featured resources on biomarker testing in ovarian cancer

Add your preferred resources to **My Favorites**—a personalized list of resources to download and share with your peers or patients.

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Further than before: Latest perspectives in ovarian cancer
Watch highlights of expert presentations discussing current treatment options, the role of biomarker testing in ovarian cancer, and upcoming therapeutic pipelines.
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Watch Dr Warner Huh share his perspectives on the role of biomarker testing in ovarian cancer, including how it has transformed the treatment landscape.
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Leading the way: Approaches in biomarker testing for cancer
Watch Dr Michelle Sholes share her experiences leading a biomarker testing program and the impact it has had on her practice. She discusses her choices in ovarian testing, data management, and the future of biomarker testing.
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