

**Unlocking Epigenetic Secrets from the Uterus:
Therapeutic Options for Advanced and Recurrent Endometrial Cancer
Tweeterial #3 References**

Tweet 2

Vermij L, Smit V, Nout R, Bosse T. Incorporation of molecular characteristics into endometrial cancer management. *Histopathology*. 2020;76:52-63.

Tweet 3

Castellano T, Moore KN, Holman LL. An overview of immune checkpoint inhibitors in gynecologic cancers. *Clin Ther*. 2018;40:372-388. <https://pubmed.ncbi.nlm.nih.gov/29530456/>

Green AK, Feinberg J, Makker V. A review of immune checkpoint blockade therapy in endometrial cancer. *Am Soc Clin Oncol Euc Book*. 2020;40:1-7. <https://pubmed.ncbi.nlm.nih.gov/32213091/>

Heong V, Ngoi N, Peng Tan DS. Update on immune checkpoint inhibitors in gynecological cancers. *Gynecol Oncol*. 2017;28:e20.

Oaknin A, Tinker AV, Gilbert L, et al. Clinical activity and safety of the anti-programmed death 1 monoclonal antibody dostarlimab for patients with recurrent or advanced mismatch repair-deficient endometrial cancer: a nonrandomized phase 1 clinical trial. *JAMA Oncol*. 2020 Oct 1. [Epub ahead of print] <https://pubmed.ncbi.nlm.nih.gov/33001143/>

The Cancer Genome Atlas Research Network (TCGA). Integrated genomic characterization of endometrial carcinoma. *Nature*. 2013;497:67-73.

Tweet 4

Jones NL, Xiu J, Rocconi RP, Herzog TJ, Winer IS. Immune checkpoint expression, microsatellite instability, and mutational burden: identifying immune biomarker phenotypes in uterine cancer. *Gynecol Oncol*. 2020;156:393-399.

Tweet 5

Green AK, Feinberg J, Makker V. A review of immune checkpoint blockade therapy in endometrial cancer. *Am Soc Clin Oncol Euc Book*. 2020;40:1-7. <https://pubmed.ncbi.nlm.nih.gov/32213091/>

Kasherman L, Ahrari S, Lheureux S. Dostarlimab in the treatment of recurrent or primary advanced endometrial cancer. *Future Oncol*. 2020 Nov 30. [Online ahead of print]

Tweet 6

Antill Y, Kok PS, Stockler MR, et al. Updated results of activity of durvalumab in advanced endometrial cancer (AEC) according to mismatch repair (MMR) status: the phase II PHAEDRA trial (ANZGOG1601). *Ann Oncol*. 2019;30(Suppl 9):LBA12.

Fleming GF, Emens LA, Eder JP, et al. Clinical activity, safety and biomarker results from a phase Ia study of atezolizumab (atezo) in advanced/recurrent endometrial cancer (rEC). *J Clin Oncol*. 2017;35:(Suppl 15):5585.

Hasegawa K, Tamura K, Katsumata N, et al. Efficacy and safety of nivolumab (Nivo) in patients (pts) with advanced or recurrent uterine cervical or corpus cancers. *J Clin Oncol*. 2018;36(Suppl 15):5594.

Konstantinopoulos PA, Luo W, Liu JF, et al. Phase II study of avelumab in patients with mismatch repair deficient and mismatch repair proficient recurrent/persistent endometrial cancer. *J Clin Oncol*. 2019;37:2786-2794.

Marabelle A, Le DT, Ascierto PA, et al. Efficacy of pembrolizumab in patients with noncolorectal high microsatellite instability/mismatch repair-deficient cancer: results from the phase II KEYNOTE-158 study. *J Clin Oncol*. 2020;38:1-10.

Oaknin A, Duska LR, Sullivan RJ, et al. Preliminary safety, efficacy, and pharmacokinetic/pharmacodynamic characterization from GARNET, a phase I/II clinical trial of the anti-PD-1 monoclonal antibody, TSR-042, in patients with recurrent or advanced MSI-H and MSS endometrial cancer. *Gynecol Oncol*. 2019;154(Suppl 1):33.

Tweet 7

Eso Y, Shimizu T, Takeda H, Takai A, Marusawa H, et al. Microsatellite instability and immune checkpoint inhibitors: toward precision medicine against gastrointestinal and hepatobiliary cancers. *J Gastroenterol*. 2020;55:15-26.

Tweet 9

Campos SM, Cohn DE. Treatment of metastatic endometrial cancer. *UpToDate*. Updated November 11, 2020. Accessed December 7, 2020. <https://www.uptodate.com/contents/treatment-of-metastatic-endometrial-cancer>.

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®). Uterine Neoplasms. Version 1.2021—October 20, 2020. Accessed December 7, 2020. https://www.nccn.org/professionals/physician_gls/pdf/uterine.pdf

Tweet 10

Makker V, Taylor MH, Aghajanian, et al. Lenvatinib plus pembrolizumab in patients with advanced endometrial cancer. *J Clin Oncol*. 2020;38:2981-2992.

Tweet 11

Michot JM, Bigenwald C, Champiat S, et al. Immune-related adverse events with immune checkpoint blockade: a comprehensive review. *Eur J Cancer*. 2016;54:139-148.

Tweet 12

Marabelle A, Le DT, Ascierto PA, et al. Efficacy of pembrolizumab in patients with noncolorectal high microsatellite instability/mismatch repair-deficient cancer: results from the phase II KEYNOTE-158 study. *J Clin Oncol*. 2020;38:1-10.

Tweet 13

Business Wire. Improvement in overall survival, progression-free survival and objective response rate versus chemotherapy in patients with advanced . . . first overall survival analysis for Keytruda plus Lenvima combination in a phase 3 study in advanced endometrial cancer. December 16, 2020. <https://www.businesswire.com/news/home/20201216005172/en/KEYTRUDA%C2%AE-pembrolizumab-Plus-LENVIMA%C2%AE-lenvatinib-Combination-Demonstrated-Statistically-Significant-Improvement-in-Overall-Survival-Progression-Free-Survival-and-Objective-Response-Rate-Versus-Chemotherapy-in-Patients-With-Advanced...> Accessed January 19, 2021.

Tweet 14

Makker V, Taylor MH, Aghajanian, et al. Lenvatinib plus pembrolizumab in patients with advanced endometrial cancer. *J Clin Oncol*. 2020;38:2981-2992.

Tweet 15

Colombo N, Barrentina-Ginesta MP, Beale PJ, et al. AtTEnd/ENGOT-en7: a multicenter phase III double-blind randomized controlled trial of atezolizumab in combination with paclitaxel and carboplatin in women with advanced/recurrent endometrial cancer. *J Clin Oncol*. 2019;37(Suppl 15):Abstract TPS5608. https://ascopubs.org/doi/10.1200/JCO.2019.37.15_suppl.TPS5608

Tweet 17

Mirza MR, Coleman RL, Hanker LC, et al. ENGOT-EN6/NSGO-RUBY: a phase III, randomized, double-blind, multicenter study of dostarlimab + carboplatin-paclitaxel versus placebo + carboplatin-paclitaxel in recurrent or primary advanced endometrial cancer (EC). *J Clin Oncol*. 2020;38(Suppl 15):Abstract TPS6107.

Tweet 18

Harter P, Bidzinski M, Colombo N, et al. DUO-E/GOG-3041/ENGOT-en10:a randomized phase III trial of first-line carboplatin (carb) and paclitaxel (pac) in combination with durvalumab (durva), followed by maintenance durva with or without olaparib (ola) in patients (pts) with newly diagnosed (ND) advanced or recurrent endometrial cancer (EC). *J Clin Oncol*. 2020;38(Suppl 15): Abstract TPS6108.

Tweet 19

Marth C, Vulsteke, Rubio Perez MJ, et al. ENGOT-en9/LEAP-001: a phase III study of first-line pembrolizumab plus lenvatinib versus chemotherapy in advanced or recurrent endometrial cancer. *J Clin Oncol*. 2020;38(Suppl 15):Abstract TPS6106.

Tweet 20

ClinicalTrials.gov. Published 2020. Accessed January 22, 2021. <https://clinicaltrials.gov/>

Tweet 21

Brahmer JR, Lacchetti C, Schneider BJ, et al. Management of immune-related adverse events in patients treated with immune checkpoint inhibitor therapy: American Society of Clinical Oncology clinical practice guideline. *J Clin Oncol* 2018;36:714-1768. <https://ascopubs.org/doi/10.1200/jco.2017.77.6385>

Tweet 23

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®). Management of immunotherapy-related toxicities. Version 1.2020—December 16, 2019. Accessed December 7, 2020.

Glossary

AE, adverse event/effect
ASCO, American Society of Clinical Oncology
atezo, atezolizumab
b/c, because
bev, bevacizumab
BID, twice daily
BP, blood pressure
CCC, clear-cell carcinoma
Chemo, chemotherapy
CR, clinical response
CS, corticosteroid
CTLA-4 cytotoxic T-lymphocyte-associated antigen 4
DCR, disease control rate
dMMR, mismatch repair deficient
DOR, duration of response
durva, durvalumab
diff, differentiated
EC, endometrial cancer
Est, estimated
FISH, fluorescence in situ hybridization
gyn/onc, gynecologist/oncologist
HER2, human epidermal growth factor receptor 2
ICI(s), immune checkpoint inhibitor(s)
IHC, immunohistochemical
irAEs, immune-related adverse events
IV, intravenous
laro, larotrectinib
lenva, lenvatinib
LS, Lynch syndrome
MHC, major histocompatibility complex
MOA, mechanism of action
MSI, microsatellite instability
MSI-H, microsatellite instability high
MSS, microsatellite stable
mut/Mb, mutations per megabase
NCCN, National Comprehensive Cancer Network
NGS, next-generation sequencing
nivo, nivolumab
ola, olaparib
ORR, objective or overall response rate
OS, overall survival
PARP, poly(ADP-ribose) polymerase
PBO, placebo
PD-1, programmed death cell protein 1
PD-L1, programmed death cell protein ligand 1
pembro, pembrolizumab
PFS, progression-free survival

Ph, phase
POLE, polymerase ϵ (epsilon)
Pos, positive
PR, partial response
Q3W, every 3 weeks (ie, every 21 days)
QD, once daily
SCNA, somatic copy number aberrations
SD, stable disease
SEC, serous endometrial carcinoma
SOC, standard of care
TAAS, tumor-associated antigens
TCGA, The Cancer Atlas Program
TCR, T-cell receptor
TCS, topical corticosteroids
TILs, tumor-infiltrating lymphocytes
TMB, tumor mutational burden
TME, tumor microenvironment
TRAEs, treatment-related adverse events
Tx, treatment
VEGF, vascular endothelial growth factor
w/, with
w/o, without

Drugs: Generic (Trade) Names

atezolizumab (Tecentriq)
avelumab (Bavencio)
axitinib (Inlyta)
bevacizumab (Avastin)
carboplatin (Paraplatin)
durvalumab (Imfinzi)
larotectinib (Vitrakvi)
lenvatinib (Lenvima)
nivolumab (Opdivo)
Olaparib (Lynparza)
paclitaxel (Taxol)
pembrolizumab (Keytruda)
rucaparib (Rubraca)
talazoparib (Talzenna)