

Saving Hearts and Lives in Advanced Prostate Cancer: Choosing Between ADT Agonists and Antagonists – Tweetorial #2

References

Tweet 3

SEER*Explorer. An interactive website for SEER cancer statistics. Surveillance Research Program, National Cancer Institute. Accessed August 12, 2021. <https://seer.cancer.gov/explorer/>

Tweet 5

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Prostate Cancer (v2.2022). Updated November 30, 2021. Accessed December 21, 2021. https://www.nccn.org/professionals/physician_gls/pdf/prostate.pdf

Tweet 6

Melloni C, Slovin SF, Blemings A, et al. Cardiovascular safety of degarelix versus leuprolide for advanced prostate cancer: the PRONOUNCE trial study design. *JACC CardioOncol*. 2020;2(1):70-81. doi:10.1016/j.jacc.2020.01.004

Tweet 7

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology (NCCN Guidelines®): Prostate Cancer (v2.2022). Updated November 30, 2021. Accessed December 21, 2021. https://www.nccn.org/professionals/physician_gls/pdf/prostate.pdf

Shim M, Bang WJ, Oh CY, Lee YS, Cho JS. Effectiveness of three different luteinizing hormone-releasing hormone agonists in the chemical castration of patients with prostate cancer: goserelin versus triptorelin versus leuprolide. *Investig Clin Urol*. 2019;60(4):244-250. doi:10.4111/icu.2019.60.4.244

Shore ND. Current and future management of locally advanced and metastatic prostate cancer. *Rev Urol*. 2020;22(3):110-123.

Tweet 8

LUPRON DEPOT (leuprolide) [prescribing information]. AbbVie Inc. Approved 1989. Revised March 2019. https://www.accessdata.fda.gov/drugsatfda_docs/label/2019/020517s042,019732s044lbl.pdf

TRELSTAR® (triptorelin) [prescribing information]. Allergan. Approved 2000. Revised December 2018. https://www.accessdata.fda.gov/drugsatfda_docs/label/2018/020715s040,021288s035,022427s015lbl.pdf

ZOLADEX® (goserelin) [prescribing information]. AstraZeneca. Approved 1989. Revised December 2020. https://documents.tersera.com/zoladex-us/3.6mg_MagnumPI.pdf

Tweet 9

Bosco C, Bosnyak Z, Malmberg A, Adolfsson J, Keating NL, Van Hemelrijck M. Quantifying observational evidence for risk of fatal and nonfatal cardiovascular disease following androgen deprivation therapy for prostate cancer: a meta-analysis. *Eur Urol*. 2015;68(3):386-96. doi:10.1016/j.eururo.2014.11.039

Hu JR, Duncan MS, Morgans AK, et al. Cardiovascular effects of androgen deprivation therapy in prostate cancer: contemporary meta-analyses. *Arterioscler Thromb Vasc Biol.* 2020;40(3):e55-e64. doi:10.1161/ATVBAHA.119.313046

Meng F, Zhu S, Zhao J, et al. Stroke related to androgen deprivation therapy for prostate cancer: a meta-analysis and systematic review. *BMC Cancer.* 2016;16(1):180. doi:10.1186/s12885-016-2221-5

Shore ND. Current and future management of locally advanced and metastatic prostate cancer. *Rev Urol.* 2020;22(3):110-123.

Sountoulides P, Rountos T. Adverse effects of androgen deprivation therapy for prostate cancer: prevention and management. *ISRN Urol.* 2013;2013:240108. doi:10.1155/2013/240108

Zhao J, Zhu S, Sun L, et al. Androgen deprivation therapy for prostate cancer is associated with cardiovascular morbidity and mortality: a meta-analysis of population-based observational studies. *PLoS One.* 2014;9(9):e107516. doi:10.1371/journal.pone.0107516

Tweet 10

Shore ND, Saad F, Cookson MS, et al. Oral relugolix for androgen-deprivation therapy in advanced prostate cancer. *N Engl J Med.* 2020;382(23):2187-2196. doi:10.1056/NEJMoa2004325

Tweet 11

Klotz L, Boccon-Gibod L, Shore ND, et al. The efficacy and safety of degarelix: a 12-month, comparative, randomized, open-label, parallel-group phase III study in patients with prostate cancer. *BJU Int.* 2008;102(11):1531-8. doi:10.1111/j.1464-410X.2008.08183.x

Tweet 13

Lopes RD, Higano CS, Slovin SF, et al. Cardiovascular safety of degarelix versus leuprolide in patients with prostate cancer: the primary results of the PRONOUNCE randomized trial. *Circulation.* 2021;144(16):1295-1307. doi:10.1161/CIRCULATIONAHA.121.056810

Melloni C, Slovin SF, Blemings A, et al. Cardiovascular safety of degarelix versus leuprolide for advanced prostate cancer: the PRONOUNCE trial study design. *JACC CardioOncol.* 2020;2(1):70-81. doi:10.1016/j.jaccao.2020.01.004

Tweet 15

Klotz L, Boccon-Gibod L, Shore ND, et al. The efficacy and safety of degarelix: a 12-month, comparative, randomized, open-label, parallel-group phase III study in patients with prostate cancer. *BJU Int.* 2008;102(11):1531-8. doi:10.1111/j.1464-410X.2008.08183.x

Sari Motlagh R, Abufaraj M, Mori K, et al. The efficacy and safety of relugolix compared with degarelix in advanced prostate cancer patients: a network meta-analysis of randomized trials. *Eur Urol Oncol.* 2021;doi:10.1016/j.euo.2021.07.002

Shore ND, Saad F, Cookson MS, et al. Oral relugolix for androgen-deprivation therapy in advanced prostate cancer. *N Engl J Med*. 2020;382(23):2187-2196. doi:10.1056/NEJMoa2004325

Tweet 16

Aggarwal RR, Eggener SE, Chen RC, et al. A phase 3 study of androgen annihilation in high-risk biochemically relapsed prostate cancer: An Alliance Foundation trial (AFT-19). *J Clin Oncol*. 2018;36(15_suppl):TPS5090. doi:10.1200/JCO.2018.36.15_suppl.TPS5090

ClinicalTrials.gov. A study of androgen annihilation in high-risk biochemically relapsed prostate cancer. NCT03009981. Updated May 29, 2019. Accessed August 31, 2021. <https://clinicaltrials.gov/ct2/show/study/NCT03009981>

Tweet 17

Freedland SJ, De Giorgi U, Gleave M, et al. A phase 3 randomised study of enzalutamide plus leuprolide and enzalutamide monotherapy in high-risk non-metastatic hormone-sensitive prostate cancer with rising PSA after local therapy: EMBARK study design. *BMJ Open*. 2021;11(8):e046588. doi:10.1136/bmjopen-2020-046588

ClinicalTrials.gov. Safety and efficacy study of enzalutamide plus leuprolide in patients with nonmetastatic prostate cancer (EMBARK). NCT02319837. Updated April 23, 2021. Accessed August 17, 2021. <https://clinicaltrials.gov/ct2/show/NCT02319837?term=NCT02319837&draw=2&rank=1>

Tweet 18

Fizazi K, Shore N, Tammela TL, et al. Darolutamide in nonmetastatic, castration-resistant prostate cancer. *N Engl J Med*. 2019;380(13):1235-1246. doi:10.1056/NEJMoa1815671

Fizazi K, Tran N, Fein L, et al. Abiraterone plus prednisone in metastatic, castration-sensitive prostate cancer. *N Engl J Med*. 2017;377(4):352-360. doi:10.1056/NEJMoa1704174

Tombal B, Borre M, Rathenborg P, et al. Enzalutamide monotherapy in hormone-naïve prostate cancer: primary analysis of an open-label, single-arm, phase 2 study. *Lancet Oncol*. 2014;15(6):592-600. doi:10.1016/S1470-2045(14)70129-9

Glossary

AAP, abiraterone acetate plus prednisone
AE, adverse event
ADT, androgen deprivation therapy
ALT, alanine aminotransferase
APA, apalutamide
AR, androgen receptor
ASCVD, atherosclerotic cardiovascular disease
AST, aspartate aminotransferase
BCR, biochemical relapse
CI, confidence interval
CV, cardiovascular
CVD, cardiovascular disease
EBRT, external beam radiation therapy
ENZA, enzalutamide
FSH, follicle-stimulating hormone
GI, gastrointestinal
GnRH, gonadotropin-releasing hormone
GnRHa, gonadotropin-releasing hormone analog
HR, hazard ratio
LH, luteinizing hormone
MO, nonmetastatic
MACE, major adverse cardiovascular event
MFS, metastasis-free survival
MI, myocardial infarction
MOA, mechanism of action
NA, not applicable
NCCN, National Comprehensive Cancer Network
nmHSPC, nonmetastatic hormone-sensitive prostate cancer
OS, overall survival
PBO, placebo
PCa, prostate cancer
PFS, progression-free survival
PSA, prostate-specific antigen
PSADT, prostate-specific antigen doubling time
QOL, quality of life
RP, radical prostatectomy
RR, relative risk
RT, radiation therapy
SOC, standard of care
T, testosterone
TTR, time to resistance
UTI, urinary tract infection
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