

Saving Hearts and Lives in Advanced Prostate Cancer: Choosing Between ADT Agonists and Antagonists: Clinical Case 1

References

Abidov A, Chehab O. Cardiovascular risk assessment models: Have we found the perfect solution yet? *J Nucl Cardiol.* 2020;27(6):2375-2385. doi:10.1007/s12350-019-01642-x

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(suppl 15). doi:10.1200/JCO.2018.36.15_suppl.TPS5090

American College of Cardiology. ASCVD risk estimator plus. Accessed November 1, 2021.
<https://tools.acc.org/ascvd-risk-estimator-plus/#!/calculate/estimate>

Boccon-Gibod L, Albers P, Morote J, et al. Degarelix as an intermittent androgen deprivation therapy for one or more treatment cycles in patients with prostate cancer. *Eur Urol.* 2014;66(4):655-663. doi:10.1016/j.eururo.2014.05.037

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):386-396. doi:10.1016/j.eururo.2014.11.039

CASODEX® (bicalutamide) [prescribing information]. AstraZeneca Pharmaceuticals LP. Approved 1995. Revised October 2017. https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/020498s028lbl.pdf

ClinicalTrials.gov. A study of androgen annihilation in high-risk biochemically relapsed prostate cancer. NCT03009981. Updated May 29, 2019. Accessed November 1, 2021.
<https://clinicaltrials.gov/ct2/show/NCT04471727>

Cone EB, Reese S, Marchese M, et al. Cardiovascular toxicities associated with abiraterone compared to enzalutamide-A pharmacovigilance study. *EClinicalMedicine.* 2021;36:100887. doi:10.1016/j.eclinm.2021.100887

Crook JM, O'Callaghan CJ, Duncan G, et al. Intermittent androgen suppression for rising PSA level after radiotherapy. *N Engl J Med.* 2012;367(10):895-903. doi:10.1056/NEJMoa1201546

EULEXIN® (flutamide) [prescribing information]. SCHERING. Approved 1989. Revised July 2001.
https://www.accessdata.fda.gov/drugsatfda_docs/label/2001/18554s23lbl.pdf

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

Iacovelli R, Ciccarese C, Bria E, et al. the cardiovascular toxicity of abiraterone and enzalutamide in prostate cancer. *Clin Genitourin Cancer.* 2018;16(3):e645-e653. doi:10.1016/j.clgc.2017.12.007

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):1531-1538. doi:10.1111/j.1464-410X.2008.08183.x

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

Magnan S, Zarychanski R, Pilote L, et al. Intermittent vs continuous androgen deprivation therapy for prostate cancer: a systematic review and meta-analysis. *JAMA Oncol.* 2015;1(9):1261-1269. doi:10.1001/jamaoncol.2015.2895

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

National Comprehensive Cancer Network (NCCN). NCCN Clinical Practice Guidelines in Oncology: Prostate Cancer (v1.2022). Updated September 10, 2021. Accessed October 1, 2021. https://www.nccn.org/professionals/physician_gls/pdf/prostate.pdf

NILANDRON® (nilutamide) [prescribing information]. CONCORDIA. Approved 1996. Revised May 2017. https://www.accessdata.fda.gov/drugsatfda_docs/label/2017/020169s008lbl.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.

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

Spetsieris N, Boukouvala M, Alafis I, et al. Abiraterone acetate plus prednisone in non-metastatic biochemically recurrent castration-naïve prostate cancer. *Eur J Cancer.* 2021;157:259-267. doi:10.1016/j.ejca.2021.06.017

Sun L, Parikh RB, Hubbard RA, et al. Assessment and management of cardiovascular risk factors among us veterans with prostate cancer. *JAMA Netw Open.* 2021;4(2):e210070. doi:10.1001/jamanetworkopen.2021.0070

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

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

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

ZOLADEX® (goserelin) [prescribing information]. AstraZeneca. Approved 1996. Revised December 2020.
https://documents.tersera.com/zoladex-us/10.8mg_MagnumPI.pdf

Glossary

AAP, abiraterone acetate with prednisone
ABI, abiraterone
ADT, androgen deprivation therapy
AE, adverse event
ALT, alanine aminotransferase
APA, apalutamide
ASCVD, atherosclerotic cardiovascular disease
AST, aspartate transaminase
BCR, biochemical recurrence
BP, blood pressure
CAD, continuous androgen deprivation
CI, confidence interval
CT, computed tomography
CV, cardiovascular
CVD, cardiovascular disease
BMI, body mass index
EBRT, external beam radiation therapy
ENZ, enzalutamide
FSH, follicle stimulating hormone
GnRH, gonadotropin releasing hormone
HDL, high-density lipoprotein
HR, hazard ratio
HTN, hypertension
IAD, intermittent androgen deprivation
M0, nonmetastatic
LDL, low-density lipoprotein
MACE, major adverse cardiovascular events
MFS, metastasis free survival
MI, myocardial infarction
NCCN, National Comprehensive Cancer Network
nmHSPC, nonmetastatic hormone-sensitive prostate cancer
NSAA, nonsteroidal antiandrogen
OS, overall survival
PCP, primary care provider
PFS, progression-free survival
PSA, prostate-specific antigen

PSADT, prostate-specific antigen doubling time

RP, radical prostatectomy

RR, relative risk

RT, radiation therapy

S/p, status post

SC, subcutaneous

SE, standard error

T, testosterone

TTR, time to castration resistance

UTI, urinary tract infection

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