The Association Between Phosphodiesterase Type-5 Inhibitors and Prostate Cancer: Results from the REDUCE Study.


Abstract

**PURPOSE:** Despite the routine use of phosphodiesterase type-5 inhibitors (PDE-5i) for treatment of erectile dysfunction, their role in prostate cancer (PC) chemoprevention remains unclear with only a few studies exploring the link between PDE-5i use and PC. We tested the association between PDE-5i use and PC risk in the REDUCE study.

**MATERIALS & METHODS:** REDUCE was a four-year multi-center study testing the effect of daily dutasteride on PC risk in men with a PSA of 2.5 to 10.0 ng/mL and a negative biopsy, with men undergoing study-mandated biopsies at 2- and 4-years. The association between PDE-5i use and overall PC risk and disease grade (Gleason 2-6 and 7-10) was examined using adjusted logistic and multinomial regression analysis. Secondary analysis was performed exploring the association between PDE-5i use and PC risk in North American men given the significantly higher use of PDE-5i among these subjects.

**RESULTS:** PDE-5i inhibitor use was not associated with PC diagnosis (OR=0.90, 95%CI 0.68-1.20, p=0.476) or low- (OR=0.93, 95%CI 0.67-1.27, p=0.632) or high-grade disease (OR=0.85, 95%CI 0.51-1.39, p=0.508). An inverse trend was seen between PDE-5i use and PC diagnosis in North American men, but was not statistically significant (OR=0.67, 95%CI 0.42-1.07, p=0.091).

**CONCLUSIONS:** PDE-5i use was not associated with decreased PC diagnosis in post-hoc analysis of the REDUCE study. In North American men, who had a much higher baseline use of PDE-5i, use was associated with an inverse trend of PC diagnosis that approached, but did not reach, statistical significance.

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**KEYWORDS:** Prostate cancer; Prostate cancer chemoprevention; REDUCE; phosphodiesterase type-5 inhibitors

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