Androgen deprivation therapy did not increase the risk of Alzheimer's and Parkinson's disease in patients with prostate cancer.

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Abstract

Androgen deprivation therapy (ADT) has been the standard treatment for advanced prostate cancer for many decades. Although potential adverse effects of ADT have been reported, there are no empirical studies investigating the association between ADT and Alzheimer's disease. Therefore, this retrospective cohort study explored the relationship between the use of ADT and the subsequent risk of Alzheimer's disease in men with prostate cancer using a population-based database. We retrieved data from the "Taiwan Longitudinal Health Insurance Database 2000." The study included 1335 patients with prostate cancer and 4005 age-matched comparison patients without prostate malignancy. We then individually tracked each patient (n = 5340) for a 5-year period to discriminate those who subsequently received a diagnosis of Alzheimer's disease. The Cox proportional hazard regression showed that the hazard ratio (HR) for Alzheimer's disease during the 5-year follow-up period for prostate cancer patients was 1.71 (95% confidence interval (CI) = 0.90–3.25) over that of comparison patients. We further analyzed the hazard ratio for Alzheimer's disease and Parkinson's disease between prostate cancer patients who did and those who did not receive ADT, but we failed to observe a significant difference in the hazard ratio for both diseases during the 5-year follow-up period (adjusted HR = 1.76, 95% CI = 0.55–5.62, and HR = 1.13, 95% CI = 0.58–2.20, respectively). In conclusion, this study demonstrated that the use of androgen deprivation therapy in patients with prostate cancer was not associated with a higher risk of Alzheimer's and Parkinson's disease during the follow-up period.

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