

## **Risk of Androgen Deprivation Therapy-Induced Metabolic Syndrome-Related Complications for Prostate Cancer in Taiwan**

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**Abstract :** Androgen Deprivation Therapy (ADT) has been a primary treatment for patients with advanced prostate cancer. However, it is associated with numerous adverse effects related to Metabolic Syndrome (MetS), including hypertension, diabetes, hyperlipidaemia, heart diseases and ischemic strokes. However, complications associated with ADT for prostate cancer in Taiwan is not well documented. The purpose of this study is to utilize the data from NHIRD (National Health Insurance Research Database) to examine the trajectory changes of MetS-related complications in men receiving ADT. The risks of developing complications after the treatment were analyzed with multivariate Cox regression model. Covariates including in the model were the complications before the diagnosis of prostate cancer, the age, and the year at cancer diagnosis. A total number of 17268 patients from 1997-2013 were included in this study. The exclusion criteria were patients with any other types of cancer or with the existing MetS-related complications. Changes in MetS-related complications were observed among two treatment groups: 1) ADT (n=9042), and 2) non-ADT (n=8226). The ADT group appeared to have an increased risk in hypertension (hazard ratio 1.08, 95% confidence interval 1.03-1.13, P = 0.001) and hyperlipidemia (hazard ratio 1.09, 95% confidence interval 1.01-1.17, P = 0.02) when compared with non-ADT group in the multivariate Cox regression analyses. In the risk of diabetes, heart diseases, and ischemic strokes, ADT group appeared to have an increased but not significant hazard ratio. In conclusion, ADT was associated with an increased risk in hypertension and hyperlipidemia in prostate cancer patients in Taiwan. The risk of hypertension and hyperlipidemia should be considered while deciding on ADT, especially those with the known history of hypertension and hyperlipidemia.

**Keywords :** androgen deprivation therapy, ADT, complications, metabolic syndrome, MetS, prostate cancer

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