



Short Communication

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Diabetes and Prostate Disease

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Diabetes continues to maintain its increasing prevalence worldwide and contributes to healthcare costs despite efforts in early diagnosis and providing better medications to reduce its complications [1]. The most common form, type 2 diabetes is heavily associated with obesity. Because of this, latest medications such as Glucagon-Like Peptide 1 Receptor Agonists (GLP-1 RAs) have a growing prescription rate today, both to help patients lose weight and to protect against cardiovascular and renal disease development.

The number of people with a BMI of more than 30 kg/m² has tripled since 1975, and total population of overweight and obese adults is now reaching 2.5 billion [2]. Meanwhile, the threshold for obesity is 25 rather than 30 for the Asian population according to the World Health Organization [3]. Obesity today is well known to accompany certain malignancies, including prostate cancer [2]. Diabetes is mostly associated with obesity which leads to further insulin resistance all around the world.

Many older adults with prostate disease actually have one comorbidity and diabetes is one of them. Not only itself is associated with certain cancer types including prostate –owing to diabetes, a risk factor for their development-, but also cancer itself as well may lead to development of diabetes either the chemotherapeutics being used that might be toxic to pancreas (type 1 diabetes) or lead to insulin resistance (type 2 diabetes) via widely used steroids being either part of the chemo protocols or having their adjuvant effect together with anti-emetic properties.

GLP-1 RAs, Di-Peptidyl Peptidase-4 inhibitors (DPP-4i) and Sodium Glucose Co-Transporter-2 inhibitors (SGLT2i) are the latest anti-diabetic medications. Among them, GLP-1 RAs were found to have lower all-cause mortality, with increased potential to reduce kidney related or thrombotic events compared to DPP-4i in people with prostate cancer and type 2 diabetes [4]. Although GLP-1 RAs were once blamed for cancer generation due to their biological structure [5], a recent literature review showed a significant reduction in overall cancer risk across many cancer types and no significant association with prostate cancer, either [6].

As a comorbid condition, type 2 diabetes needs better glycemic control during active treatment for the prostate cancer. In a study conducted with 22 patients with type 2 diabetes and receiving androgen deprivation therapy for advanced-stage prostate cancer, better outcomes were obtained during the follow up after the application of Diabetes Self-Management Education Services (mDSMES) [7].

The initiation of a 5-alpha-reductase inhibitor together with an alpha-blocker as combination therapy is a common practice and was compared with an alpha-blocker alone in Korean men over the age of forty with benign prostatic hyperplasia among over 150 matched pairs. Combination therapy was associated with a modestly higher risk of incident diabetes, particularly when age was less than sixty-five [8]. Data from over 34,000 Chinese patients and over 11,000 UK patients with prostatic hyperplasia also revealed a higher type 2 diabetes risk with the use of finasteride (5α-reductase inhibitor) monotherapy in the Chinese group, while tamsulosin monotherapy

and combination therapy resulted in a reduced occurrence of type 2 diabetes in both populations [9].

Another interesting prostate disease associated with diabetes is prostatic abscess. An older adult patient with methicillin-sensitive *Staphylococcus aureus* bacteremia presented with a clinical picture of panspinal epidural abscess with discitis and multiple septic infarcts in addition to prostatic involvement, making multidisciplinary management necessary [10].

Conclusion

Clinicians should be cautious while taking care of people with prostatic disease, since diabetes may either be an associated comorbidity or may develop during the course of the disease, which can significantly affect clinical management.

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