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Empagliflozin Induced Bladder Cancer in an Adult Patient With Latent Autoimmune Diabetes

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Sodium glucose cotransporter type 2 (SGLT2) inhibitor is a novel class of antidiabetic agent. The association of SGLT2 inhibitors and incidence of bladder cancer has not been well established due to few numbers of cases and not enough length of exposure. Here we describe a case of bladder cancer developed one year after empagliflozin exposure in a patient with latent autoimmune diabetes. **Case description:** A 51-year-old man presented to our endocrine clinic with a one-year diagnosis of type 2 diabetes mellitus. His glycosylated hemoglobin (HbA1c) was 8% on maximum dose metformin and well adherence to diet. The patient had no significant past medical history and his body mass index was 23.6 kg/m^2. Empagliflozin 25 mg daily was added to his regimen, in addition to sulfonylurea and dipeptidyl peptidase-4 (DPP-4) inhibitor drugs. The patient continued to have persistent hyperglycemia despite medical therapy with HbA1c ranged between 7.5-7.9%. After one year, he presented with fatigue, unintentional 7-kg weight loss and perianal pain. A transrectal ultrasound of the pelvis showed a 10-mm solid lesion in the urinary bladder. He underwent transurethral resection of bladder tumor; pathology showed a low grade papillary urothelial carcinoma with focal areas of high grade. Empagliflozin was discontinued and due to persistent hyperglycemia, further labs were requested. Fasting blood glucose of 265 mg/dl, HA1c of 7.9%, anti-GAD antibody was positive 37.52 u/ml (<10.0), C-peptide of 0.51 ng/ml (0.37-1.47), insulin of 2.0 mu/ml (2.6-24.9). These findings suggested latent autoimmune diabetes with mild pancreatic reserve. Patient was then started on insulin therapy of Glargine and Aspart. **Conclusion:** The use of SGLT2 inhibitors in patients with autoimmune diabetes may have a higher risk of bladder cancer as compared to patients with type 2 diabetes. An individualized selection of antidiabetic agent with consideration of proper diagnosis is recommended to prevent a serious consequence.

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