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A systematic review of dapagliflozin treatment for patients with type 2 diabetes mellitus

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New class of drugs for treatment type 2 diabetes mellitus (T2DM) are sodium-glucose cotransporter 2 (SGLT2) inhibitors. These drug are an antihyperglycaemic agents with an insulin-independent mode of action. One of the SGLT2 inhibitors class that used in Ukraine for treatment patients with T2DM is a Dapagliflozin. We try to summarize current evidence from different clinical trials that assess the clinical efficacy and safety of dapagliflozin.

Materials and methods: We search medline, that used patients with T2DM. Clinical development program included 3 clinical trials evaluating safety and efficacy. All patients used dapagliflozin in dosage 2.5-10 mg daily, during 6 weeks. We investigated effectiveness of dapagliflozin to reduction of haemoglobin A1c (HbA1c), body weight reductions, prevention of hypoglycaemia.

Results: In all studies we noticed that using dapagliflozin 10 mg for 12 weeks was equally effective in reducing HbA1c compare with metformin (-1.00% ; 95% CI -2.04 to 0.04). In one studies was determined that in patients treated with dapagliflozin, was associated with a significant weight loss of -5.07 kg (95% CI -6.21 to -3.93) Based on results from 3 studies, was determined that dapagliflozin don't increase incidence of hypoglycaemia compared with other antidiabetic agents (9; 95% CI 0.18 to 1.39). Genital mycotic infection and urinary tract infection where the most common side effects.

Conclusion: Dapagloflozin can be used in patients with T2DM. Except effectiveness in reduction of level of HbA1C it provides additional clinical benefits including body weight loss and reduction of blood pressure. Using dapagliflozin does not increase risk for hypoglycaemia. but is associated with increased incidence of mild to moderate urinary and genital tract infections.