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Effect of SGLT-2 inhibitor, dapagliflozin, on glycemic variability in patients with reduced left ventricular ejection fraction without diabetes.

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Background and objectives. Recently, SGLT-2 inhibitors have been recommended for the treatment of heart failure (HF) patients with reduced left ventricular ejection fraction (LVEF) regardless of the presence of diabetes mellitus. We investigated the effect of SGLT-2 inhibitor, dapagliflozin, on glycemic variability in patients with reduced LVEF without diabetes.

Methods. We examined 23 patients with HF with reduced LVEF without diabetes mellitus. Glycemic variability was assessed using the MiniMed iPro2 continuous glucose monitoring system (Medtronic, USA). Based on the data obtained, the mean glycemic value, time within the range (TIR) and time below the range (TBR) were calculated. The percentage of patients without glycemic disorders and patients with prediabetes was 53.8% and 46.2%, respectively. The average LVEF was 30.1%.

Results. Two groups of patients were selected: the first - with prediabetes, the second - with normoglycemia. Comparing TIR and TBR in the first group, we found that patients were in the glycemic range of 3.9-10 mmol/L 95.66% of the time, and 4.34% of the time - in the range < 3.9 mmol/L. In the second group of patients, 95.57% of the time, glycemia was in the range of 3.9-10 mmol/L, and 4.43% of the time - in the range of < 3.9 mmol/L. We obtained the same safety of dapagliflozin for both groups, as the TBR was below 5%.

Conclusion. The use of the SGLT-2 inhibitor dapagliflozin in the treatment of patients with HF with reduced LVEF without diabetes mellitus is safe and effective.

Keywords: heart failure with reduced left ventricular ejection fraction, glycemic variability, normoglycemia

Conflict of Interest: The authors declare that they have no conflict of interest.