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SGLT2 Inhibition Ameliorates Cognitive And Physical Impairment In Patients With HFpEF And Diabetes

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Aim: The aim of this study was to assess whether the inhibitor of sodium-glucose cotransporter-2 (SGLT2) empagliflozin improves cognitive impairment in frail older adults with diabetes mellitus (DM) and Heart Failure with Preserved Ejection Fraction (HFpEF).

Methods: We designed a prospective study to assess cognitive and physical function in consecutive frail older adults with DM and HFpEF, comparing the effects of empagliflozin, metformin, and insulin.

Results: A total of 162 frail elders with HFpEF and DM successfully completed the study. The Montreal Cognitive Assessment (MoCA) score was measured at baseline and after 1-month: 19.80±3.77 vs. 22.25±3.27 (p<0.001) in the empagliflozin group; 19.95±3.81 vs. 20.71±3.56 (p: 0.26) in the metformin group; 19.00±3.71 vs. 19.1±3.56 (p: 0.81) in the insulin group. A multivariate regression analysis confirmed the beneficial effects of empagliflozin. Additionally, we observed a marked amelioration of physical impairment, assessed by the 5-meter gait speed test, in the empagliflozin and in the metformin arms, but not in patients receiving insulin.

Conclusions: To the best of our knowledge, this is the first study to show significant beneficial effects of empagliflozin treatment on cognitive and physical impairment in frail subjects with HFpEF and DM.

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