

Outcome of Naive SGLT2 Inhibitors Among ICU Admitted Acute Stroke with T2DM Patients a Prospective Cohort Study in NCMultispecialty Hospital, Biratnagar, Nepal

Authors : Birendra Kumar Bista, Rhitik Bista, Prafulla Koirala, Lokendra Mandal, Nikrsh Raj Shrestha, Vivek Kattel

Abstract : Introduction: Poorly controlled diabetes is associated with cause and poor outcome of stroke. High blood sugar reduces cerebral blood flow, increases intracranial pressure, cerebral edema and neuronal death, especially among patients with poorly controlled diabetes.¹ SGLT2 inhibitors are associated with 50% reduction in hemorrhagic stroke compared with placebo. SGLT2 inhibitors decrease cardiovascular events via reducing glucose, blood pressure, weight, arteriosclerosis, albuminuria and reduction of atrial fibrillation.^{2,3} No study has been documented in low income countries to see the role of post stroke SGLT2 inhibitors on diabetic patients at and after ICU admission. Aims: The aim of the study was to measure the 12 months outcome of diabetic patients with acute stroke admitted in ICU set up with naïve SGLT2 inhibitors add on therapy. Method: It was prospective cohort study carried out in a 250 bedded tertiary neurology care hospital at the province capital Biratnagar Nepal. Diabetic patient with acute stroke admitted in ICU from 1st January 2022 to 31st December 2022 who were not under SGLT2 inhibitors were included in the study. These patients were managed as per hospital protocol. Empagliflozin was added to the alternate enrolled patients. Empagliflozin was continued at the time of discharged and during follow up unless contraindicated. These patients were followed up for 12 months. Outcome measured were mortality, morbidity requiring readmission or hospital visit other than regular follow up, SGLT2 inhibitors related adverse events, neuropsychiatry comorbidity, functional status and biochemical parameters. Ethical permission was taken from hospital administration and ethical board. Results: Among 147 diabetic cases 68 were not treated with empagliflozin whereas 67 cases were started the SGLT2 inhibitors. HbA1c level and one year mortality was significantly low among patients on empagliflozin arm. Over a period of 12 months 427 acute stroke patients were admitted in the ICU. Out of them 44% were female, 61% hypertensive, 34% diabetic, 57% dyslipidemia, 26% smoker and with median age of 45 years. Among 427 cases 4% required neurosurgical interventions and 76% had hemorrhagic CVA. The most common reason for ICU admission was GCS<8 (51%). The median ICU stay was 5 days. ICU mortality was 21% whereas 1 year mortality was 41% with most common reason being pneumonia. Empagliflozin related adverse effect was seen in 11% most commonly lower urinary tract infection in 6%. Conclusion: Empagliflozin can safely be started among acute stroke with better HbA1C control and low mortality outcome compared to treatment without SGLT2 inhibitor.

Keywords : diabetes, ICU, mortality, SGLT2 inhibitors, stroke

Conference Title : ICE 2024 : International Conference on Endocrinology

Conference Location : New York, United States

Conference Dates : April 22-23, 2024