

## **Abstract**

**Aims:** SGLT2 inhibitors provide cardiovascular and renal protection in people with type 2 diabetes (T2DM). Real-world data on their effect on improving glucose and cardiovascular risk factors, and adverse effects in South Asians are limited.

**Methods:** We retrospectively analyzed clinical, demographic, anthropometric and biochemical data among adults with T2DM, commenced on empagliflozin and followed up for at least one month in a diabetes clinic in Colombo.

**Results:** Among 1523 participants (men 49.6 %, age 54.9 ( $\pm$  10.8) years, diabetes duration 11.5 ( $\pm$  7.6) years, body mass index 28.2 ( $\pm$  4.5 kg/m<sup>2</sup>), over a median follow up of 12 months (range: 1-24 months), reduction in HbA1c, weight, systolic blood pressure (SBP) and urine albumin-creatinine ratio were evident within the first month. Benefits sustained up to two-years (mean changes from baseline: HbA1c - 0.31 ( $\pm$  1.49), weight - 1.14 ( $\pm$  4.17), SBP - 3.44 ( $\pm$  21.75), UACR - 19.84 ( $\pm$  108.22) follow up. eGFR declined by the third month, returned to baseline by 12th and remained stable over 24 months. Higher baseline HbA1c, weight and SBP predicted greater decline in HbA1c, weight and SBP respectively. Weight reduction independently predicted the SBP reduction. Eighteen participants per 100 patient-years discontinued therapy due to adverse effects: genital mycotic infections and features of hypovolaemia were the commonest. We observed only two events of diabetic ketoacidosis.

**Conclusions:** Empagliflozin effectively improves glucose, weight and SBP and retards progression of renal impairment in South Asians with T2D. Genital mycotic infections and hypovolaemia were the commonest reasons for discontinuation. Careful patient selection and advice can avoid other sinister complications.