Sodium-glucose linked transporter 2 (SGLT2) inhibitors are a new family of antidiabetic pharmaceutical agents whose action is based on the inhibition of the glucose reabsorption pathway, resulting in glucosuria and a consequent reduction of the blood glucose levels, in patients with type 2 diabetes mellitus (T2DM).

Apart from lowering both fasting and postprandial blood glucose levels, without causing hypoglycemia, SGLT2 inhibitors have also shown a reduction in body weight and the systolic blood pressure.

This review paper explores the renal involvement in glucose homeostasis providing also the latest safety and efficacy data for the European Medicines Agency (EMA) and U.S. Food and Drug Administration (FDA) approved SGLT2 inhibitors, looking finally, into the future of this novel antidiabetic category of pharmaceutical agents.

Both dapagliflozin and canagliflozin are considered safe drugs, which will find their position in the numerous choices a physician has in order to deal with hyperglycemia.

Obese patients with T2DM and normal kidney function may have the greatest benefit.

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