Proceedings
International Journal of Nanomaterials, Nanotechnology and Nanomedicine

Special Issue: NCNN-2014
(National Conference on Nanoscience and Nanotechnology - 2014)

Canagliflozin: A Potential Glucose Co-Transporter 2 Inhibitor for the Treatment of Type 2 Diabetes

Jyoti Chauhan, Himanshi Dilliwar, Ajazuddin, Amit Alexander, D. K. Tripathi

Rungta College of Pharmaceutical Sciences and Research, Bhilai, Chhattisgarh, E-mail: jyotichauhan2504@gmail.com

www.peertechz.com

Type 2 diabetes mellitus (T2DM) is a prevalent metabolic disorder, which affects more than 300 million people globally. As hyperglycemia defines diabetes, glycemic control is fundamental to the management of diabetes. Sodium glucose co-transporter 2 inhibitors (SGLT2) are a new group of oral antidiabetic medications that act by blocking the reabsorption of glucose, causing it to be excreted in the urine. Canagliflozin was the first SGLT2 inhibitor to be approved in the US by the Food and Drug Administration for the treatment and control of T2DM and on September 19, 2013, the Committee for Medicinal Products for Human Use of the European Medicines Agency adopted a positive opinion, recommending the granting of a marketing authorization for the medicinal product Invokana(®). Canagliflozin is a SGLT2 inhibitor, which acts upon the proximal tubules of the kidneys and reduces the renal threshold for glucose. It is highly selective, binding 250 times more potently to SGLT2 than sodium glucose co-transporter 1 inhibitor. Among the most common adverse events are hypoglycemia, headache, nausea, female genital and urinary tract infections, nasopharyngitis, and transient postural dizziness. Given its high efficacy in reducing hyperglycemia and good safety profile as either monotherapy or an add-on treatment to metformin, sulfonylureas, or insulin, canagliflozin seems to be a promising antihyperglycemic drug. Nevertheless, further large-scale and long-term studies should be conducted to evaluate the impact of canagliflozin on cardiovascular risk in T2DM patients.

Citation: *Chauhan J, Dilliwar H, Ajazuddin, Alexander A, Tripathi DK (2015) Canagliflozin: A Potential Glucose Co-Transporter 2 Inhibitor for the Treatment of Type 2 Diabetes. Int J Nanomater Nanotechnol Nanomed S: 122.*