

# A comprehensive review of Sotagliflozin: Clinical trials unveiled.

Lucas Denco\*

Department of Pharmacy, University Hospital of A Coruña, A Coruña, Spain

**Received date:** 25 September, 2023, Manuscript No. AJPTI-23-120211; **Editor assigned date:** 28 September, 2023, Pre QC No. AJPTI-23-120211 (PQ); **Reviewed date:** 12 October, 2023, QC No. AJPTI-23-120211; **Revised date:** 19 October, 2023, Manuscript No. AJPTI-23-120211 (R); **Published date:** 26 October, 2023.

Accepted on 25<sup>th</sup> October, 2023

## Description

Sotagliflozin, a dual Sodium-Glucose Co-Transporter 1 and 2 (SGLT1/2) inhibitor, has emerged as a promising therapeutic agent for the management of various metabolic disorders, particularly type 2 diabetes mellitus. The clinical trials are conducted to assess the safety, efficacy, and potential applications of sotagliflozin in diverse patient populations.

Sotagliflozin represents a novel class of antidiabetic agents that target both SGLT1 and SGLT2, playing a unique role in modulating glucose and sodium reabsorption in the gastrointestinal tract and kidneys. The rationale behind this dual inhibition is to achieve improved glycemic control with additional benefits such as weight loss and reduced blood pressure. The following sections present an overview of key clinical trials investigating the utility of sotagliflozin in different patient cohorts.

Several Phase II and III clinical trials have focused on evaluating the efficacy and safety of the sotagliflozin in patients with Type 2 Diabetes Mellitus (T2DM). These trials typically involve assessing glycemic control, changes in body weight, and cardiovascular outcomes. Notable studies include the inTandem program, which demonstrated significant reductions in HbA1c levels and body weight when sotagliflozin was added to existing antidiabetic regimens.

The importance of cardiovascular safety in antidiabetic agents has led dedicated Cardiovascular Outcomes Trials (CVOTs). Sotagliflozin has undergone scrutiny in trials such as SCORED and SOLOIST-WHF, where its impact on major adverse cardiovascular events, heart failure, and renal outcomes was assessed. Encouragingly, these trials demonstrated favorable cardiovascular safety profiles and indicated potential benefits in reducing heart failure-related events.

Given the close association between diabetes and renal complications, sotagliflozin has been investigated for its renal protective effects. The SOLOIST-WHF trial, in addition to cardiovascular outcomes, specifically focused on the impact of sotagliflozin in patients with diabetes and worsening heart failure. The results suggested a potential for reducing the risk of worsening renal function, highlighting the drug's multifaceted benefits.

Unlike many SGLT2 inhibitors, sotagliflozin has also been evaluated in patients with Type 1 Diabetes Mellitus (T1DM). The

inTandem program included trials assessing the efficacy and safety of sotagliflozin as an adjunct to insulin therapy in T1DM. These trials demonstrated improvements in glycemic control, reduction in insulin dose requirements, and a lower frequency of severe hypoglycemic events.

The dual inhibition of SGLT1 in the gastrointestinal tract raises questions about potential gastrointestinal side effects. Clinical trials have investigated the tolerability of sotagliflozin, focusing on adverse events such as diarrhea. While some studies reported higher rates of gastrointestinal events, they were generally manageable, and the benefits in terms of glycemic control and weight loss often outweighed the observed side effects.

The evolving landscape of sotagliflozin research suggests promising avenues for its use in diabetes management. Ongoing and future trials will likely explore its applications in broader patient populations, potentially extending to individuals with heart failure, chronic kidney disease, and other metabolic disorders. The unique dual inhibition mechanism of sotagliflozin sets it apart in the realm of antidiabetic medications, providing clinicians with a valuable tool for personalized diabetes management.

## Conclusion

In conclusion, the clinical trials on sotagliflozin underscore its potential as a transformative agent in the management of diabetes and related cardiovascular and renal complications. The comprehensive review presented here highlights the diverse applications of sotagliflozin, from its role in glycemic control in T2DM to its cardiovascular benefits and potential in T1DM. As the pharmaceutical landscape continues to evolve, sotagliflozin stands at the forefront of innovation, offering a multifaceted approach to address the complex interplay of metabolic factors in various patient populations.

## \*Correspondence to:

Lucas Denco,  
Department of Pharmacy,  
University Hospital of A Coruña,  
A Coruña,  
Spain,  
E-mail: dencolucas293@uhac.es