24-Week Efficacy and Safety of Sotagliflozin, a Dual SGLT1 and SGLT2 Inhibitor, as Adjunct Therapy to Insulin in Type 1 Diabetes (inTandem2, NCT02421510)

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Introduction

Background

There is a large current market need for an insulin-adjuvant to insulin therapy and a large unmet medical need. Dual SGLT1 and SGLT2 inhibition (compared to selective SGLT2 inhibition) with renal glucose excretion, is more likely to achieve a lower postprandial glucose response.

Clinical Sites by Country

Trial Design

Baseline Characteristics

Efficacy Results

Safety Results

Change from Baseline in A1C at Week 24

Net Benefit

Components of Net Benefit

Discussion and Conclusions

Discussion

Despite advances in insulin, insulin delivery, and blood glucose monitoring, there is a large unmet need for the achievement of glycemic goals or an acceptable medication profile. Similarly, there is an emerging need to lower the glycemia levels of patients who have multiple organ complications and/or require insulin for glycemic control.

Conclusion

In patients with T1D treated with optimized insulin therapy, the addition of sotagliflozin as an adjunct to insulin demonstrated the following:

- ≥ 28 percentage point achieving the net benefit endpoint with A1C <7.0% and no DKA and no SH compared to placebo (p <0.001).
- Low level of adverse hypoglycemia.
- Less than expected baseline in T1D mortality rate (hazard ratio = 1.4).
- No clinical difference between placebo and sotagliflozin in the proportion of patients achieving the net benefit endpoint (A1C <7.0%).

Components of Net Benefit

- Improvement in A1C.
- Reduction in DKA and SH.

A1C: %; DKA: diabetic ketoacidosis; SH: severe hypoglycemia; LS = least squares.

References

7. Danner TH, et al. The inTandem2 clinical study is the second of 2 pivotal Phase 3 trials in the sotagliflozin T1D program. This study consists of a double-blind, randomized, placebo-controlled treatment of glycemic control in patients with T1D, by reducing the diabetes management burden.

To evaluate the benefit minus the risk of adjunct to insulin therapy of sotagliflozin in the treatment of T1D, a non-clinical ‘net benefit’ endpoint was developed to evaluate the benefit (proportion achieving A1C <7.0%) minus the most serious risk of too much insulin (severe hypoglycemia plus serious hypoglycemia and diabetic ketoacidosis).

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