

# Efficacy and Safety of Insulin Icodec Versus Glargine U100- A meta-analysis of randomized controlled trials

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**Background:** Insulin Icodec is a once-weekly basal ultra-long-acting insulin that is currently in development.

**Methods:** We conducted a meta-analysis of randomized controlled trials that investigated the efficacy and safety of insulin icodec compared to glargine U100. From each clinical trial, we collected the number of patients who received icodec insulin and glargine U100. The primary outcome was change in hemoglobin A1C (HBA1C) from baseline. Secondary outcomes included percent of time in range (TIR) of blood glucose (3.9-10.0 mmol/L or 70-180 mg/dL) measured via continuous glucose monitoring during weeks 15 and 16 as well as occurrence of hypoglycemic episodes during treatment. The random-effects model was used to calculate the risk ratios (RR), mean differences (MD), and confidence intervals (CI). A p-value <0.05 was considered statistically significant.

**Results:** Three randomized controlled trials involving 552 patients with type 2 diabetes were included in the meta-analysis. The difference in change in HBA1C between the icodec and glargine U100 groups was not statistically significant (Standard difference in means: -0.068, 95% CI: -0.388, 0.253, P-value=0.679, I<sup>2</sup>=67%). Furthermore, TIR percentage was comparable between the two groups (RR: 1.04, 95% CI: 0.898, 1.206; P-value=0.593, I<sup>2</sup>=0%). However, treatment with icodec was associated with lower risk of combined level 2 (< 3 mmol/L or < 54 mg/dL) and 3 (severe) hypoglycemia (RR: 0.69, 95% CI: 0.674, 0.713; P-value <0.05, I<sup>2</sup>=99.9%)

**Conclusion:** Our meta-analysis demonstrated that in comparison to once daily insulin glargine U100, once weekly treatment with insulin icodec had similar glucose lowering efficacy but a better safety profile.