

OP_A003

COMPARISON OF TITRATION ALGORITHMS IN INSULIN-NAÏVE PATIENTS WITH TYPE 2 DIABETES MELLITUS INITIATED WITH BASAL INSULIN NPH

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INTRODUCTION

Insulin is one of the most widely used injectable diabetic medications especially in patients with long-standing T2DM. Various patient-led basal insulin titration regimens have been shown to be effective and safe to be carried out in an outpatient setting. We designed this prospective randomized study to compare the difference in the patient-led basal NPH insulin titration method (daily titration versus every 3-day titration) in reducing HbA1c among patients with T2DM.

METHODOLOGY

In this prospective interventional study, insulin naïve patients were randomized to either a daily basal NPH insulin titration by 1 unit per day or every 3-day basal NPH insulin titration by 2 units to achieve the fasting CBG of <7 mmol/L. All patients were followed up for 12 weeks and the difference in the HbA1c after 12 weeks were recorded together with other secondary parameters such as hypoglycaemia, duration to achieve fasting CBG target, weight, BMI and patient satisfaction.

RESULT

Daily and every 3-day basal NPH insulin titration method managed to reduce median HbA1c from 10.2 (9.3-12.1)% to 8.0 (6.7-8.8)% and 10.5 (9.6-13.0)% to 7.7 (7.2-8.4)% respectively within the 12 week period. In the daily titration group, 100% (n=33/33) of patients achieved fasting CBG <7 mmol/L while in the every 3-day titration group, 93.5% (n= 29/31) of the patients achieved the target. The daily titration group needed a median of 5 days to achieve a CBG <7 mmol/L as compared with every 3-day titration group of a median of 11 days ($p= 0.009$). There was an equal number of patients who experienced hypoglycaemia in both groups.

CONCLUSION

Patient-led titration of NPH Insulatard® basal insulin could be done effectively and safely in insulin-naïve patients with T2DM. Daily titration of 1 unit per day is as safe as the every 3-day titration technique and is able to achieve target fasting blood sugar faster.