THE EFFECT OF HIGH CONCENTRATION INSULIN GLARGINE TO THE QUALITY OF LIFE OF THE PATIENTS WITH TYPE 2 DIABETES MELLITUS: A PRE-POST STUDY (HIGH-QOL STUDY)

T. Murata1, A Tone2, R. Koyama3, K. Kamiuchi4, K. Narasaki5, S. Sawaki6,7,8, T. Watanabe1, K. Kato9, H. Sawaki9, S. Kawashima9, K. Osawa10, M. Tsuruo11, T. Toyoda11, M. Kimura12,13, M. Toyoda11,12, N. Sakane13, for the HIGH-QOL study group

• We compared the pain accompanying subcutaneous injection of high concentration (300 units/ml) insulin glargine (U300G) to conventional (100 units/ml) insulin glargine (U100G).

• One hundred and eight patients with type 2 diabetes mellitus using U100G were recruited, and U100G was switched to U300G basically at the same dosage.

• Significant improvement in pain score (-41.5±28.0, \( P = 0.01 \)\*) , ease of use score (-37.5±32.2, \( P = 0.01 \)*), force needed to inject score (-46.5±28.6, \( P = 0.01 \)\*) , and preference of U300G to U100G score (-45.8±33.1, \( P = 0.01 \)\*) was observed after the switching from U100G to U300G (* \( P < 0.05 \) ).

ABSTRACT

One hundred and eight patients with type 2 diabetes mellitus using U100G were recruited. U100G was switched to U300G basically at the same dosage. SoloStar pens (Sanofi K. K., Tokyo, Japan) and Nanopass 34G needles (Terumo Corporation, Tokyo, Japan) were used. A 150mm visual analog scale was used for the assessment of the quality of life. (UMIN-CTR: UMIN000023842)

METHODS

Subjects were aged 65±12.6 years (diabetes duration 19.0±10.5 years), male 52.8\%, with body mass index 25.9±4.6 kg/m\(^2\) and HbA1c 7.8±1.1\%. The number of patients who used insulin glargine at <10 units, ≥10 units and <20 units, ≥20 units and <30 units, and ≥30 units was 47, 34, 14 and 13, respectively. Significant improvement in pain score (-41.5±28.0, \( P = 0.01 \)\*) (Figure 1), ease of use score (-37.5±32.2, \( P = 0.01 \)*), force needed to inject score (-46.5±28.6, \( P = 0.01 \)\*) (Figure 3), and preference of U300G to U100G score (-45.8±33.1, \( P = 0.01 \)\*) (Figure 4) was observed after the switching from U100G to U300G. The pain score significantly improved in ≥10 units compared to <10 units (-48.1±25.0 vs. -33.0±29.7, \( P = 0.01 \)\*) , as well as in ≥20 units compared to <20 units (-50.8±22.7 vs. -38.4±29.1, \( P = 0.03 \)*), but did not reach statistical significance in ≥30 units compared to <30 units (-50.3±24.0 vs. -40.4±28.5, \( P = 0.25 \) ) (* \( P < 0.05 \) ).

RESULTS

Switching from U100G to U300G reduced pain accompanying injection.

CONCLUSIONS

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