726-P: Glucose Control Using Fast-Acting Insulin Aspart in a Real-World Setting: A One-Year Multicenter Study in People with Type 1 Diabetes Using Continuous Glucose Monitoring

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Objective: Data on switching from traditional mealtime insulin analogs to fast-acting insulin aspart (Fiasp) in routine clinical practice are sparse. The aim was to evaluate the efficacy and safety of this switch in a “real-world” clinical practice setting in adult people with type 1 diabetes (PWD1) who were using intermittent or real-time continuous glucose monitoring (iCGM or rtCGM) in Belgium.

Research Design and Methods: Data from 438 adult PWD1 (60% men, age 44.6 ± 16.1 y, duration of diabetes 21.5 ± 14.0 y, iCGM/rtCGM: 391/47, multiple daily injections/pump: 409/29), who initiated Fiasp between January 2018 and May 2020 were retrospectively analyzed. The primary endpoint was the evolution of time in range (TIR, 70-180 mg/dl) at 6 (n=416) and 12 months (n=380). Secondary endpoints included change in HbA1c, BMI, insulin doses, time below range ($T < 70$ and $T < 54$ mg/dl) and time above range ($T > 180$ and $T > 250$ mg/dl).

Results: TIR improved from $50.3 \pm 15.6\%$ to $54.3 \pm 15.1\%$ at 6 months and $55.5 \pm 15.2\%$ at 12 months ($p < 0.0001$), corresponding to an increase of 75 minutes/day at 12 months. $T < 70$ mg/dl evolved from $7.4 \pm 5.5\%$ to $7.6 \pm 5.8\%$ and to $6.8 \pm 5.5\%$ ($p = 0.037$), and $T < 54$ mg/dl evolved from $3.1 \pm 3.3\%$ to $3.1 \pm 3.7\%$ and $2.5 \pm 3.0\%$ ($p = 0.003$) at 6 and 12 months, respectively. Also, $T > 180$ mg/dl decreased from $42.3 \pm 16.7\%$ to $38.1 \pm 16.5\%$ and to $37.7 \pm 16.9\%$ ($p < 0.0001$), and $T > 250$ mg/dl evolved from $16.5 \pm 12.8\%$ to $13.8 \pm 11.8\%$ and to $13.1 \pm 12.5\%$ ($p < 0.0001$) at 6 and 12 months. At 12 months HbA1c (from $7.8 \pm 1.1\%$ to $7.7 \pm 1.0\%$), insulin doses (0.66 ± 0.24 to 0.62 ± 0.21 units/kg body weight/day and ratio bolus/basal from 1.28 to 1.30) and BMI (from 25.8 ± 4.0 to 26.2 ± 4.1 kg/m²) did not change significantly.

Conclusions: In a Belgian real-world setting of adult PWD1, switching to Fiasp resulted in a 5% increased TIR, corresponding to 75 min/day, in combination with less time spent below and above range.

Disclosure

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