Reduced rate of hospitalizations for acute diabetes events after FreeStyle Libre® system initiation in people with type 2 diabetes on insulin-secretagogue oral drug therapy in France

Bruno Guerci[1], Fleur Levrat-Guillen[2], Bruno Detournay[3], Eric Vicaut[4], Gérard De Pouvourville[5] Corinne Emery[3], Jean-Pierre Riveline[6,7]

[1]Department of Endocrinology, Diabetology, and Nutrition, Brabois Adult Hospital, and University of Lorraine Vandoeuvre-lès-Nancy, France, [2]Abbott Laboratories, Maidenhead, UK, [3]CEMKA, Bourg-la-Reine, France, [4]Clinical Research Unit, Fernand Vidal Hospital, Paris, France, [5]Department of Economics, ESSEC Business School, Cergy-Pontoise, France, [6]Department of Endocrinology and Diabetology, Lariboisière Hospital, Paris, France, [7]Institut Necker Enfants Malades, INSERM U1151, CNRS UMR 8253, IMMEDIAB Laboratory, Paris, France

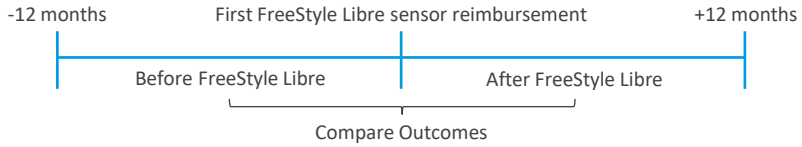
Subgroup analysis of the RELIEF study

PURPOSE

- The RELIEF study previously showed that use of the FreeStyle Libre system (FSL) was associated with a significant reduction in hospitalization for acute diabetes events (ADEs) in France 12 and 24 months after initiation for people with T1DM or T2DM[1,2]
- Treatment of people with T2DM with oral insulin-secretagogues (i.e. sulphonylurea or glinides) may increase the risk of hypoglycemia[3], and DKA episodes may also occur in this population treated with these drugs.[4]
- The aim of this exploratory subgroup analysis of the RELIEF outcomes was to evaluate the impact of using FSL for people with non-insulin treated T2DM in France who are managed with oral insulin-secretagogues (i.e. sulphonylurea/glinide) .

METHODS

- French exhaustive nationwide reimbursement claim database "SNDS database" representing more than 66 millions persons
- Longitudinal retrospective cohort study
- Study design: Before/After FSL (1 year before / 1 year after)
- Index date: first reimbursement of FreeStyle Libre sensor



POPULATION

- Adults ≥18 years with T2DM on insulin-secretagogue oral drug therapy without insulin for 12 months before and 12 months after FSL initiation

OUTCOMES

Hospitalizations for ADEs identified using ICD-10 codes for:

- DKA events, hyperglycemia-related admissions, hypoglycemic events, and comas.

Study /outcome collection period:

- August 1st 2017 – December 31st 2019

RESULTS

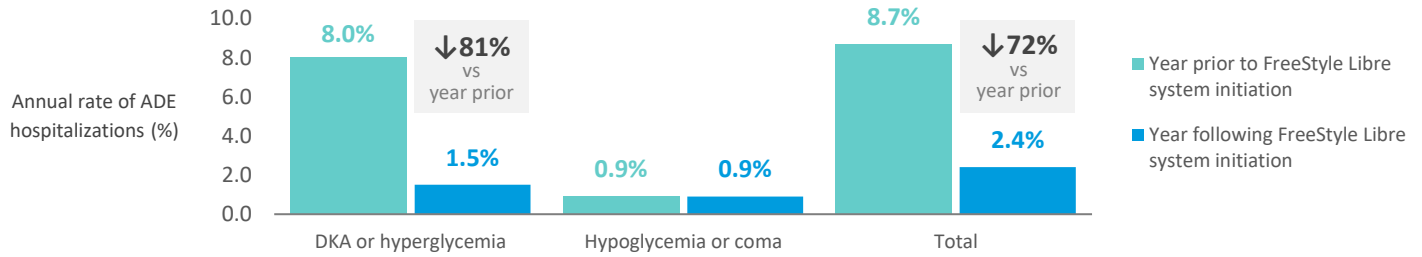
Population

- Inclusion period: Aug. 1st 2017 – Dec. 31st 2018
- 4,962 people with T2DM on oral insulin-secretagogue drugs initiated FSL during inclusion period and had 1 year follow-up

Hospitalizations for ADE (Fig. 1)

- 8.7% had ≥1 hospitalization for any ADE in the year before FSL initiation, versus 2.4% in 12 months after FSL initiation, a reduction of 72%.
- Reduction driven by -81% fewer admissions for DKA or hyperglycemia.

Fig.1 Adults with T2DM treated with oral insulin-secretagogue drugs with at ≥1 hospital admission for ADEs (n=4,962)



STRENGTHS OF ANALYSIS

- The SNDS is a comprehensive and representative database covering the entire French population.

LIMITATIONS OF ANALYSIS

- No control group
- Diabetes education during FSL initiation may have affected self-care behaviour in a way that affected the frequency of ADEs
- Lack of clinical or biological data, such as HbA1c measurements.

SUMMARY – CONCLUSIONS

- This subgroup analysis of the RELIEF study suggests that use of the FSL is associated with reduced hospital admissions for ADEs in people with T2DM treated with oral insulin-secretagogue drugs without insulin.
- Results suggest FSL may help support treatment optimization and reduce treatment inertia

REFERENCES

ADE = acute diabetes event; DKA = diabetic ketoacidosis; FSL = FreeStyle Libre system; T2DM = type 2 diabetes mellitus

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DECLARATION OF INTEREST

- Abbott provided funding for this study
- F L-G is an Abbott employee and stockholder
- All authors are advisory panel members for Abbott

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