actors Associated With Glycemic Control In People With Type 1 Diabetes (PWT1D) Switched To Once Daily (QD) Insulin Glargine (Gla) 300 U/mL (Gla-300): The European REALI Pooled Database

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Abstract:

Aim: To study potential factors associated with improved glycemic control in PWT1D switching from QD or twice-daily (BID) basal insulin (BI) to QD Gla-300.

Methods: Data from PWT1D in the European REALI pooled database who switched to Gla-300 were analyzed by multivariable ANCOVA to determine factors related to HbA_{1c} change from baseline (BL) to 6 months (6 M) post-treatment. Variables with $p<0.10$ in the final model were retained.

Results: A total of 455 PWT1D (TOUJEO-NEO, N=397; OPTIMIZE, N=58) were pooled, of whom 436 received Gla-300. Mean age was 50.0±14.7 years and median (Q1, Q3) diabetes duration was 18.0 (10.0, 27.0) years. Almost half of PWT1D (47.3%) presented with ≥1 cardiovascular disease/risk factor and 16.7% with diabetes complications. Mean±SD BL HbA_{1c} was 8.3±0.84%; and change from BL to 6 M was -0.43±0.81%. A total of 179/427 (41.9%) PWT1D received BID BI, 39.1% used Gla-100, and overall mean±SD BI dose was 30.4±17.8 U/day. High BL HbA_{1c} ($p<0.0001$), prior non-insulin glucose-lowering agent ($p=0.027$), and absence of diabetes complications ($p=0.058$) were associated with greater reductions in HbA_{1c}, but not prior BID BI regimen (Table).

Conclusion: Likelihood of achieving clinically important HbA_{1c} reduction in PWT1D switched to QD Gla-300 was mostly dependent on BL HbA_{1c}, and not on

previous BID BI regimen.

Table. Analysis of covariance for the identification of factors associated with HbA_{1c} change from baseline to Month 6

Predictors	Analyzed population N=289	Estimate* (SE)	p-value
Intercept		1.89	<0.0001
Study			
OPTIMIZE	46 (16%)	(ref.)	(ref.)
TOUJEO-NEO	243 (84%)	-0.095 (0.13)	0.4671
Baseline HbA_{1c} (%)		-0.29 (0.05)	<0.0001
Previous non-insulin antihyperglycemic treatment			
Yes	26 (9%)	(ref.)	(ref.)
No	263 (91%)	0.36 (0.16)	0.027
At least one diabetes complication			
Yes	60 (21%)	(ref.)	(ref.)
No	229 (79%)	-0.23 (0.12)	0.058

*Estimates of the regression coefficients from ANCOVA model on change from baseline in HbA_{1c}, including study, baseline HbA_{1c}, previous non-insulin treatment, and diabetes complication as covariates.

Note: 289 observations were part of the final model, as a result of a stepwise selection with an entry p-value threshold less than 0.20 and a stay p-value threshold of less than 0.10.

SE, standard error; ref., reference variable.