

SUPPLEMENTARY DATA

Supplementary Table 1. Outcome measures at baseline and following three months of treatment.

	Baseline	After three months of treatment		
		Gla-300 (n=18)	Gla-100 (n=18)	Between-treatment p value
M/F (%)	10/8 (55%/45%)			
Age (years)	39.7 ± 11.8			
Diabetes duration (years)	25.9 ± 12.2			
Plasma C-peptide (ng/ml)	0.01 ± 0.01			
Weight (kg)	68.8 ± 9.6	68.3 ± 9.8	68.5 ± 9.7	0.914
BMI (kg/m ²)	23.4 ± 2.2	23.2 ± 2.3	23.3 ± 2.2	0.877
Total daily insulin dose (U/kg)	0.58 ± 0.16	0.62 ± 0.13	0.56 ± 0.13	0.001
Basal daily insulin dose (U/kg)	0.30 ± 0.07	0.35 ± 0.08	0.28 ± 0.07	0.001
Basal insulin dose (% of total insulin)	51.2 ± 5.8	56.6 ± 8.4	50.3 ± 6.8	0.001
Prandial daily insulin dose (U/kg)	0.29 ± 0.10	0.27 ± 0.08	0.28 ± 0.08	0.161
Prandial insulin dose (% of total insulin)	48.8 ± 5.5	43.4 ± 8.4	49.7 ± 6.8	0.001
Daily mean blood glucose (mg/dl)	158 ± 22	149 ± 17	152 ± 19	0.108
HbA1c (%)	7.19 ± 0.52	6.94 ± 0.48	6.97 ± 0.49	0.774
HbA1c, mmol/mol (IFCC)	54.7 ± 5.7	52 ± 5	53 ± 6	--
Hypoglycemia rate before the clamp studies*	0.17 ± 0.38 [§]	0.0 ± 0.0	0.0 ± 0.0	--

*during the three days prior to the clamp studies (or three days before randomization[§]).

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Supplementary Table 2. Basal insulin titration algorithm based on relationship between bedtime PG and next morning FPG

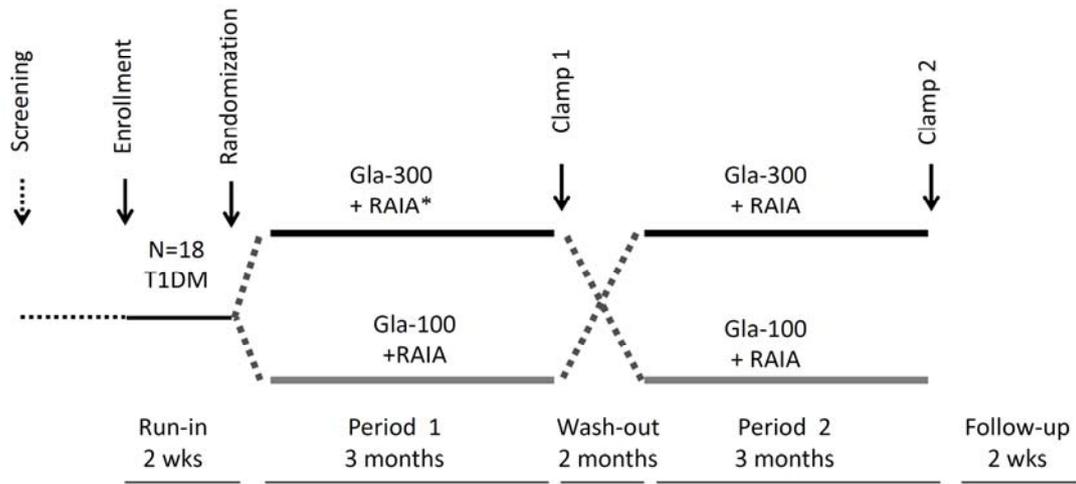
Δ PG (Bedtime PG- FPG) mg/dl	Insulin Dose Change (U)
> +30	+2
Between +21 and +30	+2
Between +11 and +20	+1
Between +10 and -10	0
Between -11 and -20	-1
<-21	-2

*titration occurred only on days with 2-h post-dinner PG 100-130 mg/dl

The relationship between bedtime PG and next morning fasting PG (FPG) was considered. With a notable decline in FPG from bedtime values, basal insulin dose was reduced, the opposite was done if FPG was higher than bedtime PG. Since the carry-over effect of post-dinner hypoglycemia or hyperglycemia, may easily impact FPG thus preventing the interpretation of FPG as the specific effect of basal insulin, the dose change of basal insulin occurred only on days with optimal post-dinner PG (100-130 mg/dl). Days with either post dinner hypoglycemia or hyperglycemia were excluded from the insulin dose calculation

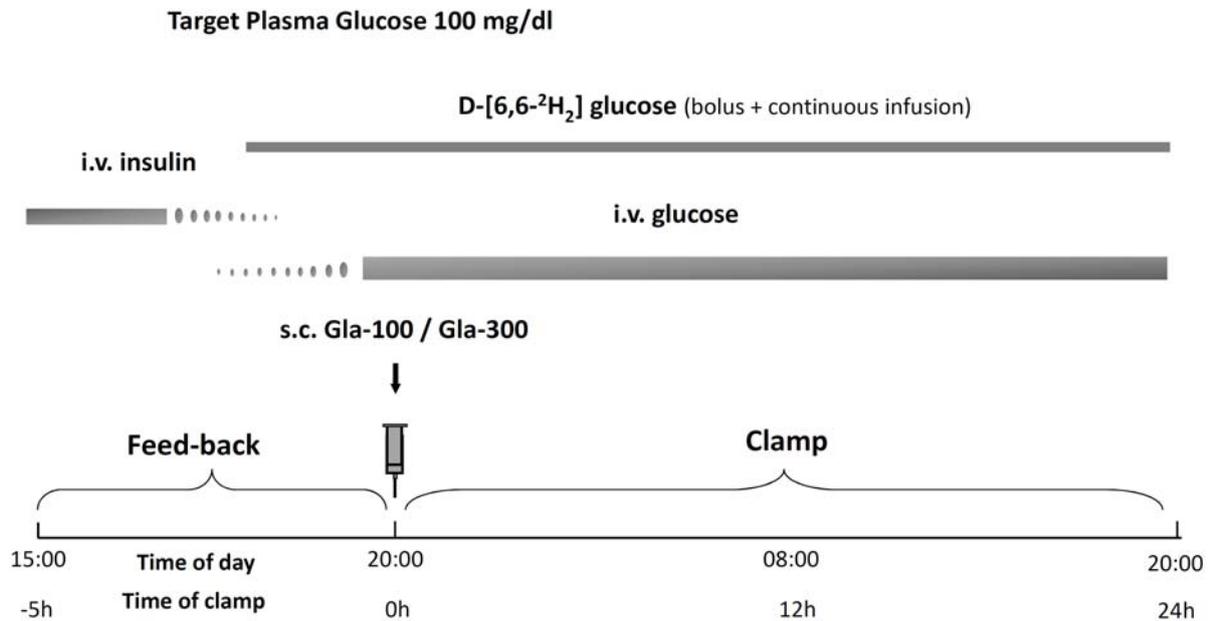
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Supplementary Figure 1. Study design



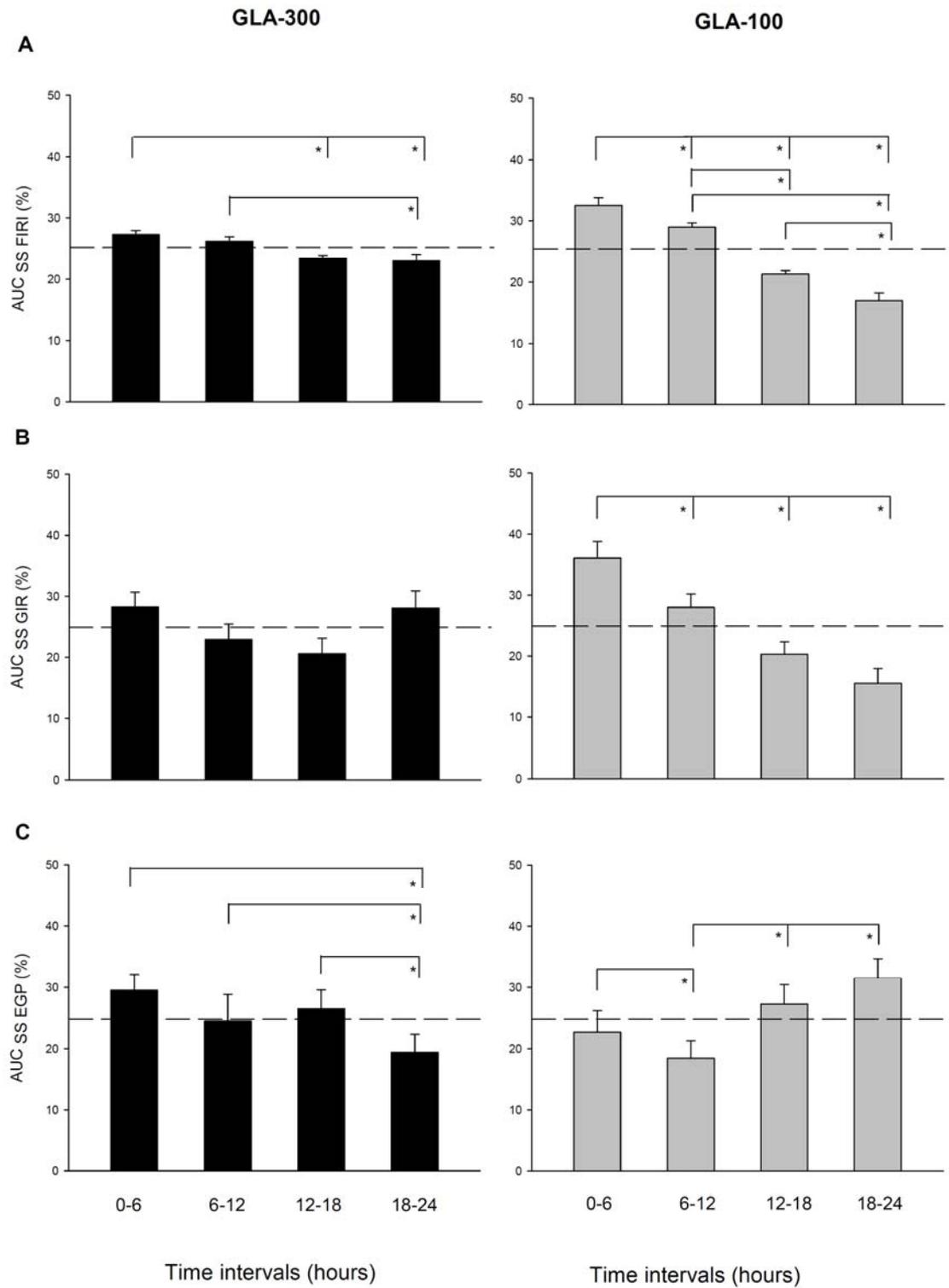
* RAIA: rapid-acting insulin analog

Supplementary Figure 2. Clamp study design



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Supplementary Figure 3. PK and PD variables and EGP calculated for intervals of 6h of the 24h of the study, and expressed as percentage of the 0-24 h value. A, FIRI-AUC; B, GIR-AUC; C, EGP-AUC.



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Supplementary Figure 4. TTR (tracer to tracee ratio) in the 24 h clamp study.

