

ONLINE-ONLY SUPPLEMENTAL MATERIALS

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Supplement to: Owens DR, *et al.* Commencing insulin glargine 100 U/mL therapy in people with type 2 diabetes: Determinants of achievement of HbA1c goal <7.0%

SUPPLEMENTAL MATERIALS

Commencing insulin glargine 100 U/mL therapy in people with type 2 diabetes: Determinants of achievement of HbA1c goal <7.0%

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TABLE S1. Change in HbA1c from baseline to Week 24 by HbA1c-responder group and concomitant oral antidiabetes drug used during the entire study period.

	Good responders (HbA1c <7.0%; <53 mmol/mol)	Suboptimal responders (HbA1c 7.0–8.0%; 53–64 mmol/mol)	Minimal responders (HbA1c >8.0%; >64 mmol/mol)	Total
HbA1c – overall, %	<i>n</i> = 1584	<i>n</i> = 1262	<i>n</i> = 569	<i>N</i> = 3415
Baseline	8.41 (0.95)	8.82 (0.97)	9.44 (0.98)	8.73 (1.03)
Week 24	6.39 (0.41)	7.42 (0.30)	8.91 (0.83)	7.19 (1.01)
Change from baseline	-2.02 (0.99)	-1.40 (0.97)	-0.54 (1.10)	-1.54 (1.13)
HbA1c <7.0% at Week 24, <i>n</i> (%)				1584 (46.4)
HbA1c – metformin only, %	<i>n</i> = 341	<i>n</i> = 185	<i>n</i> = 76	<i>N</i> = 602
Baseline	8.43 (1.08)	8.92 (0.95)	9.42 (1.18)	8.70 (1.11)
Week 24	6.37 (0.41)	7.38 (0.31)	8.92 (0.84)	7.00 (0.98)
Change from baseline	-2.06 (1.12)	-1.54 (0.98)	-0.50 (1.22)	-1.70 (1.20)
HbA1c <7.0% at Week 24, <i>n</i> (%)				341 (56.6)
HbA1c – metformin + sulfonyleurea, %	<i>n</i> = 769	<i>n</i> = 624	<i>n</i> = 180	<i>N</i> = 1573
Baseline	8.32 (0.88)	8.71 (0.94)	9.30 (0.93)	8.58 (0.96)
Week 24	6.43 (0.39)	7.41 (0.29)	8.70 (0.64)	7.08 (0.84)
Change from baseline	-1.89 (0.91)	-1.30 (0.93)	-0.60 (1.03)	-1.51 (1.03)
HbA1c <7.0% at Week 24, <i>n</i> (%)				769 (48.9)
HbA1c –sulfonyleurea only, %	<i>n</i> = 278	<i>n</i> = 334	<i>n</i> = 258	<i>N</i> = 870
Baseline	8.60 (0.89)	8.94 (0.97)	9.52 (0.95)	9.00 (1.01)
Week 24	6.33 (0.47)	7.46 (0.30)	9.03 (0.91)	7.57 (1.22)
Change from baseline	-2.27 (0.97)	-1.48 (0.99)	-0.49 (1.12)	-1.44 (1.24)
HbA1c <7.0% at Week 24, <i>n</i> (%)				278 (32.0)
HbA1c – other, %	<i>n</i> = 196	<i>n</i> = 119	<i>n</i> = 55	<i>N</i> = 370
Baseline	8.50 (1.01)	8.92 (1.04)	9.58 (0.97)	8.80 (1.08)
Week 24	6.40 (0.36)	7.43 (0.30)	9.00 (0.88)	7.12 (1.02)
Change from baseline	-2.10 (1.01)	-1.49 (1.02)	-0.58 (1.07)	-1.68 (1.15)
HbA1c <7.0% at Week 24, <i>n</i> (%)				196 (53.0)

Mean (standard deviation) or *n* (%). Group numbers may vary due to missing values. HbA1c, glycated haemoglobin A1c.

TABLE S2. Univariable and multivariable analyses using potential prognostic and explanatory factors to estimate the probability of reaching an HbA1c of <7.0% (<53 mmol/mol) at week 24 in participants with type 2 diabetes using standardized predictors for continuous variables in the multivariable analysis models.

Variable	Categorical or continuous [†]	Odds ratio (95% CI)	P-value
Univariable analysis			
Age at baseline	Per SD change	1.02 (0.96, 1.09)	0.513
Sex	Women vs men	0.76 (0.66, 0.87)	<0.0001
Body weight at baseline	≥83.0 vs <83.0 kg	1.38 (1.20, 1.58)	<0.0001
	Continuous (per SD change) [‡]	1.17 (1.09, 1.25)	<0.0001
BMI at baseline	≥30.0 vs <30.0 kg/m ²	1.21 (1.06, 1.38)	0.006
	Continuous (per SD change)	1.10 (1.02, 1.17)	0.008
Diabetes duration	≥10 vs <10 years	0.61 (0.53, 0.70)	<0.0001
	Continuous (per SD change) [‡]	0.78 (0.73, 0.84)	<0.0001
HbA1c at baseline	≥8.5 vs <8.5% [¶]	0.35 (0.30, 0.40)	<0.0001
	Continuous (per SD change) [‡]	0.52 (0.49, 0.57)	<0.0001
FPG at baseline	≥11.1 vs <11.1 mmol/L [§]	0.59 (0.51, 0.68)	<0.0001
	Continuous (per SD) [‡]	0.74 (0.69, 0.80)	<0.0001
2-h SMPG at baseline (all meals)	≥11.7 vs <11.7 mmol/L [#]	0.48 (0.41, 0.56)	<0.0001
	Continuous (per SD change) [‡]	0.61 (0.56, 0.66)	<0.0001
Baseline fasting C-peptide	≥1.2 vs <1.2 nmol/L	1.00 (0.84, 1.20)	0.97
	Continuous (per SD change) [‡]	1.05 (0.96, 1.14)	0.28
Sulfonylurea use during study	Yes vs no	0.61 (0.52, 0.71)	<0.0001
Hypoglycaemia [†] during study	No vs yes	0.65 (0.57, 0.75)	<0.0001
Change in FPG	Continuous (per SD change) [‡]	0.96 (0.89, 1.02)	0.19
Change in 2-h SMPG (all meals)	Continuous (per SD change) [‡]	0.99 (0.92, 1.07)	0.76
Change in body weight	Continuous (per 1.0 kg)	0.74 (0.69, 0.80)	<0.0001
Final Gla-100 dose	Continuous (per 0.1 U/kg)	0.87 (0.78, 0.90)	<0.0001
Multivariable analysis model 1 (categorical and continuous[†] variables)			
Sex	Women vs men	0.76 (0.64, 0.91)	0.0021
Diabetes duration	≥10 vs <10 years	0.63 (0.53, 0.75)	<0.0001
HbA1c at baseline	≥8.5 vs <8.5% mmol/mol [¶]	0.38 (0.32, 0.45)	<0.0001
2-h SMPG at baseline (all meals)	≥11.7 vs <11.7 mmol/L [#]	0.73 (0.61, 0.87)	0.0005
Body weight at baseline	≥83.0 vs <83.0 kg	1.29 (1.09, 1.54)	0.0034
Sulfonylurea use during study	Yes vs no	0.59 (0.49, 0.71)	<0.0001
Change in body weight	Continuous (per SD change)	0.78 (0.71, 0.86)	<0.0001
Hypoglycaemia [†] during study	No vs yes	0.62 (0.53, 0.74)	<0.0001

TABLE S2 (CONT'D). Univariable and multivariable analyses using potential prognostic and explanatory factors to estimate the probability of reaching an HbA1c of <7.0% (<53 mmol/mol) at week 24 in participants with type 2 diabetes using standardized predictors for continuous variables in the multivariable analysis models.

Variable	Categorical or continuous [†]	Odds ratio (95% CI)	P-value
Multivariable analysis model using continuous[†] variables			
Sex	Women vs men	0.70 (0.60, 0.83)	<0.0001
Diabetes duration	per year	0.79 (0.73, 0.86)	<0.0001
HbA1c at baseline	per SD change	0.53 (0.47, 0.59)	<0.0001
FPG at baseline	per SD change	1.20 (1.07, 1.36)	0.003
2-h SMPG at baseline (all meals)	per SD change	0.78 (0.69, 0.87)	<0.0001
BMI at baseline	per SD change	1.20 (1.09, 1.33)	0.0003
Change in body weight	per SD change	0.80 (0.73, 0.88)	<0.0001
Hypoglycaemia [†] during study	No vs yes	0.64 (0.54, 0.76)	<0.0001

For multivariable analysis, $n = 2626$ patients were included.

[†] The use of standardized predictors in the model removed the impact by units; therefore, analysis of different units resulted in the same OR for each unit (eg, HbA1c: per %-unit or per mmol/mol; FPG & 2-h SMPG: per mg/dL or per mmol/L). [‡]Confirmed with PG <3.9 mmol/L or severe hypoglycaemia. [¶]≥69 vs <69 mmol/mol. [§]≥200 mg/dL vs <200 mg/dL. [#]≥210 mg/dL vs <210 mg/dL.

BMI, body mass index; CI, confidence interval; FPG, fasting plasma glucose; Gla-100, glargine 100 units/mL; HbA1c, glycated haemoglobin A1c; PG, plasma glucose; SMPG, self-monitored plasma glucose.

FIGURE S1: Participant distribution and OAD use by Week 24 HbA1c-responder group.

*Includes all participants in the Gla-100 and comparator arms who received metformin, sulfonylurea, or metformin plus sulfonylurea or plus other OADs (including thiazolidinediones, gliptins and glinides) as add-on therapy.

Gla-100, glargine 100 units/mL; MET, metformin; OAD, oral anti-hyperglycaemic drug; SU, sulfonylurea.

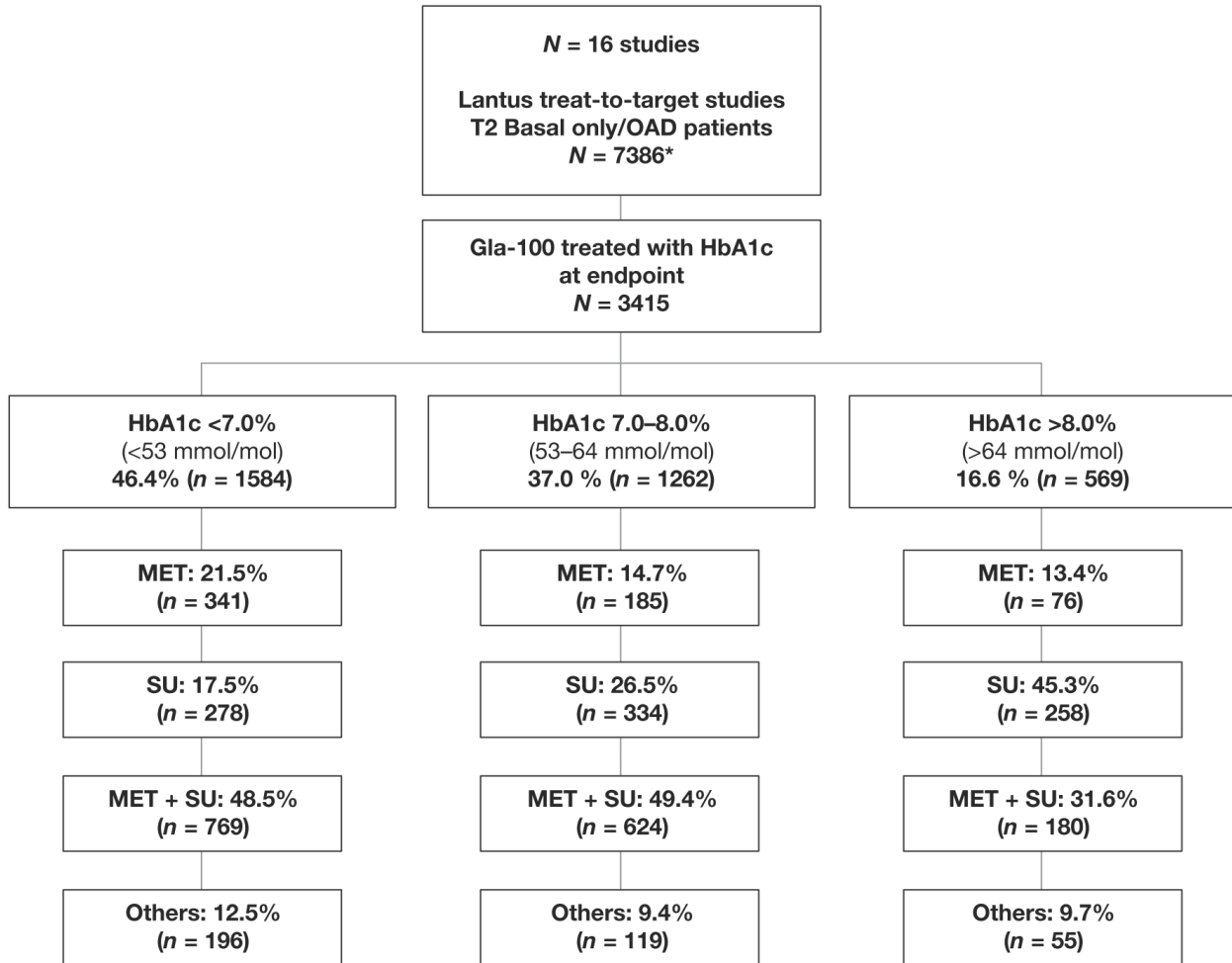


FIGURE S2. Mean daily Gla-100 doses (A), HbA1c (B), and FPG (C),

Grey bars indicate baseline values; black bars indicate values at 24 weeks.

FPG, fasting plasma glucose; Gla-100, glargine 100 units/mL; HbA1c, glyated haemoglobin A1c.

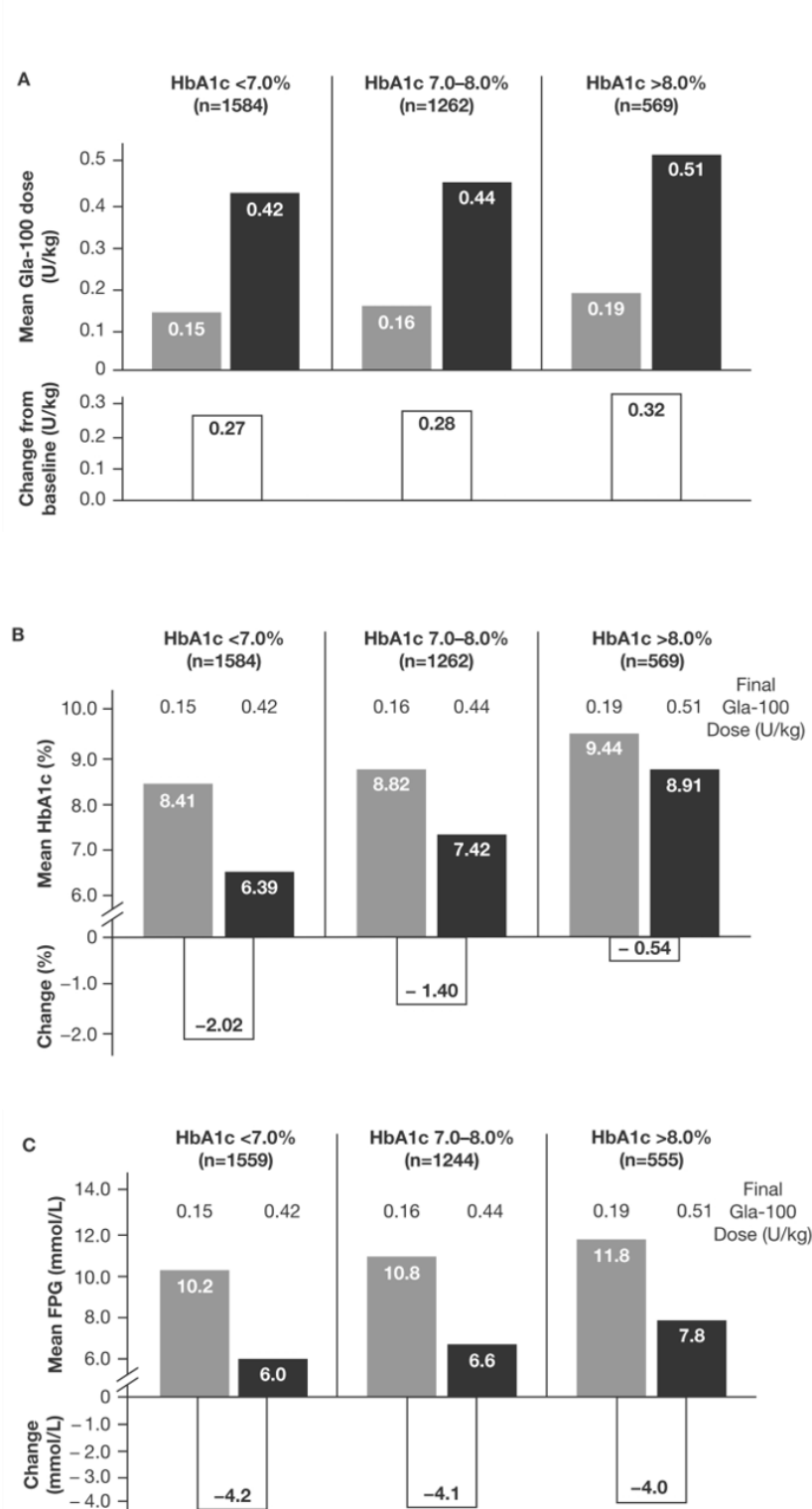


FIGURE S3. Final daily Gla-100 dose (units/kg) and increments from baseline to Week 24 by HbA1c-responder groups and hypoglycaemia frequency (plasma glucose <3.9 mmol/L; <70 mg/dL) during the 24-week study period.

Gla-100, glargine 100 units/mL; HbA1c, glycated haemoglobin A1c.

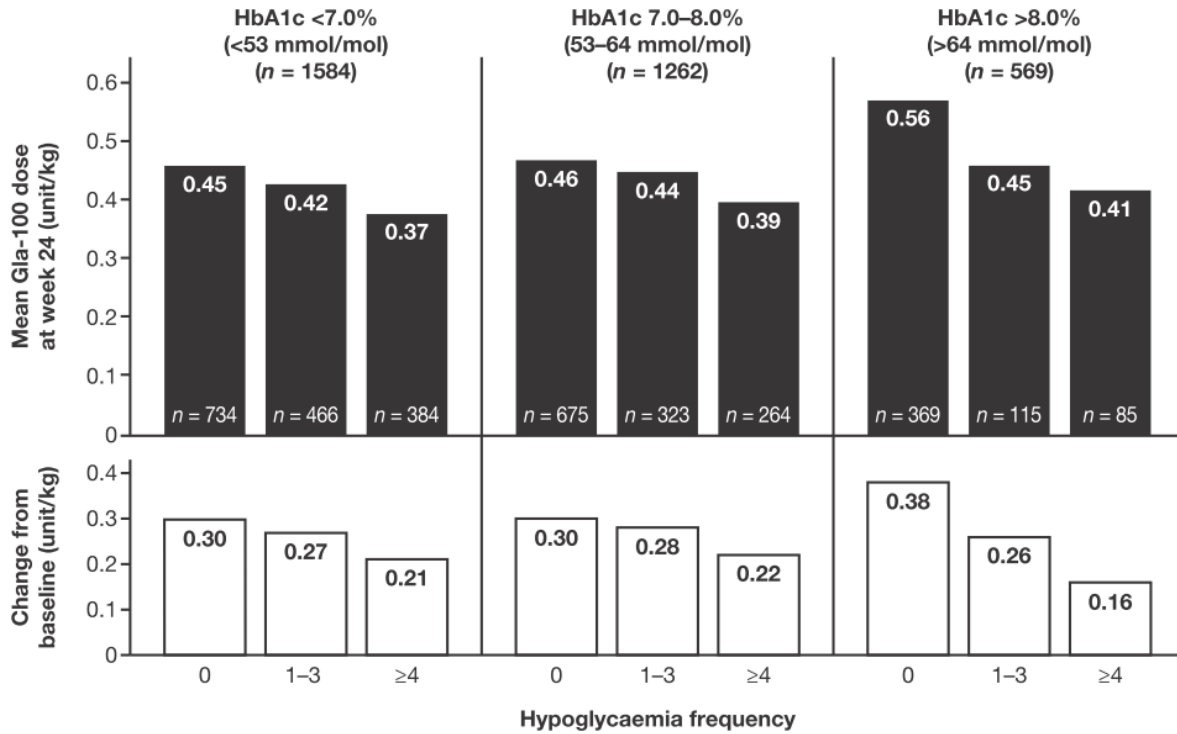


FIGURE S4. 2-h self-measured post-prandial glucose levels and changes from baseline according to HbA1c-responder groups at Week 24.

ALL, all meals combined; BRE, breakfast; DIN, dinner; LUN, lunch; 2-h SMPG, 2-h self-measured plasma glucose.

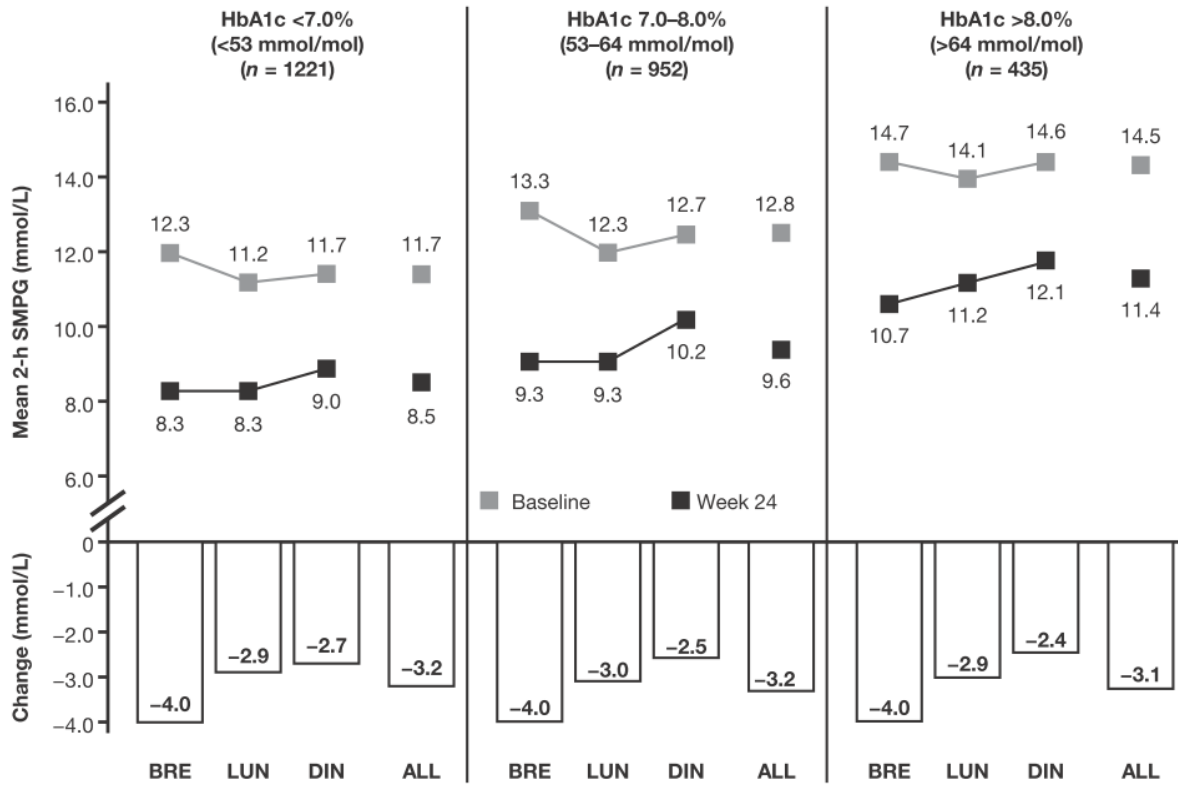


FIGURE S5. Incidences of confirmed overall and nocturnal hypoglycaemia among people with type 2 diabetes mellitus by number of events reported during 24 weeks and by HbA1c responder group.

Insets refer to mean final Gla-100 dose and BL mean fasting C-peptide levels per subgroup.

BL, baseline; Gla-100, glargine 100 units/mL; HbA1c, glycated haemoglobin A1c; PG, plasma glucose.

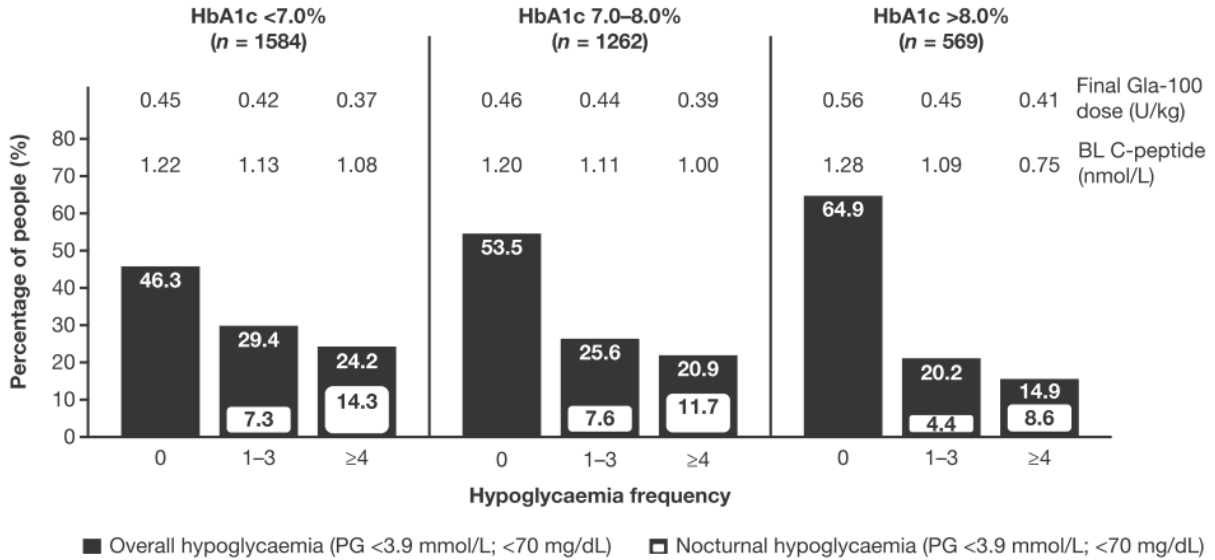


FIGURE S6: Mean body weight and change according to hypoglycaemia event frequency during the study period and by HbA1c-responder group at Week 24.

HbA1c, glycosylated haemoglobin A1c.

