ClinicalTrials.gov Protocol and Results Registration System (PRS) Receipt
Release Date: 09/03/2012

Grantor: CDER IND/IDE Number: 49,078 Serial Number:

Evaluation of Insulin Glargine Versus Sitagliptin in Insulin-naive Patients (EASIE)

This study has been completed.

Sponsor:	Sanofi
Collaborators:	
Information provided by (Responsible Party):	Sanofi
ClinicalTrials.gov Identifier:	NCT00751114

Purpose

The primary objective was to demonstrate the superiority of insulin glargine over sitagliptin in reducing Glycosylated Hemoglobin A1c (HbA1c) from baseline to the end of the treatment period.

Secondary objective was to assess the effect of insulin glargine in comparison with sitagliptin on:

- HbA1c level
- Fasting Plasma Glucose (FPG)
- 7-point plasma glucose (PG) profiles
- Percentage of patients with HbA1c <7% and <6.5%

Safety objectives consisted of:

- Hypoglycemia occurrence
- Body weight
- Overall safety

Condition	Intervention	Phase
Diabetes Mellitus, Type 2	Drug: Insulin Glargine Drug: Sitagliptin	Phase 4

Condition	Intervention	Phase
	Drug: Metformin	

Study Type: Interventional
Study Design: Treatment, Parallel Assignment, Open Label, Randomized, Efficacy Study
Official Title: Superiority Study of Insulin Glargine Over Sitagliptin in Insulin-naïve Patients With Type 2 Diabetes Treated With Metformin and Not Adequately Controlled

Further study details as provided by Sanofi:

Primary Outcome Measure:

- HbA1c: Change From Baseline to Study Endpoint [Time Frame: baseline (week 0), study endpoint: visit 14 (week 24) or visit 11 (week 12) if value not available at visit 14] [Designated as safety issue: No]
  Change in HbA1c from baseline to study endpoint defined as the last available HbA1c value measured during the 24-week treatment period.

Secondary Outcome Measures:

- HbA1c Response Rate: Percentage of Patients Who Reach the Target of HbA1c < 7% at Study Endpoint [Time Frame: study endpoint: visit 14 (week 24) or visit 11 (week 12) if value not available at visit 14] [Designated as safety issue: No]
- HbA1c Response Rate: Percentage of Patients Who Reach the Target of HbA1c < 6.5% at Study Endpoint [Time Frame: study endpoint: visit 14 (week 24) or visit 11 (week 12) if value not available at visit 14] [Designated as safety issue: No]
- Self-monitored Fasting Plasma Glucose (SMFPG) Mean : Change From Baseline to Study Endpoint [Time Frame: baseline (week 0), study endpoint: visit 14 (week 24) or visit 12 (week 16) or visit 11 (week 12) or visit 8 (week 6) depending on last available value] [Designated as safety issue: No]
  SMFPG mean = mean of the fasting plasma glucose values recorded on the 6 consecutive days before the visit (at least 3 values needed). Study endpoint was defined as the last available SMFPG mean value collected on-treatment. Change= study endpoint - baseline
- 7-point Plasma Glucose Profile: Change From Baseline to Study Endpoint [Time Frame: baseline (week 0), study endpoint: visit 14 (week 24) or visit 11 (week 12) if value not available at visit 14] [Designated as safety issue: No]
  7-point plasma glucose recorded before and after breakfast, before and after lunch, before and after dinner and at bedtime. Change = study endpoint - baseline.
- Insulin Dose in the Insulin Glargine Group [Time Frame: visit 4 (week 2), visit 8 (week 6), visit 11 (week 12), visit 12 (week 16), visit 14 (week 24), first dose received defined as first available value, study endpoint defined as last available value] [Designated as safety issue: No]
  Daily dose at the face-to-face visits.
- Lipid Profile: Change From Baseline to Study Endpoint [Time Frame: baseline (week 0), study endpoint: visit 14 (week 24) or visit 11 (week 12) if value not available at visit 14] [Designated as safety issue: No]
- Change in Body Weight From Baseline to Study Endpoint [Time Frame: baseline (week 0), study endpoint: visit 14 (week 24) or visit 12 (week 16) or visit 11 (week 12) or visit 8 (week 6) depending on last available value] [Designated as safety issue: Yes]
- Number of Patients With at Least One Episode of Symptomatic Hypoglycemia [Time Frame: During the treatment phase (24 weeks) plus 7 days after last dose] [Designated as safety issue: Yes]
  Symptomatic hypoglycemia was defined as an event with clinical symptoms that were considered to result from hypoglycemia confirmed or not by a plasma glucose measurement <= 70mg/dL [3.9 mmol/L]
- Number of Patients With at Least One Episode of Severe Symptomatic Hypoglycemia [Time Frame: During the treatment phase (24 weeks) plus 7 days after last dose] [Designated as safety issue: Yes]
  Severe symptomatic hypoglycemia was defined as an event with clinical symptoms which required assistance of another person and with either a Plasma Glucose level < 36 mg/dL (2 mmol/L) or with a prompt recovery after oral carbohydrate, intravenous glucose, or glucagon administration

Enrollment: 515

Study Start Date: November 2008
Primary Completion Date: July 2011
Study Completion Date: July 2011

Arms	Assigned Interventions
Experimental: Insulin Glargine Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L).	Drug: Insulin Glargine Subcutaneous injection. 100 Units/mL solution for injection in a pre-filled SoloStar® pen (3 mL). Other Names: Lantus® Drug: Metformin Patients continued with metformin as usual oral anti-diabetic treatment.
Active Comparator: Sitagliptin Dose of 100 mg once a day administered with or without food.	Drug: Sitagliptin Oral administration. 100 mg film-coated tablets. Other Names: Januvia® Drug: Metformin Patients continued with metformin as usual oral anti-diabetic treatment.

Eligibility

Ages Eligible for Study: 35 Years to 70 Years
Genders Eligible for Study: Both
Accepts Healthy Volunteers: No

Criteria

Inclusion Criteria:

- With type 2 diabetes diagnosed for at least 6 months,
- Not previously treated with insulin,
- On metformin for at least 3 months and a stable minimal dose of 1 g/day for at least 2 months
- HbA1c ≥ 7 and < 11 %,
- Body Mass Index (BMI) between 25 and 45 kg/m² inclusively,
- Ability and willingness to perform plasma glucose (PG) monitoring using the Sponsor-provided PG meter and to complete the patient diary,
- Signed informed consent obtained prior any study procedures,
- Willingness and ability to comply with the study protocol.

Exclusion Criteria:

- Treatment with oral antidiabetic drugs other than metformin within the last 3 months,

- Previous treatment with the combination of metformin + sulfonylurea for more than 1 year,
- Previous treatment with Glucagon Like Peptide-1 (GLP-1) agonists or DiPeptidyl Peptidase (DPP) IV inhibitors,
- FPG (assessed by central laboratory measurement) ≥ 280 mg/dL (15.4 mmol/L),
- Diabetes other than type 2 diabetes (e.g. secondary to pancreatic disorders, drug or chemical agents intake...),
- Pregnant or lactating women (women of childbearing potential must have a negative pregnancy test at study entry and a medically approved contraception method),
- In-patient care,
- Active proliferative retinopathy, as defined by a photocoagulation or vitrectomy occurrence in the 6 months prior to visit 1, or any other unstable (rapidly progressing) retinopathy that may require photocoagulation or surgical treatment during the study (an optic fundus examination should have been performed within the 2 years prior to study entry),
- Impaired renal function: serum creatinine ≥ 1.5 mg/dL (≥ 133µmol/L) or ≥ 1.4 mg/dL (≥ 124 µmol/L) in men and women, respectively,
- History of sensitivity to the study drugs or to drugs with a similar chemical structure,
- Impaired hepatic function: alanine aminotransferase (ALT), aspartate aminotransferase (AST) > 3 x upper limit of normal range,
- Treatment with systemic corticosteroids within the 3 months prior to study entry or likelihood of requiring treatment during the study that are not permitted during the study (exception: in case of chronic adrenal insufficiency, systemic glucosteroids are accepted only if the disease is stable and the treatment dose stable for at least 3 months before study entry),
- Alcohol or drug abuse within the last year,
- Night shift worker,
- Presence of any condition (medical, psychological, social or geographical), current or anticipated that the investigator feels would compromise the patient's safety or limit the patient successful participation in the study,
- Treatment with weight loss medications (e.g. sibutramine, orlistat, rimonabant) within the last 3 months,
- Participation in another clinical trial within the month prior to visit 1,
- History of pancreatitis.

Contacts and Locations

Locations

United States, New Jersey

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Investigators

Study Director:	Clinical Sciences & Operations	sanofi-aventis

More Information

Results Publications:

Aschner P, Chan J, Owens DR, Picard S, Wang E, Dain MP, Pilorget V, Echtay A, Fonseca V; EASIE investigators. Insulin glargine versus sitagliptin in insulin-naive patients with type 2 diabetes mellitus uncontrolled on metformin (EASIE): a multicentre, randomised open-label trial. Lancet. 2012 Jun 16;379(9833):2262-9. doi: 10.1016/S0140-6736(12)60439-5. Epub 2012 Jun 9.

Study Results

Participant Flow

Recruitment Details	EASIE was a multicenter, international, randomized, open-label trial conducted from November 12, 2008 to July 28, 2011.
Pre-Assignment Details	A total of 732 patients were screened in 96 centers in 17 countries. The study included an initial 2-week screening period. A total of 217 patients were screen failures. The main reason for screen failure was Glycosylated Hemoglobin A1c (HbA1c) inclusion criterion not met (146 patients).

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the Fasting Plasma Glucose (FPG) target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Overall Study

	Insulin Glargine	Sitagliptin
Started	250 [1]	265
TREATED = Safety Population	237 [2]	264
mITT Population	227 [3]	253
Completed	212	233
Not Completed	38	32
Adverse Event	2	4
Protocol Violation	8	9
Withdrawal by Subject	9	4
Lost to Follow-up	4	7

	Insulin Glargine	Sitagliptin
Lack of Efficacy	0	7
Not Treated	13	1
Out of country for 2 months	1	0
Move to another city	1	0

[1] randomized
[2] safety population: randomized patients who received at least one dose of investigational product
[3] modified Intent-To-Treat population: treated patients with at least 1 on-treatment efficacy measure

Baseline Characteristics

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Baseline Measures

	Insulin Glargine	Sitagliptin	Total
Number of Participants	227	253	480
Age, Continuous [1] [units: years] Mean (Standard Deviation)	53.9 (8.9)	53.3 (8.7)	53.6 (8.8)
Gender, Customized [1] [units: participants]			
Male	114	132	246
Female	113	121	234
Body Weight [1] [units: kg] Mean (Standard Deviation)	83.4 (18.2)	84.2 (18.3)	83.8 (18.2)
Body Mass Index [1] [units: kg/m²] Mean (Standard Deviation)	31.05 (4.93)	31.13 (4.95)	31.09 (4.93)

	Insulin Glargine	Sitagliptin	Total
Systolic Blood Pressure [1] [units: mmHg] Mean (Standard Deviation)	129.8 (13.3)	131.7 (15.1)	130.8 (14.3)
Diastolic Blood Pressure [1] [units: mmHg] Mean (Standard Deviation)	79.5 (8.7)	80.0 (8.3)	79.7 (8.5)
Heart Rate [1] [units: beats/min] Mean (Standard Deviation)	75.6 (8.7)	76.3 (9.3)	76.0 (9.0)
Duration of diabetes [1] [units: years] Median (Inter-Quartile Range)	3.9 (1.9 to 8.2)	4.8 (1.9 to 8.2)	4.5 (1.9 to 8.2)
At least one diabetic late complication [2] [units: participants]			
Yes	65	67	132
No	162	186	348
Glycosylated Hemoglobin A1c (HbA1c) [1] [units: percent] Mean (Standard Deviation)	8.5 (1.0)	8.5 (1.1)	8.5 (1.1)
Fasting Plasma Glucose [3] [units: mg/dL] Mean (Standard Deviation)	163.6 (42.0)	171.1 (41.5)	167.5 (41.9)
Self-monitored Fasting Plasma Glucose [4] [units: mg/dL] Mean (Standard Deviation)	163.9 (37.6)	166.7 (38.2)	165.4 (37.9)
Total Cholesterol [3] [units: mg/dL] Mean (Standard Deviation)	185.9 (41.4)	187.1 (39.0)	186.5 (40.1)
High-Density Lipoprotein (HDL) Cholesterol [3] [units: mg/dL] Mean (Standard Deviation)	46.2 (14.6)	45.0 (11.2)	45.6 (12.9)

	Insulin Glargine	Sitagliptin	Total
Low-Density Lipoprotein (LDL) Cholesterol [3] [units: mg/dL] Mean (Standard Deviation)	112.7 (36.2)	114.2 (33.2)	113.5 (34.6)
Triglycerides [3] [units: mg/dL] Mean (Standard Deviation)	190.9 (142.0)	185.7 (114.6)	188.2 (128.3)

[1] mITT population

[2] mITT population

Diabetic late complications: myocardial infarction, angina pectoris, coronary artery disease, heart failure, stroke, transient ischemic attack, peripheral vascular disease, diabetic neuropathy, diabetic nephropathy, diabetic retinopathy

[3] mITT population but due to missing values, N=225 for Insulin Glargine and N=248 for Sitagliptin

[4] mITT population but due to missing values, N=216 for Insulin Glargine and N=244 for Sitagliptin

Outcome Measures

1. Primary Outcome Measure:

Measure Title	HbA1c: Change From Baseline to Study Endpoint
Measure Description	Change in HbA1c from baseline to study endpoint defined as the last available HbA1c value measured during the 24-week treatment period.
Time Frame	baseline (week 0), study endpoint: visit 14 (week 24) or visit 11 (week 12) if value not available at visit 14
Safety Issue?	No

Analysis Population Description

The population analyzed for this outcome measure consisted of the subset of mITT patients who had both baseline and endpoint measurements.

The Last Observation Carried Forward method was used for imputing missing data for the end of treatment value.

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Measured Values

	Insulin Glargine	Sitagliptin
Number of Participants Analyzed	224	248
HbA1c: Change From Baseline to Study Endpoint [units: percent] Least Squares Mean (Standard Error)	-1.72 (0.06)	-1.13 (0.06)

Statistical Analysis 1 for HbA1c: Change From Baseline to Study Endpoint

Statistical Analysis Overview	Comparison Groups	Insulin Glargine, Sitagliptin
	Comments	H0: no difference between insulin glargine mean HbA1c change and sitagliptin mean HbA1c change H1: difference between insulin glargine mean HbA1c change and sitagliptin mean HbA1c change Assuming: • Estimated standard deviation of the change in HbA1c of 1.3% • Expected mean difference to be detected of 0.4% • Alpha risk of 5% (two-sided) • Power of 90% • Equal sample size in each treatment group (1:1 randomization) A total number of 446 evaluable patients (223 in each group) was required
	Non-Inferiority or Equivalence Analysis?	No
	Comments	[Not specified]

Statistical Test of Hypothesis	P-Value	<0.0001
	Comments	An analysis of covariance (ANCOVA) was performed, with the HbA1c change from baseline to last on-treatment measurement as dependent variable, treatment as fixed effect and the corresponding baseline HbA1c value as covariate
	Method	ANCOVA
	Comments	[Not specified]

Method of Estimation	Estimation Parameter	Other [adjusted mean difference]
	Estimated Value	-0.59
	Confidence Interval	(2-Sided) 95%

		-0.77 to -0.42
	Parameter Dispersion	Type: Standard Error of the mean Value: 0.09
	Estimation Comments	Difference (Insulin glargine - Sitagliptin)

2. Secondary Outcome Measure:

Measure Title	HbA1c Response Rate: Percentage of Patients Who Reach the Target of HbA1c < 7% at Study Endpoint
Measure Description	
Time Frame	study endpoint: visit 14 (week 24) or visit 11 (week 12) if value not available at visit 14
Safety Issue?	No

Analysis Population Description

The population analyzed for this outcome measure consisted of the subset of mITT patients who had endpoint measurements.

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Measured Values

	Insulin Glargine	Sitagliptin
Number of Participants Analyzed	224	248
HbA1c Response Rate: Percentage of Patients Who Reach the Target of HbA1c < 7% at Study Endpoint [units: percentage of participants]	67.9	41.9

3. Secondary Outcome Measure:

Measure Title	HbA1c Response Rate: Percentage of Patients Who Reach the Target of HbA1c < 6.5% at Study Endpoint
Measure Description	
Time Frame	study endpoint: visit 14 (week 24) or visit 11 (week 12) if value not available at visit 14

Safety Issue?	No

Analysis Population Description

The population analyzed for this outcome measure consisted of the subset of mITT patients who had endpoint measurements.

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Measured Values

	Insulin Glargine	Sitagliptin
Number of Participants Analyzed	224	248
HbA1c Response Rate: Percentage of Patients Who Reach the Target of HbA1c < 6.5% at Study Endpoint [units: percentage of participants]	40.2	16.9

4. Secondary Outcome Measure:

Measure Title	Self-monitored Fasting Plasma Glucose (SMFPG) Mean : Change From Baseline to Study Endpoint
Measure Description	SMFPG mean = mean of the fasting plasma glucose values recorded on the 6 consecutive days before the visit (at least 3 values needed). Study endpoint was defined as the last available SMFPG mean value collected on-treatment. Change= study endpoint - baseline
Time Frame	baseline (week 0), study endpoint: visit 14 (week 24) or visit 12 (week 16) or visit 11 (week 12) or visit 8 (week 6) depending on last available value
Safety Issue?	No

Analysis Population Description

The population analyzed for this outcome measure consisted of the subset of mITT patients who had both baseline and endpoint measurements.

Adjusted means were estimated from ANCOVA model using baseline value as covariate.

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Measured Values

	Insulin Glargine	Sitagliptin
Number of Participants Analyzed	214	244
Self-monitored Fasting Plasma Glucose (SMFPG) Mean : Change From Baseline to Study Endpoint [units: mg/dL] Least Squares Mean (Standard Error)	-60.52 (1.85)	-19.35 (1.73)

5. Secondary Outcome Measure:

Measure Title	7-point Plasma Glucose Profile: Change From Baseline to Study Endpoint
Measure Description	7-point plasma glucose recorded before and after breakfast, before and after lunch, before and after dinner and at bedtime. Change = study endpoint - baseline.
Time Frame	baseline (week 0), study endpoint: visit 14 (week 24) or visit 11 (week 12) if value not available at visit 14
Safety Issue?	No

Analysis Population Description

The population analyzed for this outcome measure consisted of the subset of mITT patients who had valid 7-point plasma glucose profiles (4 points needed for a valid profile) both at baseline and endpoint.

Depending on the time point, few values were missing.

Adjusted means were estimated from ANCOVA model using baseline value as covariate.

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)

	Description
Sitagliptin	Dose of 100 mg once a day administered with or without food

Measured Values

	Insulin Glargine	Sitagliptin
Number of Participants Analyzed	203	227
7-point Plasma Glucose Profile: Change From Baseline to Study Endpoint [units: mg/dL] Least Squares Mean (Standard Error)		
Before breakfast (N ig = 203 & N s = 226)	-59.90 (2.02)	-20.39 (1.91)
After breakfast (N ig = 202 & N s = 220)	-66.25 (3.03)	-36.41 (2.90)
Before lunch (N ig = 201 & N s = 223)	-48.00 (2.33)	-19.82 (2.21)
After lunch (N ig = 202 & N s = 226)	-45.54 (2.82)	-26.10 (2.66)
Before dinner (N ig = 199 & N s = 223)	-40.68 (2.61)	-25.07 (2.47)
After dinner (N ig = 196 & N s = 220)	-45.88 (2.69)	-33.78 (2.54)
At bedtime (N ig = 177 & N s = 210)	-45.58 (3.15)	-31.16 (2.89)

6. Secondary Outcome Measure:

Measure Title	Insulin Dose in the Insulin Glargine Group
Measure Description	Daily dose at the face-to-face visits.
Time Frame	visit 4 (week 2), visit 8 (week 6), visit 11 (week 12), visit 12 (week 16), visit 14 (week 24), first dose received defined as first available value, study endpoint defined as last available value
Safety Issue?	No

Analysis Population Description

The population analyzed for this outcome was the safety population defined as randomized patients who received at least one dose of investigational product.

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)

Measured Values

	Insulin Glargine
Number of Participants Analyzed	237
Insulin Dose in the Insulin Glargine Group [units: unit per kg body weight] Mean (Standard Deviation)	
First dose received N=236	0.19 (0.03)
Visit 4 (week 2) N=230	0.27 (0.08)
Visit 8 (week 6) N=222	0.38 (0.16)
Visit 11 (week 12) N=219	0.45 (0.20)
Visit 12 (week 16) N=214	0.48 (0.23)
Visit 14 (week 24) N=220	0.50 (0.26)
Study endpoint N=237	0.49 (0.26)

7. Secondary Outcome Measure:

Measure Title	Lipid Profile: Change From Baseline to Study Endpoint
Measure Description	
Time Frame	baseline (week 0), study endpoint: visit 14 (week 24) or visit 11 (week 12) if value not available at visit 14
Safety Issue?	No

Analysis Population Description

The population analyzed for this outcome measure consisted of the subset of mITT patients who had both baseline and endpoint measurements.

Adjusted means were estimated from ANCOVA model using baseline value as covariate.

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Measured Values

	Insulin Glargine	Sitagliptin
Number of Participants Analyzed	222	243
Lipid Profile: Change From Baseline to Study Endpoint [units: mg/dL] Least Squares Mean (Standard Error)		
Change in Total Cholesterol	-7.94 (2.06)	-1.54 (1.97)
Change in LDL Cholesterol	-3.68 (1.71)	-0.19 (1.63)
Change in HDL Cholesterol	0.13 (0.54)	0.57 (0.52)
Change in Triglycerides	-34.07 (8.14)	0.31 (7.78)

8. Secondary Outcome Measure:

Measure Title	Change in Body Weight From Baseline to Study Endpoint
Measure Description	
Time Frame	baseline (week 0), study endpoint: visit 14 (week 24) or visit 12 (week 16) or visit 11 (week 12) or visit 8 (week 6) depending on last available value
Safety Issue?	Yes

Analysis Population Description

The population analyzed for this outcome measure consisted of the subset of the safety population (treated patients) who had both baseline and endpoint measurements.

Adjusted means were estimated from ANCOVA model using baseline value as covariate.

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Measured Values

	Insulin Glargine	Sitagliptin
Number of Participants Analyzed	227	255
Change in Body Weight From Baseline to Study Endpoint [units: kg] Least Squares Mean (Standard Error)	0.44 (0.22)	-1.08 (0.20)

9. Secondary Outcome Measure:

Measure Title	Number of Patients With at Least One Episode of Symptomatic Hypoglycemia
Measure Description	Symptomatic hypoglycemia was defined as an event with clinical symptoms that were considered to result from hypoglycemia confirmed or not by a plasma glucose measurement <= 70mg/dL [3.9 mmol/L]
Time Frame	During the treatment phase (24 weeks) plus 7 days after last dose
Safety Issue?	Yes

Analysis Population Description

The population analyzed for this outcome measure was the safety population (treated patients)

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Measured Values

	Insulin Glargine	Sitagliptin
Number of Participants Analyzed	237	264
Number of Patients With at Least One Episode of Symptomatic Hypoglycemia [units: participants]	108	35

10. Secondary Outcome Measure:

Measure Title	Number of Patients With at Least One Episode of Severe Symptomatic Hypoglycemia
Measure Description	Severe symptomatic hypoglycemia was defined as an event with clinical symptoms which required assistance of another person and with either a Plasma Glucose level < 36 mg/dL (2 mmol/L) or with a prompt recovery after oral carbohydrate, intravenous glucose, or glucagon administration
Time Frame	During the treatment phase (24 weeks) plus 7 days after last dose
Safety Issue?	Yes

Analysis Population Description

The population analyzed for this outcome measure was the safety population (treated patients)

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Measured Values

	Insulin Glargine	Sitagliptin
Number of Participants Analyzed	237	264
Number of Patients With at Least One Episode of Severe Symptomatic Hypoglycemia [units: participants]	3	1

Reported Adverse Events

Time Frame	Adverse events were assessed throughout the study (24 weeks). Mean duration of exposure to insulin glargine was 157.7 ± 40.9 days (ranging from 1 to 211 days) and 160.8 ± 33.7 days to sitagliptin (ranging from 14 to 262 days).
Additional Description	[Not specified]

Reporting Groups

	Description
Insulin Glargine	Administered once a day in the evening at dinner or at bedtime with a starting dose 0.2 U/kg. Then, the doses were to be individually adjusted, following a titration algorithm, to reach the FPG target: 70mg/dL<FPG≤100mg/dL (3.9mmol/L<FPG≤5.5mmol/L)
Sitagliptin	Dose of 100 mg once a day administered with or without food

Serious Adverse Events

	Insulin Glargine	Sitagliptin
	Affected/At Risk (%)	Affected/At Risk (%)
Total	15/237 (6.33%)	8/264 (3.03%)
Blood and lymphatic system disorders		
Haemorrhagic anaemia [A] *	1/237 (0.42%)	0/264 (0%)
Cardiac disorders		
Acute myocardial infarction [A] *	0/237 (0%)	1/264 (0.38%)
Angina pectoris [A] *	1/237 (0.42%)	1/264 (0.38%)
Angina unstable [A] *	2/237 (0.84%)	0/264 (0%)
Gastrointestinal disorders		
Diverticulum intestinal [A] *	0/237 (0%)	1/264 (0.38%)
Impaired gastric emptying [A] *	1/237 (0.42%)	0/264 (0%)
General disorders		
Non-cardiac chest pain [A] *	1/237 (0.42%)	0/264 (0%)
Infections and infestations		

	Insulin Glargine	Sitagliptin
	Affected/At Risk (%)	Affected/At Risk (%)
Anal abscess [A] *	1/237 (0.42%)	0/264 (0%)
Cellulitis [A] *	0/237 (0%)	1/264 (0.38%)
Injury, poisoning and procedural complications		
Vascular pseudoaneurysm [A] *	1/237 (0.42%)	0/264 (0%)
Metabolism and nutrition disorders		
Hypoglycaemia [A] *	2/237 (0.84%)	0/264 (0%)
Hypoglycaemic unconsciousness [A] *	1/237 (0.42%)	0/264 (0%)
Musculoskeletal and connective tissue disorders		
Pain in extremity [A] *	0/237 (0%)	1/264 (0.38%)
Neoplasms benign, malignant and unspecified (incl cysts and polyps)		
Kaposi's sarcoma [A] *	0/237 (0%)	1/264 (0.38%)
Prostate cancer [A] *	0/237 (0%)	1/264 (0.38%)
Nervous system disorders		
Carotid artery occlusion [A] *	1/237 (0.42%)	0/264 (0%)
Epilepsy [A] *	1/237 (0.42%)	0/264 (0%)
Loss of consciousness [A] *	1/237 (0.42%)	0/264 (0%)
Nerve compression [A] *	1/237 (0.42%)	0/264 (0%)
Renal and urinary disorders		
Calculus ureteric [A] *	1/237 (0.42%)	0/264 (0%)
Renal colic [A] *	1/237 (0.42%)	0/264 (0%)
Vascular disorders		
Hypertension [A] *	0/237 (0%)	1/264 (0.38%)
Orthostatic hypotension [A] *	1/237 (0.42%)	0/264 (0%)

	Insulin Glargine	Sitagliptin
	Affected/At Risk (%)	Affected/At Risk (%)
Peripheral arterial occlusive disease [A] *	1/237 (0.42%)	0/264 (0%)

* Indicates events were collected by non-systematic methods.
A Term from vocabulary, MedDra

Other Adverse Events

Frequency Threshold Above Which Other Adverse Events are Reported: 5%

	Insulin Glargine	Sitagliptin
	Affected/At Risk (%)	Affected/At Risk (%)
Total	27/237 (11.39%)	41/264 (15.53%)
Infections and infestations		
Influenza [A] *	8/237 (3.38%)	15/264 (5.68%)
Nasopharyngitis [A] *	8/237 (3.38%)	15/264 (5.68%)
Nervous system disorders		
Headache [A] *	15/237 (6.33%)	14/264 (5.3%)

* Indicates events were collected by non-systematic methods.
A Term from vocabulary, MedDra

Limitations and Caveats

[Not specified]

More Information

Certain Agreements:

Principal Investigators are NOT employed by the organization sponsoring the study.

There IS an agreement between the Principal Investigator and the Sponsor (or its agents) that restricts the PI's rights to discuss or publish trial results after the trial is completed.

If no publication has occurred within 12 months of the completion of the study, the Investigator shall have the right to publish/present independently the results of the study. The Investigator shall provide the Sponsor with a copy of any such presentation/publication for comment at least 45 days before any presentation/submission for publication. If requested by the Sponsor, any presentation/submission shall be delayed up to 90 days, to allow the Sponsor to preserve its proprietary rights.

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