

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 in Combination With Sitagliptin in Type 2 Diabetes Patients: EASIE Extension Trial

This study has been completed.

| | |
|-------------------------------------------------|-------------|
| Sponsor: | Sanofi |
| Collaborators: | |
| Information provided by (Responsible Party): | Sanofi |
| ClinicalTrials.gov Identifier: | NCT00851903 |

Purpose

This study was the extension of the LANTU_C_02761 study named EASIE and identified as NCT00751114 (core study comparing insulin glargine versus sitagliptin in insulin-naïve patients treated with metformin and not adequately controlled).

All patients with Glycosylated Hemoglobin A1c (HbA1c) $\geq 7\%$ at the end of the core study had the possibility to enter this extension study if they met the other inclusion criteria and did not present with any exclusion criteria.

The visit 14 of the core study (week 24) was the visit 1 (baseline, week 0) of the extension study which consisted of a 12-week treatment period.

The objectives of this extension study were:

- To assess the glycemic control (HbA1c $<7\%$) of a 3-month combination therapy with metformin, insulin glargine and sitagliptin in patients not adequately controlled by a previous treatment with metformin plus either insulin glargine or sitagliptin.
- To assess the effect of insulin glargine in combination with sitagliptin on HbA1c level, fasting plasma glucose, 7-point glucose profile, hypoglycemia occurrence, body weight and overall safety.

| Condition | Intervention | Phase |
|---------------------------|----------------------------------------------------------------|---------|
| Diabetes Mellitus, Type 2 | Drug: Insulin Glargine Drug: Sitagliptin Drug: Metformin | Phase 3 |

Study Type: Interventional

Study Design: Treatment, Single Group Assignment, Open Label, N/A, Efficacy Study

Official Title: Combination Therapy of Insulin Glargine and Sitagliptin in Patients With Type 2 Diabetes Not Adequately Controlled by a Previous Treatment With Metformin and Either Insulin Glargine or Sitagliptin

Further study details as provided by Sanofi:

Primary Outcome Measure:

- HbA1c Response Rate: Percentage of Patients Achieving Glycosylated Haemoglobin A1c (HbA1c) < 7% at Study Endpoint (End of Treatment Period) [Time Frame: study endpoint: week 12 or earlier in case of premature discontinuation] [Designated as safety issue: No]

Secondary Outcome Measures:

- HbA1c: Change From Baseline to Study Endpoint [Time Frame: baseline, study endpoint: week 12 or earlier in case of premature discontinuation] [Designated as safety issue: No]
Change = study endpoint - baseline
- Self-Monitored Fasting Plasma Glucose (SMFPG) Mean : Change From Baseline to Study Endpoint [Time Frame: baseline, study endpoint: week 12 or week 8 if value not available at week 12] [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). Change = study endpoint - baseline.
- 7-point Plasma Glucose Profile: Change From Baseline to Study Endpoint [Time Frame: baseline, study endpoint: week 12 or week 8 if value not available at week 12] [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 [Time Frame: baseline, week 4, week 8, week 12] [Designated as safety issue: No]
Daily dose at the face-to-face visits
- Number of Patients With at Least One Episode of Symptomatic Hypoglycemia [Time Frame: During the treatment period (12 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 $\leq 70\text{mg/dL}$ [3.9 mmol/L]
- Change in Body Weight From Baseline to Study Endpoint [Time Frame: baseline, study endpoint: week 12 or week 8 or week 4 depending on last available value] [Designated as safety issue: Yes]
Change = study endpoint - baseline

Enrollment: 112

Study Start Date: June 2009

Primary Completion Date: September 2011

Study Completion Date: September 2011

| Arms | Assigned Interventions |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Experimental: Combination insulin glargine and sitagliptin Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously | Drug: Insulin Glargine Subcutaneous injection. 100 Units/mL solution for injection in a prefilled SoloStar® pen (3 mL). Other Names: Lantus® Drug: Sitagliptin |

| Arms | Assigned Interventions |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{Fasting Plasma Glucose (FPG)} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> | <p>Oral administration. 100mg film-coated tablets.</p> <p>Other Names: Januvia®</p> <p>Drug: Metformin Patients continued with metformin as usual oral anti-diabetic treatment.</p> |

Eligibility

Ages Eligible for Study: 35 Years to 71 Years

Genders Eligible for Study: Both

Accepts Healthy Volunteers: No

Criteria

Inclusion criteria:

- Patients who completed the core study LANTU_C_02761 (NCT00751114) i.e. went through the visit 14 investigation,
- HbA1c $\geq 7\%$,
- Dose of metformin compliant with the inclusion criteria of the core study (i.e. at least 1 g/day), and maintained stable for the duration of the core study
- Ability and willingness to perform plasma blood glucose monitoring using the sponsor-provided plasma glucose meter and to complete the patient diary,
- Signed informed consent obtained prior any study procedure,
- Willingness and ability to comply with the study protocol.

Exclusion Criteria:

- Treatment with oral antidiabetic drugs other than metformin and sitagliptin in the core study,
- Treatment with insulin other than Insulin Glargine in the core study (except in case of an emergency, for a period of time less than 7 days),
- Treatment with a non-permitted drug during the core study,
- Pregnant or lactating women,
- 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 in the core study),
- Impaired renal function: serum creatinine $\geq 1.5 \text{ mg/dL}$ ($\geq 133 \mu\text{mol/L}$) or $\geq 1.4 \text{ mg/dL}$ ($\geq 124 \mu\text{mol/L}$) 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) $> 3 \times$ upper limit of normal range,

- 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),
- History of pancreatitis.

Contacts and Locations

Locations

United States, New Jersey
 sanofi-aventis administrative office
 Bridgewater, New Jersey, United States, 08807

Austria
 sanofi-aventis administrative office
 Vienna, Austria

Brazil
 sanofi-aventis administrative office
 Sao Paulo, Brazil

Colombia
 sanofi-aventis administrative office
 Bogota, Colombia

Egypt
 sanofi-aventis administrative office
 Cairo, Egypt

Greece
 sanofi-aventis administrative office
 Kallithea, Greece

Hong Kong
 sanofi-aventis administrative office
 Hong Kong, Hong Kong

India
 sanofi-aventis administrative office
 Mumbai, India

Israel
 sanofi-aventis administrative office
 Natanya, Israel

Korea, Republic of
 sanofi-aventis administrative office
 Seoul, Korea, Republic of

Lebanon
 sanofi-aventis administrative office
 Beirut, Lebanon

Mexico

sanofi-aventis administrative office
Col. Coyoacan, Mexico
Netherlands
sanofi-aventis administrative office
Gouda, Netherlands
Portugal
sanofi-aventis administrative office
Porto Salvo, Portugal
Spain
sanofi-aventis administrative office
Barcelona, Spain
United Kingdom
sanofi-aventis administrative office
Guildford Surrey, United Kingdom

Investigators

Study Director: Clinical Sciences & Operations sanofi-aventis

More Information

Responsible Party: Sanofi
Study ID Numbers: EXT_LANTU_C_02761
2008-000521-19 [EudraCT Number]
Health Authority: United States: Food and Drug Administration

Study Results

Participant Flow

| | |
|------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Recruitment Details | Among the 445 patients who completed the EASIE study, 194 had an endpoint Glycosylated Hemoglobin A1c (HbA1c) $\geq 7\%$. A total of 112 patients were included in the extension study: 37 uncontrolled on previous treatment with metformin and insulin glargine and 75 uncontrolled on previous treatment with metformin and sitagliptin in the EASIE study. |
| Pre-Assignment Details | Among the 112 included patients, two patients prematurely discontinued from the study. One of them had continued his sitagliptin treatment but never started the insulin glargine treatment. |

Reporting Groups

| | Description |
|----------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combination Insulin Glargine and Sitagliptin | <p>Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{Fasting Plasma Glucose (FPG)} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> |

Overall Study

| | Combination Insulin Glargine and Sitagliptin |
|-------------------------------------|----------------------------------------------|
| Started | 112 |
| Safety Population | 112 ^[1] |
| Treated by Combination | 111 ^[2] |
| Modified Intent-To-Treat Population | 111 ^[3] |
| Completed | 110 |
| Not Completed | 2 |
| Withdrawal by Subject | 2 |

[1] patients treated with at least one dose of insulin glargine OR one dose of sitagliptin

[2] patients treated with at least one dose of insulin glargine AND one dose of sitagliptin

[3] mITT population: patients treated by combination with at least 1 on-treatment efficacy measure

Baseline Characteristics

Reporting Groups

| | Description |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combination Insulin Glargine and Sitagliptin | <p>Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{FPG} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> |

Baseline Measures

| | Combination Insulin Glargine and Sitagliptin |
|--------------------------------------------------------------------------------------------|----------------------------------------------|
| Number of Participants | 111 |
| Age, Continuous ^[1] [units: years] Mean (Standard Deviation) | 52.4 (9.3) |
| Gender, Male/Female ^[2] [units: participants] | |
| Female | 56 |
| Male | 55 |
| Body Weight ^[2] [units: kg] Mean (Standard Deviation) | 84.6 (21.0) |
| Body Mass Index ^[2] [units: kg/m ²] Mean (Standard Deviation) | 31.3 (5.2) |
| Systolic Blood Pressure ^[2] [units: mmHg] Mean (Standard Deviation) | 129.9 (15.5) |
| Diastolic Blood Pressure ^[2] [units: mmHg] Mean (Standard Deviation) | 80.1 (7.3) |
| Heart Rate ^[2] [units: beats/min] Mean (Standard Deviation) | 76.9 (9.1) |
| Duration of diabetes ^[3] [units: years] Median (Inter-Quartile Range) | 4.1 (2.0 to 8.3) |
| At least one diabetic late complication ^[4] [units: participants] | |
| Yes | 23 |
| No | 88 |
| Glycosylated Hemoglobin A1c (HbA1c) ^[2] | 8.0 (1.0) |

| | Combination Insulin Glargine and Sitagliptin |
|--------------------------------------------------------------------------------------------------------|----------------------------------------------|
| [units: percent] Mean (Standard Deviation) | |
| Fasting Plasma Glucose ^[5] [units: mg/dL] Mean (Standard Deviation) | 151.5 (46.9) |
| Self-Monitored Fasting Plasma Glucose ^[6] [units: mg/dL] Mean (Standard Deviation) | 144.4 (38.2) |

[1] mITT population

Age collected at EASIE study entry (24 weeks before baseline)

[2] mITT population

[3] mITT population

Duration of diabetes collected at EASIE study entry (24 weeks before baseline)

[4] 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

Information collected at EASIE study entry (24 weeks before baseline)

[5] mITT population but due to missing values N=110

[6] mITT population but due to missing values N=104



Outcome Measures

1. Primary Outcome Measure:

| | |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| Measure Title | HbA1c Response Rate: Percentage of Patients Achieving Glycosylated Haemoglobin A1c (HbA1c) < 7% at Study Endpoint (End of Treatment Period) |
| Measure Description | |
| Time Frame | study endpoint: week 12 or earlier in case of premature discontinuation |
| Safety Issue? | No |

Analysis Population Description

The population analyzed consisted of the subset of mITT patients who had HbA1c value at study endpoint.

Reporting Groups

| | Description |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combination Insulin Glargine and Sitagliptin | <p>Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{FPG} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> |

Measured Values

| | Combination Insulin Glargine and Sitagliptin |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Number of Participants Analyzed | 106 |
| HbA1c Response Rate: Percentage of Patients Achieving Glycosylated Haemoglobin A1c (HbA1c) < 7% at Study Endpoint (End of Treatment Period) [units: percentage of participants] Number (95% Confidence Interval) | 51.9 (41.97 to 61.70) |

2. Secondary Outcome Measure:

| | |
|---------------------|-----------------------------------------------------------------------------------|
| Measure Title | HbA1c: Change From Baseline to Study Endpoint |
| Measure Description | Change = study endpoint - baseline |
| Time Frame | baseline, study endpoint: week 12 or earlier in case of premature discontinuation |
| Safety Issue? | No |

Analysis Population Description

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

Reporting Groups

| | Description |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combination Insulin Glargine and Sitagliptin | <p>Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{FPG} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> |

Measured Values

| | Combination Insulin Glargine and Sitagliptin |
|------------------------------------------------------------------------------------------------|----------------------------------------------|
| Number of Participants Analyzed | 106 |
| HbA1c: Change From Baseline to Study Endpoint [units: percent] Mean (Standard Deviation) | -0.80 (1.05) |

3. Secondary Outcome Measure:

| | |
|---------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measure Title | Self-Monitored Fasting Plasma Glucose (SMFPG) Mean : Change From Baseline to Study Endpoint |
| Measure Description | <p>SMFPG mean = mean of the fasting plasma glucose values recorded on the 6 consecutive days before the visit (at least 3 values needed).</p> <p>Change = study endpoint - baseline.</p> |
| Time Frame | baseline, study endpoint: week 12 or week 8 if value not available at week 12 |
| Safety Issue? | No |

Analysis Population Description

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

Reporting Groups

| | Description |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combination Insulin Glargine and Sitagliptin | <p>Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{FPG} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> |

Measured Values

| | Combination Insulin Glargine and Sitagliptin |
|-----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Number of Participants Analyzed | 104 |
| Self-Monitored Fasting Plasma Glucose (SMFPG) Mean : Change From Baseline to Study Endpoint [units: mg/dL] Mean (Standard Deviation) | -35.43 (39.61) |

4. Secondary Outcome Measure:

| | |
|---------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Measure Title | 7-point Plasma Glucose Profile: Change From Baseline to Study Endpoint |
| Measure Description | <p>7-point plasma glucose recorded before and after breakfast, before and after lunch, before and after dinner and at bedtime.</p> <p>Change = study endpoint - baseline.</p> |
| Time Frame | baseline, study endpoint: week 12 or week 8 if value not available at week 12 |
| Safety Issue? | No |

Analysis Population Description

The population analyzed 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.

Reporting Groups

| | Description |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combination Insulin Glargine and Sitagliptin | <p>Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{FPG} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> |

Measured Values

| | Combination Insulin Glargine and Sitagliptin |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------|
| Number of Participants Analyzed | 104 |
| 7-point Plasma Glucose Profile: Change From Baseline to Study Endpoint [units: mg/dL] Mean (Standard Deviation) | |
| Before breakfast (N=104) | -34.2 (38.1) |
| After breakfast (N=103) | -34.1 (48.1) |
| Before lunch (N=104) | -26.6 (48.2) |
| After lunch (N=104) | -26.5 (43.7) |
| Before dinner (N=103) | -25.1 (43.0) |
| After dinner (N=100) | -24.9 (46.7) |
| At bedtime (N=93) | -35.2 (51.7) |

5. Secondary Outcome Measure:

| | |
|---------------------|---------------------------------------|
| Measure Title | Insulin Dose |
| Measure Description | Daily dose at the face-to-face visits |
| Time Frame | baseline, week 4, week 8, week 12 |
| Safety Issue? | No |

Analysis Population Description

mITT population

Reporting Groups

| | Description |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combination Insulin Glargine and Sitagliptin | <p>Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{FPG} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> |

Measured Values

| | Combination Insulin Glargine and Sitagliptin |
|-------------------------------------------------------------------------------|----------------------------------------------|
| Number of Participants Analyzed | 111 |
| Insulin Dose [units: unit per kg body weight] Mean (Standard Deviation) | |
| Baseline | 0.28 (0.18) |
| Week 4 N=110 | 0.37 (0.16) |
| Week 8 N=110 | 0.42 (0.18) |
| Week 12 | 0.46 (0.20) |

6. 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 $\leq 70 \text{ mg/dL}$ [3.9 mmol/L] |
| Time Frame | During the treatment period (12 weeks) plus 7 days after last dose |
| Safety Issue? | Yes |

Analysis Population Description

The population analyzed for this outcome measure was the safety population

Reporting Groups

| | Description |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combination Insulin Glargine and Sitagliptin | <p>Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{FPG} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> |

Measured Values

| | Combination Insulin Glargine and Sitagliptin |
|---------------------------------------------------------------------------------------------------|----------------------------------------------|
| Number of Participants Analyzed | 112 |
| Number of Patients With at Least One Episode of Symptomatic Hypoglycemia [units: participants] | 40 |

7. Secondary Outcome Measure:

| | |
|---------------------|-----------------------------------------------------------------------------------------|
| Measure Title | Change in Body Weight From Baseline to Study Endpoint |
| Measure Description | Change = study endpoint - baseline |
| Time Frame | baseline, study endpoint: week 12 or week 8 or week 4 depending on last available value |
| Safety Issue? | Yes |

Analysis Population Description

The population analyzed was the safety population with both baseline and endpoint values available

Reporting Groups

| | Description |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combination Insulin Glargine and Sitagliptin | <p>Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{FPG} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> |

Measured Values

| | Combination Insulin Glargine and Sitagliptin |
|---------------------------------------------------------------------------------------------------|----------------------------------------------|
| Number of Participants Analyzed | 111 |
| Change in Body Weight From Baseline to Study Endpoint [units: kg] Mean (Standard Deviation) | 1.15 (2.24) |

Reported Adverse Events

| | |
|------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Time Frame | Adverse events were assessed throughout the extension study (12 weeks). Only adverse events starting from inclusion in the extension study were taken into account. |
| Additional Description | [Not specified] |

Reporting Groups

| | Description |
|----------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Combination Insulin Glargine and Sitagliptin | <p>Insulin glargine administered once a day, in the evening, at dinner or at bedtime. Starting dose: - last dose administered in the core study for patients previously treated with insulin glargine, - 0.2 U/Kg of body weight for patients previously treated with sitagliptin. Monitoring of blood glucose and titration: all patients, irrespective of their previous treatment group in the core study were empowered to adjust their insulin doses, under strict investigator's supervision. The goal was to achieve through a force titration $70 < \text{FPG} \leq 100 \text{ mg/dL}$ ($3.9 < \text{FPG} \leq 5.5 \text{ mmol/L}$).</p> <p>Sitagliptin: stable dose of 100 mg once a day administered with or without food.</p> |

Serious Adverse Events

| | Combination Insulin Glargine and Sitagliptin |
|---------------------------------------------------------------------|----------------------------------------------|
| | Affected/At Risk (%) |
| Total | 2/112 (1.79%) |
| Cardiac disorders | |
| Right ventricular failure ^{A *} | 1/112 (0.89%) |
| Neoplasms benign, malignant and unspecified (incl cysts and polyps) | |

| | Combination Insulin Glargine and Sitagliptin |
|-----------------------------------|----------------------------------------------|
| | Affected/At Risk (%) |
| Endometrial cancer ^{A *} | 1/112 (0.89%) |

* 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%

| | Combination Insulin Glargine and Sitagliptin |
|-------|----------------------------------------------|
| | Affected/At Risk (%) |
| Total | 0/112 (0%) |

► 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.

Results Point of Contact:

Name/Official Title: Trial Transparency Team

Organization: sanofi-aventis

Phone:

Email: Contact-US@sanofi.com