



Clinical trial results:

A Phase II, Randomized, Comparative, Observer-Blind, Multi-Center Study Evaluating the Safety and Immunogenicity of the Liquid Formulation of Group B Streptococcus Trivalent Vaccine and of the Lyophilized Formulation of Group B Streptococcus Trivalent Vaccine in Healthy Non-Pregnant Women aged 18 to 40 Years.

Summary

| | |
|--------------------------|----------------|
| EudraCT number | 2013-003111-22 |
| Trial protocol | BE CZ |
| Global end of trial date | 04 May 2016 |

Results information

| | |
|--------------------------------|---|
| Result version number | v2 |
| This version publication date | 14 June 2017 |
| First version publication date | 05 October 2016 |
| Version creation reason | • New data added to full data set Additional Immunogenicity data |

Trial information

Trial identification

| | |
|-----------------------|--------|
| Sponsor protocol code | 205220 |
|-----------------------|--------|

Additional study identifiers

| | |
|------------------------------------|-------------|
| ISRCTN number | - |
| ClinicalTrials.gov id (NCT number) | NCT02270944 |
| WHO universal trial number (UTN) | - |

Notes:

Sponsors

| | |
|------------------------------|--|
| Sponsor organisation name | GlaxoSmithKline Biologicals |
| Sponsor organisation address | Rue de l'Institut 89, Rixensart, Belgium, 1330 |
| Public contact | Clinical Trials Call Center, GlaxoSmithKline Biologicals, +44 20899 4466, GSKClinicalSupportHD@gsk.com |
| Scientific contact | Clinical Trials Call Center, GlaxoSmithKline Biologicals, +44 20899 4466, GSKClinicalSupportHD@gsk.com |

Notes:

Paediatric regulatory details

| | |
|--|----|
| Is trial part of an agreed paediatric investigation plan (PIP) | No |
| Does article 45 of REGULATION (EC) No 1901/2006 apply to this trial? | No |
| Does article 46 of REGULATION (EC) No 1901/2006 apply to this trial? | No |

Notes:

Results analysis stage

| | |
|--|---------------|
| Analysis stage | Final |
| Date of interim/final analysis | 15 March 2017 |
| Is this the analysis of the primary completion data? | Yes |
| Primary completion date | 23 April 2015 |
| Global end of trial reached? | Yes |
| Global end of trial date | 04 May 2016 |
| Was the trial ended prematurely? | No |

Notes:

General information about the trial

Main objective of the trial:

Immunogenicity Objectives:

To demonstrate the equivalence of the liquid GBS trivalent vaccine formulation to the lyophilized GBS trivalent vaccine formulation for serotypes Ia, Ib, and III, when administered to healthy non-pregnant women, as measured by Geometric Mean Concentrations (GMCs) at 30 days (Day 31) after a single vaccination.

Safety Objectives:

To evaluate the safety and tolerability of a single dose of liquid and lyophilized GBS trivalent vaccine formulations when administered to healthy non-pregnant women aged 18-40 years.

Protection of trial subjects:

This clinical study was designed, implemented and reported in accordance with the ICH Harmonized Tripartite Guidelines for GCP, with applicable local regulations, including the European Directive 2001/20/EC, the US CFR Title 21, and the Japanese Ministry of Health, Labor, and Welfare, Novartis codes on the protection of human rights, and with the ethical principles laid down in the Declaration of Helsinki.

Background therapy: -

Evidence for comparator: -

| | |
|---|------------------|
| Actual start date of recruitment | 20 November 2014 |
| Long term follow-up planned | No |
| Independent data monitoring committee (IDMC) involvement? | No |

Notes:

Population of trial subjects

Subjects enrolled per country

| | |
|--------------------------------------|---------------------|
| Country: Number of subjects enrolled | Belgium: 500 |
| Country: Number of subjects enrolled | Czech Republic: 300 |
| Country: Number of subjects enrolled | United States: 253 |
| Worldwide total number of subjects | 1053 |
| EEA total number of subjects | 800 |

Notes:

Subjects enrolled per age group

| | |
|---|---|
| In utero | 0 |
| Preterm newborn - gestational age < 37 wk | 0 |
| Newborns (0-27 days) | 0 |

| | |
|--|------|
| Infants and toddlers (28 days-23 months) | 0 |
| Children (2-11 years) | 0 |
| Adolescents (12-17 years) | 0 |
| Adults (18-64 years) | 1053 |
| From 65 to 84 years | 0 |
| 85 years and over | 0 |

Subject disposition

Recruitment

Recruitment details:

1053 subjects were enrolled at Belgium, US and Czech Republic sites.

Pre-assignment

Screening details:

1053 subjects were enrolled in the study. 1 subject in the Liquid GBS trivalent vaccine Group and 2 subjects in the Lyophilized GBS trivalent vaccine Group were randomized but didn't receive the vaccine.

Period 1

| | |
|------------------------------|--------------------------------|
| Period 1 title | Overall Study (overall period) |
| Is this the baseline period? | Yes |
| Allocation method | Randomised - controlled |
| Blinding used | Double blind |
| Roles blinded | Subject, Investigator |

Arms

| | |
|------------------------------|-----|
| Are arms mutually exclusive? | Yes |
|------------------------------|-----|

| | |
|------------------|------------------------------|
| Arm title | Liquid GBS trivalent vaccine |
|------------------|------------------------------|

Arm description:

Healthy non-pregnant women aged 18-40 years that received a single dose of liquid GBS trivalent vaccine.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Trivalent Group B Streptococcus Glycoconjugate Vaccine |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Solution for injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

0.5 mL delivered by the intramuscular (IM) route, preferably the deltoid muscle in the non-dominant arm.

| | |
|------------------|-----------------------------------|
| Arm title | Lyophilized GBS trivalent vaccine |
|------------------|-----------------------------------|

Arm description:

Healthy non-pregnant women aged 18-40 years that received a single dose of lyophilized GBS trivalent vaccine.

| | |
|--|--|
| Arm type | Experimental |
| Investigational medicinal product name | Trivalent Group B Streptococcus Glycoconjugate Vaccine |
| Investigational medicinal product code | |
| Other name | |
| Pharmaceutical forms | Suspension for injection |
| Routes of administration | Intramuscular use |

Dosage and administration details:

0.5 mL delivered by the intramuscular (IM) route, preferably the deltoid muscle in the non-dominant arm.

| Number of subjects in period 1^[1] | Liquid GBS trivalent vaccine | Lyophilized GBS trivalent vaccine |
|---|------------------------------|-----------------------------------|
| Started | 529 | 521 |
| Completed | 518 | 516 |
| Not completed | 11 | 5 |
| Consent withdrawn by subject | 2 | 1 |
| Lost to follow-up | 9 | 4 |

Notes:

[1] - The number of subjects reported to be in the baseline period are not the same as the worldwide number enrolled in the trial. It is expected that these numbers will be the same.

Justification: 1053 Subjects were enrolled in the study. 1 subject in the Liquid GBS trivalent vaccine Group and 2 subjects in the Lyophilized GBS trivalent vaccine Group were randomized but didn't receive the vaccine .

Baseline characteristics

Reporting groups

| | |
|---|-----------------------------------|
| Reporting group title | Liquid GBS trivalent vaccine |
| Reporting group description: Healthy non-pregnant women aged 18-40 years that received a single dose of liquid GBS trivalent vaccine. | |
| Reporting group title | Lyophilized GBS trivalent vaccine |
| Reporting group description: Healthy non-pregnant women aged 18-40 years that received a single dose of lyophilized GBS trivalent vaccine. | |

| Reporting group values | Liquid GBS trivalent vaccine | Lyophilized GBS trivalent vaccine | Total |
|--|------------------------------|-----------------------------------|-------|
| Number of subjects | 529 | 521 | 1050 |
| Age categorical Units: Subjects | | | |
| In utero | | | 0 |
| Preterm newborn infants (gestational age < 37 wks) | | | 0 |
| Newborns (0-27 days) | | | 0 |
| Infants and toddlers (28 days-23 months) | | | 0 |
| Children (2-11 years) | | | 0 |
| Adolescents (12-17 years) | | | 0 |
| Adults (18-64 years) | | | 0 |
| From 65-84 years | | | 0 |
| 85 years and over | | | 0 |
| Age continuous Units: years | | | |
| arithmetic mean | 27.1 | 27.4 | |
| standard deviation | ± 6.24 | ± 6.05 | - |
| Gender categorical Units: Subjects | | | |
| Female | 529 | 521 | 1050 |
| Male | 0 | 0 | 0 |

Subject analysis sets

| | |
|--|-------------------------|
| Subject analysis set title | Exposed Set |
| Subject analysis set type | Intention-to-treat |
| Subject analysis set description: All subjects in the enrolled population who received a study vaccination. | |
| Subject analysis set title | Full Analysis Set (FAS) |
| Subject analysis set type | Full analysis |
| Subject analysis set description: All subjects in the enrolled population who: - Received a study vaccination - Provided at least 1 evaluable serum sample both before and after vaccination (both are required as the primary model is an ANCOVA which incorporates baseline concentrations). FAS populations were to be analyzed "as randomized" (ie, according to the vaccine a subject was designated to receive, which may be different from the vaccine the subject actually received). | |

| | |
|----------------------------|------------------------|
| Subject analysis set title | Per Protocol Set (PPS) |
| Subject analysis set type | Per protocol |

Subject analysis set description:

All subjects in the FAS immunogenicity population who:

- Correctly received the study vaccine (i.e., received the vaccine to which the subjects were randomized and received the vaccine at the scheduled time point).
- Have no major protocol deviation or other reasons to be excluded, (see section 7.3.8), as defined prior to unblinding.
- Provided evaluable serum samples both before vaccination and at day 31 in the protocol required windows.

| | |
|----------------------------|--|
| Subject analysis set title | Safety Set (solicited AEs and other signs of reactogenicity) |
| Subject analysis set type | Safety analysis |

Subject analysis set description:

All subjects in the exposed set who provided data on post vaccination local or systemic AEs or other signs of reactogenicity.

| | |
|----------------------------|------------------------------|
| Subject analysis set title | Safety Set (unsolicited AEs) |
| Subject analysis set type | Safety analysis |

Subject analysis set description:

All subjects in the exposed set who provided information about post-vaccination unsolicited AEs.

| | |
|----------------------------|----------------------|
| Subject analysis set title | Safety Set (overall) |
| Subject analysis set type | Safety analysis |

Subject analysis set description:

All subjects in the exposed set who have either provided data on post-vaccination AEs or local or systemic AEs or other signs of reactogenicity.

| Reporting group values | Exposed Set | Full Analysis Set (FAS) | Per Protocol Set (PPS) |
|---|-------------|-------------------------|------------------------|
| Number of subjects | 1050 | 1043 | 1034 |
| Age categorical Units: Subjects | | | |
| In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over | | | |
| Age continuous Units: years | | | |
| arithmetic mean | | 27.2 | 27.2 |
| standard deviation | ± | ± 6.15 | ± 6.15 |
| Gender categorical Units: Subjects | | | |
| Female | 1050 | 1043 | 1034 |
| Male | 0 | 0 | 0 |

| Reporting group values | Safety Set (solicited AEs and other signs of reactogenicity) | Safety Set (unsolicited AEs) | Safety Set (overall) |
|------------------------|--|------------------------------|----------------------|
| Number of subjects | 1050 | 1047 | 1047 |

| | | | |
|--|-------|-------|--------------------|
| Age categorical Units: Subjects | | | |
| In utero Preterm newborn infants (gestational age < 37 wks) Newborns (0-27 days) Infants and toddlers (28 days-23 months) Children (2-11 years) Adolescents (12-17 years) Adults (18-64 years) From 65-84 years 85 years and over | | | |
| Age continuous Units: years arithmetic mean standard deviation | \pm | \pm | 27.2 \pm 6.14 |
| Gender categorical Units: Subjects | | | |
| Female | 1050 | 1047 | 1047 |
| Male | 0 | 0 | 0 |

End points

End points reporting groups

| | |
|--|--|
| Reporting group title | Liquid GBS trivalent vaccine |
| Reporting group description: Healthy non-pregnant women aged 18-40 years that received a single dose of liquid GBS trivalent vaccine. | |
| Reporting group title | Lyophilized GBS trivalent vaccine |
| Reporting group description: Healthy non-pregnant women aged 18-40 years that received a single dose of lyophilized GBS trivalent vaccine. | |
| Subject analysis set title | Exposed Set |
| Subject analysis set type | Intention-to-treat |
| Subject analysis set description: All subjects in the enrolled population who received a study vaccination. | |
| Subject analysis set title | Full Analysis Set (FAS) |
| Subject analysis set type | Full analysis |
| Subject analysis set description: All subjects in the enrolled population who: - Received a study vaccination - Provided at least 1 evaluable serum sample both before and after vaccination (both are required as the primary model is an ANCOVA which incorporates baseline concentrations). FAS populations were to be analyzed "as randomized" (ie, according to the vaccine a subject was designated to receive, which may be different from the vaccine the subject actually received). | |
| Subject analysis set title | Per Protocol Set (PPS) |
| Subject analysis set type | Per protocol |
| Subject analysis set description: All subjects in the FAS immunogenicity population who: - Correctly received the study vaccine (i.e., received the vaccine to which the subjects were randomized and received the vaccine at the scheduled time point). - Have no major protocol deviation or other reasons to be excluded, (see section 7.3.8), as defined prior to unblinding. - Provided evaluable serum samples both before vaccination and at day 31 in the protocol required windows. | |
| Subject analysis set title | Safety Set (solicited AEs and other signs of reactogenicity) |
| Subject analysis set type | Safety analysis |
| Subject analysis set description: All subjects in the exposed set who provided data on post vaccination local or systemic AEs or other signs of reactogenicity. | |
| Subject analysis set title | Safety Set (unsolicited AEs) |
| Subject analysis set type | Safety analysis |
| Subject analysis set description: All subjects in the exposed set who provided information about post-vaccination unsolicited AEs. | |
| Subject analysis set title | Safety Set (overall) |
| Subject analysis set type | Safety analysis |
| Subject analysis set description: All subjects in the exposed set who have either provided data on post-vaccination AEs or local or systemic AEs or other signs of reactogenicity. | |

Primary: Concentration of serotype Ia GBS IgG levels in healthy non-pregnant women

| | |
|--|---|
| End point title | Concentration of serotype Ia GBS IgG levels in healthy non-pregnant women |
| End point description: To evaluate serotype-specific Ia GBS serum IgG antibody levels (anti-Ia) in healthy non-pregnant | |

women when administered with the liquid GBS trivalent vaccine formulation or the lyophilized GBS trivalent vaccine formulation. Antibody concentrations were measured by Enzyme-linked immunosorbent assay (ELISA), expressed as geometric mean concentrations (GMCs), in micrograms per milliliter (µg/mL).

| | |
|-----------------------------------|---------|
| End point type | Primary |
| End point timeframe: | |
| Day 31 after a single vaccination | |

| End point values | Liquid GBS trivalent vaccine | Lyophilized GBS trivalent vaccine | | |
|--|------------------------------|-----------------------------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 521 | 513 | | |
| Units: µg/mL | | | | |
| geometric mean (confidence interval 95%) | | | | |
| Serogroup Ia | 6.81 (5.54 to 8.37) | 6.66 (5.4 to 8.21) | | |

Statistical analyses

| | |
|---|--|
| Statistical analysis title | Ratio of GMCs for anti-GBS Ia concentration |
| Statistical analysis description: | |
| To demonstrate the equivalence of the liquid GBS trivalent vaccine formulation to the lyophilized GBS trivalent vaccine formulation for serotypes Ia when administered to healthy non-pregnant women, as measured by geometric mean concentrations (GMC). | |
| Comparison groups | Lyophilized GBS trivalent vaccine v Liquid GBS trivalent vaccine |
| Number of subjects included in analysis | 1034 |
| Analysis specification | Pre-specified |
| Analysis type | equivalence ^[1] |
| Parameter estimate | Ratio of GMCs |
| Point estimate | 1.02 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | 0.79 |
| upper limit | 1.32 |

Notes:

[1] - To assess the vaccine formulations equivalence, the lower limit of the two-sided 95% confidence interval (CI) for the ratio of GMCs at Day 31 after vaccination must be > 0.5 and the upper limit of the two-sided 95% CI must be < 2.0 (the entire two-sided 95% CI must be contained in the 0.5, 2.0 interval). Analysis of covariance (ANCOVA) model with vaccine group and center as fixed effects and log10-prevaccination antibody concentration as a covariate

Primary: Concentration of serotype III GBS IgG levels in healthy non-pregnant women

| | |
|-----------------|--|
| End point title | Concentration of serotype III GBS IgG levels in healthy non-pregnant women |
|-----------------|--|

End point description:

To evaluate serotype-specific III GBS serum IgG antibody levels (anti-III) in healthy non-pregnant women when administered with the liquid GBS trivalent vaccine formulation or the lyophilized GBS trivalent vaccine formulation. Antibody concentrations were measured by Enzyme-linked immunosorbent

assay (ELISA), expressed as geometric mean concentrations (GMCs), in micrograms per milliliter (µg/mL).

| | |
|--------------------------------------|---------|
| End point type | Primary |
| End point timeframe: | |
| At Day 31 after a single vaccination | |

| End point values | Liquid GBS trivalent vaccine | Lyophilized GBS trivalent vaccine | | |
|--|------------------------------|-----------------------------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 492 | 489 | | |
| Units: µg/mL | | | | |
| geometric mean (confidence interval 95%) | 2.42 (1.95 to 3.01) | 2.44 (1.95 to 3.04) | | |

Statistical analyses

| | |
|--|--|
| Statistical analysis title | Ratio of GMCs for anti-GBS III concentration |
| Statistical analysis description: | |
| To demonstrate the equivalence of the liquid GBS trivalent vaccine formulation to the lyophilized GBS trivalent vaccine formulation for serotypes III when administered to healthy non-pregnant women, as measured by geometric mean concentrations (GMC). | |
| Comparison groups | Liquid GBS trivalent vaccine v Lyophilized GBS trivalent vaccine |
| Number of subjects included in analysis | 981 |
| Analysis specification | Pre-specified |
| Analysis type | equivalence ^[2] |
| Parameter estimate | Ratio of GMCs |
| Point estimate | 0.99 |
| Confidence interval | |
| level | 95 % |
| sides | 2-sided |
| lower limit | 0.76 |
| upper limit | 1.3 |

Notes:

[2] - To assess the vaccine formulations equivalence, the lower limit of the two-sided 95% confidence interval (CI) for the ratio of GMCs at Day 31 after vaccination must be > 0.5 and the upper limit of the two-sided 95% CI must be < 2.0 (the entire two-sided 95% CI must be contained in the 0.5, 2.0 interval). Analysis of covariance (ANCOVA) model with vaccine group and center as fixed effects and log10-prevaccination antibody concentration as a covariate.

Secondary: Number of subjects reporting solicited local and systemic Adverse Events (AEs)

| | |
|--|--|
| End point title | Number of subjects reporting solicited local and systemic Adverse Events (AEs) |
| End point description: | |
| Safety was assessed as the number of subjects who reported solicited local and solicited systemic AEs following a single injection with either liquid or lyophilized GBS trivalent vaccine formulations. | |
| End point type | Secondary |
| End point timeframe: | |
| From 6 hours through Day 7 post-vaccination | |

| End point values | Liquid GBS trivalent vaccine | Lyophilized GBS trivalent vaccine | | |
|---|------------------------------|-----------------------------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 524 | 519 | | |
| Units: Subjects | | | | |
| Any local AEs (N=524;519) | 247 | 229 | | |
| Injection site Pain (N=520;518) | 227 | 205 | | |
| Injection site Erythema (N=522;518) | 16 | 9 | | |
| Injection site Swelling (N=522;519) | 12 | 5 | | |
| Injection site Warmth (N=521;517) | 68 | 57 | | |
| Injection site Induration (N=521;519) | 17 | 15 | | |
| Injection site Ecchymosis (N=520;519) | 1 | 6 | | |
| Any Systemic AEs (N=524;519) | 280 | 278 | | |
| Chills (N=519;517) | 64 | 56 | | |
| Myalgia (N=519;519) | 75 | 78 | | |
| Malaise (N=519;519) | 104 | 103 | | |
| Nausea (N=519;519) | 83 | 77 | | |
| Headache (N=519;518) | 176 | 187 | | |
| Fatigue (N=518;518) | 183 | 190 | | |
| Rash (N=519;519) | 18 | 15 | | |
| Arthralgia (N=518;518) | 49 | 53 | | |
| Fever ($\geq 38^{\circ}\text{C}$) (N=516;515) | 8 | 7 | | |
| Analgesic/antipyretic use (prevention)(N=521;513) | 2 | 3 | | |
| Analgesic/antipyretic use (treatment)(N=522;512) | 59 | 69 | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects reporting any unsolicited AEs

| | |
|---|--|
| End point title | Number of subjects reporting any unsolicited AEs |
| End point description: | |
| Safety was assessed as the number of subjects who reported unsolicited AEs following a single injection with either liquid or lyophilized GBS trivalent vaccine formulations. | |
| End point type | Secondary |
| End point timeframe: | |
| From Day 1 to Day 181 (end of study) | |

| End point values | Liquid GBS trivalent vaccine | Lyophilized GBS trivalent vaccine | | |
|---|------------------------------|-----------------------------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 526 | 521 | | |
| Units: Subjects | | | | |
| Any AEs | 272 | 276 | | |
| At least possibly or probably related AEs | 57 | 52 | | |
| Medically attended AEs | 165 | 166 | | |
| AEs leading to Premature withdrawal | 0 | 0 | | |
| AEs leading to Hospitalization | 5 | 9 | | |
| AEs leading to Death | 0 | 0 | | |

Statistical analyses

No statistical analyses for this end point

Secondary: Number of subjects reporting any Serious Adverse Events (SAEs)

| | |
|-----------------|--|
| End point title | Number of subjects reporting any Serious Adverse Events (SAEs) |
|-----------------|--|

End point description:

Safety was assessed as the number of subjects who reported unsolicited SAEs following a single injection with either liquid or lyophilized GBS trivalent vaccine formulations.

Serious adverse events (SAEs) assessed include medical occurrences that result in death, are life-threatening, require hospitalization or prolongation of hospitalization or result in disability/incapacity.

| | |
|----------------|-----------|
| End point type | Secondary |
|----------------|-----------|

End point timeframe:

From Day 1 to Day 181 (end of study)

| End point values | Liquid GBS trivalent vaccine | Lyophilized GBS trivalent vaccine | | |
|--|------------------------------|-----------------------------------|--|--|
| Subject group type | Reporting group | Reporting group | | |
| Number of subjects analysed | 526 | 521 | | |
| Units: Subjects | | | | |
| Any SAEs | 6 | 9 | | |
| At least possibly or probably related SAEs | 0 | 0 | | |

Statistical analyses

No statistical analyses for this end point

Adverse events

Adverse events information

Timeframe for reporting adverse events:

Safety was assessed from day 1 to Day 181 (end of study). The analyses for serious unsolicited adverse events (SAEs) and adverse events (AEs) were done on the safety population.

Adverse event reporting additional description:

Solicited local and systemic AEs were collected daily from day 1 through day 7 after vaccination. All unsolicited AEs including SAEs were collected from day 1 through day 181 (end of study) after vaccination. There were 3 subjects in the Liquid GBS trivalent vaccine group who were treated but for whom no safety data were available.

| | |
|-----------------|------------|
| Assessment type | Systematic |
|-----------------|------------|

Dictionary used

| | |
|--------------------|--------|
| Dictionary name | MedDRA |
| Dictionary version | 19.0 |

Reporting groups

| | |
|-----------------------|-----------------------------------|
| Reporting group title | Lyophilized GBS trivalent vaccine |
|-----------------------|-----------------------------------|

Reporting group description:

Healthy non-pregnant women aged 18-40 years that received a single dose of lyophilized GBS trivalent vaccine.

| | |
|-----------------------|------------------------------|
| Reporting group title | Liquid GBS trivalent vaccine |
|-----------------------|------------------------------|

Reporting group description:

Healthy non-pregnant women aged 18-40 years that received a single dose of liquid GBS trivalent vaccine.

| Serious adverse events | Lyophilized GBS trivalent vaccine | Liquid GBS trivalent vaccine | |
|---|-----------------------------------|------------------------------|--|
| Total subjects affected by serious adverse events | | | |
| subjects affected / exposed | 9 / 521 (1.73%) | 6 / 526 (1.14%) | |
| number of deaths (all causes) | 0 | 0 | |
| number of deaths resulting from adverse events | 0 | 0 | |
| Neoplasms benign, malignant and unspecified (incl cysts and polyps) | | | |
| Breast cancer | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Injury, poisoning and procedural complications | | | |
| Ligament rupture | | | |
| subjects affected / exposed | 0 / 521 (0.00%) | 1 / 526 (0.19%) | |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 1 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Meniscus injury | | | |

| | | | |
|---|-----------------|-----------------|--|
| subjects affected / exposed | 0 / 521 (0.00%) | 1 / 526 (0.19%) | |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 1 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Wrist fracture | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Vascular disorders | | | |
| Varicose vein | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Pregnancy, puerperium and perinatal conditions | | | |
| Abortion spontaneous | | | |
| subjects affected / exposed | 0 / 521 (0.00%) | 1 / 526 (0.19%) | |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 1 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Gastrointestinal disorders | | | |
| Abdominal adhesions | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Abdominal pain upper | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Nausea | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Vomiting | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |

| | | | |
|---|-----------------|-----------------|--|
| Reproductive system and breast disorders | | | |
| Cervical dysplasia | | | |
| subjects affected / exposed | 0 / 521 (0.00%) | 1 / 526 (0.19%) | |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 1 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Endometriosis | | | |
| subjects affected / exposed | 0 / 521 (0.00%) | 1 / 526 (0.19%) | |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 1 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Respiratory, thoracic and mediastinal disorders | | | |
| Pneumothorax spontaneous | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Pulmonary embolism | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Psychiatric disorders | | | |
| Acute psychosis | | | |
| subjects affected / exposed | 0 / 521 (0.00%) | 1 / 526 (0.19%) | |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 1 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Major depression | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Infections and infestations | | | |
| Gastroenteritis | | | |
| subjects affected / exposed | 0 / 521 (0.00%) | 1 / 526 (0.19%) | |
| occurrences causally related to treatment / all | 0 / 0 | 0 / 1 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Gastroenteritis viral | | | |

| | | | |
|---|-----------------|-----------------|--|
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |
| Pharyngitis | | | |
| subjects affected / exposed | 1 / 521 (0.19%) | 0 / 526 (0.00%) | |
| occurrences causally related to treatment / all | 0 / 1 | 0 / 0 | |
| deaths causally related to treatment / all | 0 / 0 | 0 / 0 | |

Frequency threshold for reporting non-serious adverse events: 5 %

| Non-serious adverse events | Lyophilized GBS trivalent vaccine | Liquid GBS trivalent vaccine | |
|---|-----------------------------------|------------------------------|--|
| Total subjects affected by non-serious adverse events | | | |
| subjects affected / exposed | 430 / 521 (82.53%) | 439 / 526 (83.46%) | |
| Nervous system disorders | | | |
| Headache | | | |
| subjects affected / exposed | 208 / 521 (39.92%) | 188 / 526 (35.74%) | |
| occurrences (all) | 208 | 188 | |
| General disorders and administration site conditions | | | |
| Chills | | | |
| subjects affected / exposed | 57 / 521 (10.94%) | 67 / 526 (12.74%) | |
| occurrences (all) | 57 | 67 | |
| Fatigue | | | |
| subjects affected / exposed | 194 / 521 (37.24%) | 186 / 526 (35.36%) | |
| occurrences (all) | 194 | 186 | |
| Injection site erythema | | | |
| subjects affected / exposed | 84 / 521 (16.12%) | 88 / 526 (16.73%) | |
| occurrences (all) | 84 | 88 | |
| Injection site haemorrhage | | | |
| subjects affected / exposed | 38 / 521 (7.29%) | 33 / 526 (6.27%) | |
| occurrences (all) | 38 | 33 | |
| Injection site induration | | | |
| subjects affected / exposed | 60 / 521 (11.52%) | 69 / 526 (13.12%) | |
| occurrences (all) | 60 | 69 | |
| Injection site pain | | | |

| | | | |
|--|---------------------------|---------------------------|--|
| subjects affected / exposed occurrences (all) | 220 / 521 (42.23%) 220 | 238 / 526 (45.25%) 238 | |
| Injection site swelling subjects affected / exposed occurrences (all) | 32 / 521 (6.14%) 32 | 42 / 526 (7.98%) 42 | |
| Injection site warmth subjects affected / exposed occurrences (all) | 57 / 521 (10.94%) 57 | 73 / 526 (13.88%) 73 | |
| Malaise subjects affected / exposed occurrences (all) | 104 / 521 (19.96%) 104 | 105 / 526 (19.96%) 105 | |
| Gastrointestinal disorders Nausea subjects affected / exposed occurrences (all) | 81 / 521 (15.55%) 81 | 86 / 526 (16.35%) 86 | |
| Musculoskeletal and connective tissue disorders Arthralgia subjects affected / exposed occurrences (all) | 57 / 521 (10.94%) 57 | 55 / 526 (10.46%) 55 | |
| Myalgia subjects affected / exposed occurrences (all) | 80 / 521 (15.36%) 80 | 76 / 526 (14.45%) 76 | |
| Infections and infestations Upper respiratory tract infection subjects affected / exposed occurrences (all) | 23 / 521 (4.41%) 23 | 39 / 526 (7.41%) 39 | |

More information

Substantial protocol amendments (globally)

Were there any global substantial amendments to the protocol? No

Interruptions (globally)

Were there any global interruptions to the trial? No

Limitations and caveats

None reported