1110. Identification of Formulations and Vaccine Schedules of a Trivalent Group B Streptococcus Vaccine for Further Development in Non-pregnant and Pregnant Women

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Background. Group B Streptococcus (GBS) is a primary cause of infant sepsis and meningitis. As maternal anti-capsular (GBS) antibody is protective, maternal immunization could protect newborns. Here, the safety and immunogenicity of various doses, schedules and adjuvants of a trivalent GBS glycoconjugate vaccine (Novartis) were evaluated in non-pregnant women (clinicaltrials.gov NCT01150123).

Methods. In a phase Ib, single-centre, randomized, observer-blind, placebo-controlled study, 678 healthy 18–40 year-old non-pregnant women were enrolled in two cohorts. Each cohort was randomized to 9 groups, to receive either placebo, or 1 or 2 doses (day 1 and 31) of one of 4 formulations of trivalent GBS vaccine: 5 or 20 μg of each glycoconjugate for serotypes Ia, Ib and III, with or without $AlOH_3$ (cohort I); or with half or full doses of MF59® (cohort II). Solicited local and systemic reactions and adverse events were assessed. Antibodies were measured by ELISA at days 1, 61 and 361.

Results. Relatively low antibody levels (all serotypes) were found at baseline, similar in all groups, and remained unchanged throughout the study after placebo. Vaccination significantly increased antibody levels. In cohort I groups Geometric Mean Ratios (Day 61:Day 1) were 19–45, 23–47 and 15–36 for serotypes Ia, Ib and III, respectively; 70–93%, 50–74%, and 46–73% of groups achieving levels ≥ 1 μg/mL. There were no clear differences between 5 and 20 μg doses (except for a trend to higher responses with 20 μg vs 5 μg in women with no detectable antibodies at baseline), 1 or 2 injections, or use of $AlOH_3$. In cohort II, no added benefit of MF59® adjuvant was observed. Across all subjects, antibodies waned by Day 361, but remained significantly higher than placebo.

No vaccine-related serious adverse events were reported; adverse events were mostly mild to moderate. Local reaction rates were higher with vaccine than placebo, and increased with $AlOH_3$ and MF59®. Systemic reaction rates were comparable across all groups.

Conclusion. GBS vaccine was immunogenic and well-tolerated in non-pregnant women. No clear added benefit was observed from higher dosage, two injections or adjuvants, but a trend towards higher responses was observed with 20 μg vs 5 μg in women with undetectable baseline antibody.

Disclosures. **G. Leroux-Roels**, Novartis Vaccines: Investigator, Consulting fee **C. Maes**, Novartis Vaccines: Investigator, Consulting fee **J. Willekens**, Novartis Vaccines: Investigator, Consulting fee **F. De Boever**, Novartis Vaccines: Investigator, Consulting fee **R. De Rooij**, Novartis Vaccines: Employee, Salary **L. Martell**, Novartis Vaccines: Employee, Salary **L. Bedell**, Novartis Vaccines: Employee, Salary **F. Wittke**, Novartis Vaccines: Employee, Salary **K. Slobod**, Novartis Vaccines: Employee, Salary **P. M Dull**, Novartis Vaccines: Employee, Salary