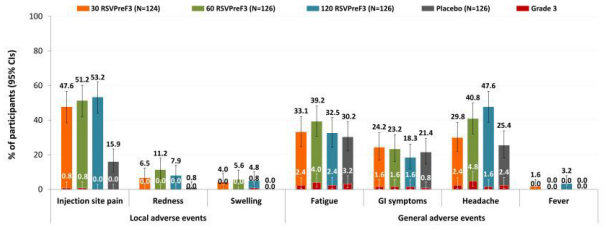
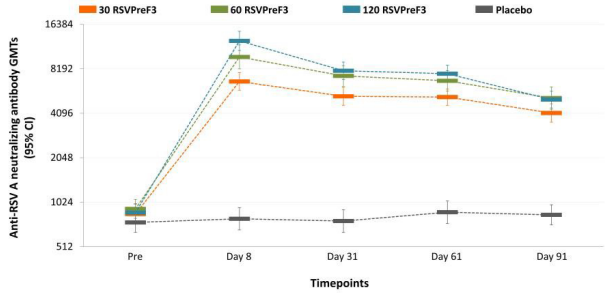
Results. 502 women were included in the exposed set. The most frequently reported solicited AEs were pain and headache (**Fig 1**). Grade 3 solicited AEs were infrequently reported. 180 women experienced unsolicited AEs; 19 reported grade 3 unsolicited AEs, among which 1 was vaccination-related (60 RSVPreF3). 3 SAEs were reported (1 in 120 RSVPreF3; 2 in placebo); none was related to vaccination. No clinically significant changes in laboratory parameters occurred. Geometric mean titers of anti-RSV A neutralizing antibody (≥ 8-fold at D8 and ≥ 5-fold until D91 vs baseline) and geometric mean concentrations of anti-RSVPreF3 IgG antibody (≥ 12-fold at D8 and ≥ 6-fold until D91 vs baseline) were boosted in all RSVPreF3 groups (**Fig 2, 3**). The 60 and 120 µg dose levels of RSVPreF3 were significantly more immunogenic than the 30 µg one.

Figure 1. Solicited adverse events until day 7 post-vaccination



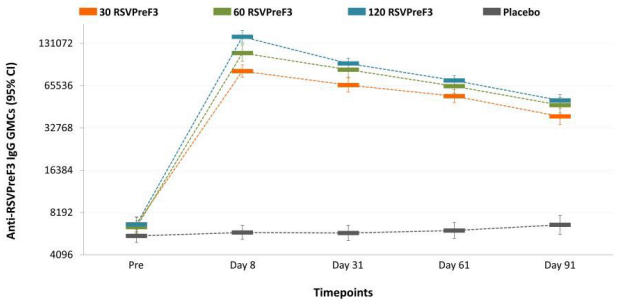
Exposed set. N, number of participants with documented dose; **CIs**, confidence intervals, represented as error bars; **30/60/120 RSVPreF3,** group of women who received 30, 60 or 120 µg of respiratory syncytial virus maternal vaccine; **GI**, gastro-intestinal; **fever**, ≥38.0 °C (regardless of the location of measurement but oral route was preferred); **Grade 3**, injection site pain defined as significant pain at rest that prevents normal every day activities, redness and swelling with diameter >100 mm, fatigue/GI symptoms/headache that prevent normal activities, fever >39.0 °C.

Figure 2. GMTs of anti-RSV A neutralizing antibody (ED60) until day 91 post-vaccination



Note: Immunogenicity analyses were performed in the per protocol set (PPS). The PPS was defined by time-point. At least 95% of the subjects in the exposed set were part of the PPS at any of the timepoints. **RSV-A**, respiratory syncytial virus A; **GMTs**, geometric mean titers; **Pre**, pre-vaccination; **CI**, confidence interval; **30/60/120 RSVPreF3,** group of women who received 30, 60 or 120 µg of RSV maternal vaccine.

Figure 3. GMCs of RSVPreF3 IgG antibody (EU/mL) until day 91 post-vaccination



Note: Immunogenicity analyses were performed in the per protocol set (PPS). The PPS was defined by time-point. At least 95% of the subjects in the exposed set were part of the PPS at any of the timepoints. **CI**, confidence interval; **IgG**, immunoglobulin G; **Pre**, pre-vaccination; **GMCs**, geometric mean concentrations; **30/60/120 RSVPreF3,** group of women who received 30, 60 or 120 µg of respiratory syncytial virus maternal vaccine.

Conclusion: All RSVPreF3 vaccine dose levels were well tolerated and no safety concerns identified. All 3 dose levels were immunogenic, with higher immune response induced by the 60 and 120 µg dose levels than the 30 µg one. These data support the further investigation of the 60 and 120 µg RSVPreF3 dose levels in pregnant women.

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1240. Persistence of Circulating Antibody Through 12 Months Following Vaccination With a 20-Valent Pneumococcal Conjugate Vaccine in Adults 60–64 Years of Age

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Session: P-57. New Vaccines

Background. While widespread use of pneumococcal conjugate vaccines (PCVs) has reduced disease burden, expanding serotype coverage remains an unmet need in disease prevention. The 20-valent PCV (PCV20) contains capsular polysaccharide conjugates from serotypes included in the 13-valent PCV (PCV13; Prevnar 13®) as well as 7 additional serotypes. In a phase 2 study of PCV20 in adults 60–64 years of age, robust immune responses were observed at 1 month after vaccination; antibody persistence up to 12 months after vaccination from that study is described herein.

Methods. In this randomized, active-controlled, double-blind study (ClinicalTrials.gov NCT03313037), adults aged 60–64 years received a single PCV20 dose followed 1 month later by saline placebo or PCV13 followed 1 month later by 23-valent pneumococcal polysaccharide vaccine (PPSV23), which provided benchmarks for all PCV20 serotypes. Immunogenicity was assessed at baseline and at 1 and 12 months after vaccination as serotype-specific opsonophagocytic activity (OPA) geometric mean titers (GMTs) and immunoglobulin G (IgG) geometric mean concentrations (GMCs). OPA and IgG geometric mean fold rises (GMFRs) from baseline to 12 months after vaccination were assessed.

Results. In the PCV20 group, OPA GMTs (n=185–200 at Month 12) for all PCV20 serotypes increased substantially from baseline to 1 month after vaccination and then declined by Month 12 but remained elevated above baseline. OPA GMFRs from baseline to Month 12 after PCV20 vaccination were 1.9–15.0 for the serotypes in common with PCV13 and 5.6–15.6 for the 7 additional serotypes. Similar results were observed for IgG concentrations, with GMFRs of 2.4–9.4 for the PCV13 serotypes and 3.0–15.5 for the 7 additional serotypes. At Month 12, 11 months after PPSV23 vaccination (n=162–195), OPA GMFRs were 5.3–11.5 for the 7 additional serotypes; IgG GMFRs were 5.0–10.4. Benchmarking to PCV13 serotypes in the control group was not appropriate as these subjects received both PCV13 and PPSV23, which overlap in polysaccharide composition for 12 serotypes.

Conclusion. Immune responses induced by PCV20 persisted at 12 months after vaccination in adults 60–64 years of age, further supporting the potential of PCV20 to expand serotype protection against adult pneumococcal disease.

Disclosures. Mariano Young Jr., MD, Pfizer Inc (Employee, Shareholder) Daniel Scott, MD, Pfizer (Employee, Shareholder) Michael W. Pride, PhD, Pfizer (Employee, Shareholder) Ingrid L. Scully, PhD, Pfizer Inc (Employee, Shareholder) John Ginis, BS, Pfizer Inc (Employee, Shareholder) Yahong Peng, PhD, Pfizer (Employee, Shareholder) Kathrin U. Jansen, PhD, Pfizer (Employee, Shareholder) William C. Gruber, MD, Pfizer (Employee, Shareholder) Wendy Watson, MD, Pfizer (Employee, Shareholder)

1241. PfSPZ Vaccine Administered by Direct Venous Inoculation to Prevent *Plasmodium falciparum* Malaria is as Safe as Normal Saline – a Meta-analysis of 12 Randomized Controlled Clinical Trials

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International PfSPZ (iPfSPZ) Consortium

Session: P-57. New Vaccines

Background. Sanaria's PfSPZ Vaccine prevents *Plasmodium falciparum* (Pf) infection transmitted in the field and by controlled human malaria infection. Safety of PfSPZ Vaccine has been demonstrated in 12 randomized, double-blind, placebo-controlled trials (RCT) varying in regimen from 3 to 5 doses over 4 to 20 weeks and in size from 18 to 332 subjects in adults in the US and EU and 5-month to 65-year-olds in 5 countries in sub-Saharan Africa. This study was conducted to analyze solicited adverse event (AE) and laboratory data by random effects meta-analysis.

Methods. PfSPZ Vaccine is composed of radiation-attenuated, aseptic, purified, cryopreserved Pf sporozoites (SPZ) administered by direct venous inoculation (DVI). Normal saline (NS) is always the placebo. Data from all completed RCTs were included as either age > 18 years (n=598) or age 5 months to 17 years (n=641). Any subject receiving at least one dose was included. A random-effects model was used to study vaccine safety and I^2 to evaluate heterogeneity. Analysis was performed for any systemic solicited AE and for the most frequently observed AEs and laboratory abnormalities. Sensitivity analyses were performed by removal of trials with zero events to evaluate potential bias.

Results. When examined individually, only 1 trial had a significant difference between PfSPZ Vaccine and NS for any AE (myalgias in adults). In the adult meta-analysis, there was no difference in the random effects risk ratios (RR) for having any vaccine-related AEs (1.40, 95% confidence interval (CI) 0.88-2.28), or for fever (0.75, 0.24-2.35), headache (1.23, 0.74-2.02), fatigue (0.72, 0.19-2.54), or myalgia (1.09, 0.26-4.68). In the pediatric meta-analysis there was no difference between the RR for PfSPZ Vaccine and NS for any AE (0.84, 0.59-1.18) or for fever (1.09, 0.44-2.69). No significant differences in the most common grade 2 or higher laboratory abnormalities – declines in hemoglobin, neutrophil or platelet count – were detected. Sensitivity analysis did not change the results.