489. SARS-CoV-2 Seroprevalence and Antibody Response Among Pregnant People in Seattle, WA
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Session: P-23. COVID-19 Special populations (e.g. pregnant women, children, immunocompromised, etc)

Background. Antenatal care is a unique opportunity to assess SARS-CoV-2 seroprevalence and antibody response in pregnant people, including those with previously unknown infection.

Methods. Pregnant people were screened for SARS-CoV-2 IgG during antenatal care or delivery in Seattle, Washington with Abbott Architect chemiluminescent immunomassay which provides quantitative index (positive ≥4.1). Participants with IgG+ results or identified with RT-PCR+ results via medical records were invited to enroll in a longitudinal evaluation of antibody responses. We report preliminary results of an ongoing seroprevalence and longitudinal study with planned 18-month follow-up.

Results. Between September 9, 2020–May 7, 2021, we screened 1304 pregnant people; 62 (4.8%) tested SARS-CoV-2 IgG+, including 28 (45%) with known prior SARS-CoV-2 infection. Among participants testing IgG+, median age was 32 years (interquartile range [IQR] 26–35) and median gestational age was 21 weeks (IQR 12–38) at screening; median IgG index was 3.2 (IQR 2.1–4.9, range 1.4–9.9), including 3.9 (IQR 2.3–5.8) among those with vs. 2.7 (IQR 1.9–4.2) among those without prior RT-PCR+ results (p=0.05 by Wilcoxon rank-sum). Of 30 longitudinal study participants enrolled, 24 tested IgG+ at baseline (75% with prior RT-PCR+ result) and 6 tested IgG+ on enrollment but were identified as previously RT-PCR+ via medical records; 24/30 (80%) reported previous symptoms. Of 24 participants testing IgG+ at baseline, 14 (58%) had first follow-up IgG results at median of 66 days (IQR 42–104) since initial testing, with median IgG index of 2.6 (IQR 1.0–3.8). 9/14 (64%) participants with repeat IgG testing remained IgG+ at first follow-up (≥280 days after first RT-PCR+ result for those with and ≥210 days after first IgG detection for those without prior RT-PCR+ results), while 5/14 (36%) had a negative Abbott IgG test at a median of 81 days (IQR 75–112) since initial testing.

Conclusion. Nearly half of pregnant people testing SARS-CoV-2 IgG+ reported no known prior SARS-CoV-2 diagnosis or symptoms. SARS-CoV-2 IgG antibody response and durability in pregnancy has implications for maternal and neonatal protection and susceptibility and highlights potential benefits of vaccination in this population.

Disclosures. Sylvia LaCourse, MD, MPH (Grant/Research Support), Alisa Kachikis, MD, MS, GlaxoSmithKline (Consultant), Pfizer (Consultant), Alexander L. Greninger, MD, PhD, Abbott (Grant/Research Support), GlaxoSmithKline (Consultant), Janet A. Englund, MD, AstraZeneca (Consultant), GlaxoSmithKline (Consultant, Grant/Research Support), Meissa Vaccines (Consultant, Grant/Research Support), Sanofi Pasteur (Consultant), Teva Pharmaceuticals (Consultant), Alison Drake, MD, MPH, Merck (Grant/Research Support), Hard Technologies (Consultant). Pfizer (Investigator), GlaxoSmithKline (Investigator)