Research and Reports in Gynecology and Obstetrics

Extended Abstract
Vol. 2, Iss. 1
2021

Routine screening for SARS CoV-2 in pregnant women in Primary Health Care

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Asia has become one of the epicenter of coronavirus pandemic. It seems that asymptomatic population may contribute importantly to the spread of the disease. Transmission from asymptomatic pregnant woman needs to be tested in large scale, but In primary health care without facilities for RT PCR SARS CoV-2, antibodies and the level of Wbc and lymphocytes may become as alternative test. Objective: To assess the prevalence of SARS CoV-2 infection in matic asymtomatic pregnant woman in primary health care. Methods This was a cross-sectional study was performed. Pregnant women admitted at policlic Obstetrics & Gynecology of Wirahusada Medical Center for antenatal care, between November 1st and December 31, 2020. A total of 142 pregnant woman without symproms were tested for rapid antibody for SARS CoV-2 and checked for routine hematology during the study period. Asymtomatic pregnant woman with rapid antibody positif then cronfirmed with RT-PCR for SARS CoV-2. Results: From 142 pregnant women who underwent screening, there were 11 (7.7%) who were positive (IgG / IgM, while the negative were 131 (92.3%). 11 asymptomatic pregnant woman was confirmed positive RT-PCR for SARS CoV-2 in secondary Health center (hospital). There were differences in the mean Wbc levels in the group of asymptomatic pregnant women with positive SARS CoV-2 antibodies (3742.73) compared to non-reactive (9122.48), where the mean leukocyte levels were <4000 in subjects with positive SARS CoV-2 ($p = 0.001$). There was a difference in the mean lymphocyte levels in the group of pregnant women with positive SARS CoV-2 rapid antibody (12.7) compared to non-reactive (24.3), where the mean lymphocyte levels were lower in subjects with positive SARS CoV-2 Rapid IgG / IgM pregnant women ($p = 0.001$). There was no difference in the mean lymphocyte levels in the group of pregnant women with positive SARS CoV-2 antibodies (11.06) compared to non-reactive pregnant women (11,36), where the mean Hb levels were not different in subjects with positive SARS CoV-2Rapid IgG / IgM pregnant women ($p = 0.551$). There was no difference in the mean lymphocyte levels in the group of pregnant women with positive SARS CoV-2 positive antibodies (280,454) compared to non-reactive (300,778), where the mean pletelet levels were not different in subjects with positive SARS CoV-2 Rapid IgG / IgM pregnant women ($p = 0.346$) Conclusion ; In our study Wbc levels and the percentage of lymphocytes were significantly lower in subjects of asymptomatic pregnant women with positive SARS CoV-2 antibodies than non-reactive pregnant women. In primary health care without facilities for RT PCR SARS CoV-2, antibodies and the level of Wbc and lymphocytes can be used as alternative for Routine screening in asymptomatic pregnant woman.

All pregnant women admitted to labor & delivery between April 27th and June 7th, 2020, with no history of SARS CoV-2 disease during gestation were included. At admission triage, all women were screened for COVID-19 clinical symptoms including fever, cough and shortness of breath by trained personnel, and RT-PCR for SARS CoV-2 (AllplexTM 2019-nCoV Assay) was performed by nasopharyngeal swab, unless a previous test with no quite 48 hours to admission was reported. Clinical management was administered with Personal Protective Equipment levels C or D following recommendations, until RT-PCR for SARS CoV-2 report was provided.

After delivery, patients with a positive RT-PCR for SARS CoV-2 were inquired by researchers for clinical symptoms presented before the diagnosis (fever ≥ 37.8, cough, headache, shortness of breath, myalgia, odynophagia, nasal congestion, digestive symptoms (diarrhea / vomiting), anosmia, dysgeusia, anorexy) and followed-up for clinical evolution. (S1 Appendix) Following institutional guidelines, neonates born from mothers with the diagnosis of COVID-19, no matter symptoms, were isolated and SARS CoV-2 RT-PCR was performed at 6 hours and 48–72 hours after delivery. Patients with history of COVID-19 confirmed by RT-PCR during pregnancy, or with but 24 weeks of fetal age at admission were excluded.

The main objective was to determine the point-prevalence of SARS CoV-2 infection in our obstetrical population at delivery. Secondary objectives were: i) describe the speed of newborns confirmed with positive

This work is partly presented at 8th Asia Pacific Gynecology and Obstetrics Congress Data on May 11-12, 2021 at Singapore

RT-PCR for SARS CoV-2; ii) evolution of confirmed cases; iii) frequency of adverse maternal outcomes (maternal medical care unit admission, need of invasive ventilatory support, maternal death); iv) frequency of adverse perinatal outcomes (preterm birth, small for fetal age , 5 minute Apgar < 7, admission to neonatal medical care unit, perinatal death). This study was approved by the Institutional review board of Clínica Dávila, and a waiver of consent was granted.

To estimate the point-prevalence of SARS CoV-2 infection at the time of delivery, a sample size estimation was performed supported the subsequent statistical assumptions: i) a target population of unknown size; ii) 95% confidence intervals; iii) precision of the prevalence estimator of two .5%; iv) expected point-prevalence of 10% or less. Previous reports in literature have reported point-prevalence's that ranged from 15.4% to 19.9% in obstetric population [7, 8, 11]. At the time this study was conceived, the national SARS CoV-2 incidence in Chile was in its initial stages; therefore a prevalence of 10% or less was considered plausible for our target population. The estimated sample size required to assess the prevalence of disease was 553 pregnancies. Assuming a maximum loss to follow-up of fifty throughout the study, a final sample of 583 patients was expected to be included. supported the amount of deliveries in our facility, we estimated that the whole sample required would be successfully obtained during a six-week period.

In quantitative variables, normality of distribution was assessed using Shapiro—Wilk normality test, and homogeneity of variances between groups was tested using Levene´s test. In variables fitting a normal distribution , comparisons between groups were made using Student´s T-test (with adjustment for unequal variances if necessary). In variables not fitting a normal distribution , Mann-Whitney U-test was used for comparisons. Comparison of categorical variables between groups was performed using Chi-square test or Fisher´s exact test as appropriate.

The overall prevalence of confirmed SARS CoV-2 infection at delivery was described using 95% confidence intervals. Estimates of prevalence were also obtained for every of the six weeks of this study. The daily screening positivity rate observed within the study, and therefore the daily-incidence rate within the city of Santiago (reported by the Ministry of Health) were modeled using 5-period moving averages statistic . Correlation between the observed screening positivity rate and therefore the daily-incidence rate reported within the city of Santiago was estimated using Spearman's rho coefficient of correlation .

Maternal and perinatal outcomes were described using absolute frequencies (percentages) and means (standard deviations). Odds ratios and mean differences were wont to compare outcomes between groups. In categorical variables, risk estimations were calculated using simple or multivariate logistic multivariate analysis accounting for potential covariables if appropriate. In numerical variables, mean differences between groups were estimated using simple or multiple rectilinear regression models, accounting for potential covariables if needed.

A total of 586 patients were admitted and tested for SARS CoV-2 during the study period. Three cases were excluded: one was but 24 weeks at the time of admission and therefore the other two cases were term pregnancies, who had a previous diagnosis of COVID-19, with complete quarantine for 14 days, and not considered as active cases.

Our study on universal screening among unselected obstetrical population reveals an overall prevalence of 6.35% of SARS-CoV-2 infections at delivery. Interestingly, nearly half these cases were asymptomatic at the time of delivery, and of the symptomatic cases nearly 70% referred symptoms only after a targeted interrogation. The later, demonstrates a not negligible reporting bias among patients with very mild symptoms.

In our study, at the instant of the initial recruitment, consistent with the official data reported by the National Ministry of Health, there have been about 7858 confirmed cases of SARS CoV-2 within the city of Santiago, with a cumulative incidence of 96.7 per 100000 habitants. within the following weeks, there was

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a progressive increase in daily incidence, reaching at the top of our study a complete of 112136 confirmed cases and a cumulative incidence of 1380 per 100000 habitants. The above explains the rise in cases in our obstetrical population registered during the study period. consistent with our results, it might be argued that current rates of SARS CoV-2 infection among general population are underestimated, and this is often only partially explained by asymptomatic cases.

Real implications of COVID-19 disease within the obstetrics population are still largely unknown. So far, conclusions drawn from available literature are reasonably hindered by the context of an evolving pandemic and different approaches across nations. Until larger nation-based reports are available, definitive conclusions can't be made.

Also, given the consistently high rates of asymptomatic infection, implications and long-term outcomes among this non-identified subset of "recovered" ongoing pregnancies (and their newborns) are somehow alarming. Serological assessment at trimester as how of screening for this population might be considered, yet several issues like cross reactivity, antibody kinetics and price effectiveness remain to be resolved.

Conclusion: The point prevalence found in our study is 6.35%, with nearly 50% of them being asymptomatic. Universal screening in unselected population at delivery, should be considered in endemic areas as provide good estimates of population-level prevalence of SARS CoV-2 infection, allowing adequate with protection of health team, proper patient isolation, prompt neonatal testing and targeted follow-up.

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