

COVID-19 and Obstetrics: Comparing the "Waves"

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Introduction

Published data from the first wave of COVID-19 pandemic demonstrates rates of infection within the obstetric community of around 10%, with around 1 in 20 asymptomatic mothers attending hospital being positive for the virus.[1] We aimed to investigate the rates of SARS-CoV-2 infection, patient characteristics and outcomes amongst pregnant women within NHS Greater Glasgow and Clyde (NHS GGC) during both in the initial "first wave" of infections seen in Spring 2020 and more recently.

Methods

Caldicott Guardian approval was obtained and requirement for ethical approval waived by the local research ethics committee. All female patients of child-bearing age with a positive SARS-CoV-2 result between 16 March – 18 December 2020 were identified by our local infection prevention and control team. These patients were cross-referenced to local electronic notes systems (Badgernet, Clevermed and Clinical Portal, Orion Healthcare) to identify pregnant or recently pregnant women (within 6 weeks postpartum). "First wave" cases were defined as occurring between 16/03/2020 and 31/07/2020, while "second wave" cases were defined as occurring between 01/08/2020 and 18/12/2020. Collected data were de-identified prior to analysis. Descriptive statistics are reported with results expressed as mean (SD), median [IQR], or n (%).

Results

During the first wave, 23 pregnant or recently pregnant women tested positive for the SARS-CoV-2 virus, of these 14 (61%) were admitted to hospital. During the second wave, 75 pregnant or recently pregnant women tested positive, with 29 (39%) admitted.

In both cohorts, cough and fever was the most prevalent symptom (cough present in 9/23 (39%) of 1st wave and 27/75 (36%) of 2nd wave cases; fever present in 8/23 (35%) in the 1st wave and 20/75 (27%) in the 2nd wave). Asymptomatic infection was, however, slightly more common in the second wave, with 20% asymptomatic in first wave but 28% asymptomatic in second wave. Of the admitted patients, 1 patient required ICU admission in the first wave whilst in the second wave 4 patients required ICU and 5 required medical HDU. Characteristics of studied patients are shown in Table 1

	First Wave Cases (n=23)	Second Wave Cases (n=75)
Age, years [median, IQR]	31 [29.5 - 34.0]	30 [27.0-33.0]
BMI, kg/m² [median, IQR]	28 [24.0-33.2]	27.4 [23.5-31.6]
Parity, n [median, IQR]	1 [0-1]	1 [0-2]
Gestation at Symptom Onset, weeks [median, IQR]	26 [8.5-33.5]	28 [18-34]
Admitted to Hospital	14 (60.8%)	29 (38.7%)
Required Supplemental Oxygen, n (%)	3 (21.4%)	8 (27.6%)
Required Level 2/3 Care	1 (7.1%)	9 (31.0%)

Table 1: Characteristics of pregnant women with confirmed SARS-CoV-2 infection

Discussion

Over equal time periods, we demonstrated an increase in the number of obstetric patients with positive SARS-CoV-2 tests. Asymptomatic infection was slightly more common in the second wave and rates of admission to hospital lower. Greater levels of testing (both in the community and perinatally) may help to explain both these findings. It is of note, however, that more patients required critical care facilities in the second wave. We plan to continue prospective data collection in order to inform future service planning and delivery.

References

1. Allotey J, Stallings E, Bonet M et al. Clinical manifestations, risk factors, and maternal and perinatal outcomes of coronavirus disease 2019 in pregnancy: living systematic review and meta-analysis. Br Med J, 2020; 370: m3320

2.Public Health England. COVID-19 vaccination: a guide for all women of childbearing age, pregnant or breast feeding. Last updated 01/03/2021. Available from: COVID-19 vaccination: a guide for all women of childbearing age, pregnant or breastfeeding - GOV.UK (www.gov.uk)