

Characteristics of SARS-CoV-2 positive obstetric patients within one UK health board

AR McCallum, N Brown, K Litchfield, RJ Kearns

Department of Anaesthesia, Princess Royal Maternity Hospital, Glasgow, UK

Introduction

The UK Obstetric Surveillance System (UKOSS) report on pregnant women admitted with COVID-19 between March and April 2020 demonstrated an estimated hospitalisation rate with SARS-CoV-2 amongst pregnant patients of 4.9 per 1000 maternities, with risk factors for admission including black or minority ethnicity background, maternal age >35, raised BMI and pre-existing comorbidities.[1] We aimed to assess the local demographics and outcomes of pregnant and recently pregnant women with COVID-19 infection within NHS Greater Glasgow and Clyde (NHS GGC) and to compare this with the national data published by UKOSS.

Methods

All female patients of child-bearing age diagnosed as having SARS-CoV-2 using PCR testing during the period 16th March – 3rd June 2020 were retrospectively identified by the NHS GGC Infection Prevention and Control team. Caldicott Guardian approval was obtained and requirement for formal ethical review waived.

Data were cross-referenced with local electronic notes systems (Badgernet, Clevermed & Clinical Portal, Orion Healthcare) to identify pregnant or recently pregnant women (within 6 weeks post-partum). These data were then compared to UKOSS data, which reported only on patients admitted to hospital with COVID-19. Collected data were de-identified prior to analysis and analyses performed using R statistical software. Descriptive statistics are reported with results expressed as mean (SD), median [IQR], or n (%).

	All Patients (n=23)		Admitted Patients Only (n=14)		UKOSS (n=427)	
		%		%		%
Age						
<20	0	0.0%	0	0.0%	4	1%
20-34	18	78.3%	11	78.6%	248	58%
≥35	5	21.7%	3	21.4%	175	41%
Ethnicity						
White	17	73.9%	8	57.1%	184	44%
Asian	3	13.0%	3	21.4%	103	25%
Black	2	8.7%	2	14.3%	90	22%
BMI >30	7	30.4%	6	42.9%	140	34%
Gestation at Symptom Onset						
<22 weeks	9	39.1%	3	21.4%	22	5
22-27 Weeks	4	17.4%	3	21.4%	60	14
28-31 weeks	4	17.4%	2	14.3%	64	15
32-36 weeks	2	8.7%	2	14.3%	106	25
37 weeks +	4	17.4%	4	28.6%	142	33
Median [IQR]	*26.0 [8.5-33.5]*		30.5 [24.3-37.5]		*34 [29-38]*	
Mode of Birth						
Caesarean due to SARS-CoV-2	2	13.3%	2	16.7%	39	16%
Other caesarean	8	53.3%	6	50.0%	105	43%
Operative vaginal	0	0.0%	0	0.0%	25	10%
Unassisted vaginal	5	33.3%	4	33.3%	76	31%

Results

741 eligible women tested positive for SARS-CoV-2 within the study period. Twenty-three (3%) were pregnant or recently pregnant, with 14 of these women (60%) requiring hospital admission (representing 5.1 cases per 1000 maternities). All identified patients of Black or Asian ethnicity were admitted to hospital (5 in total). 47% of women of white ethnicity were admitted. The most common symptoms in admitted patients were cough (present in 64% of cases) and fever (present in 57% of cases). Amongst admitted patients, median age was 31.5 [29.3-34.0], median gestation at diagnosis 30.5 [24.3-37.5] weeks and 6 patients (43%) had a booking BMI >30. Three hospitalised patients (21.4%) required oxygen therapy and one required post -operative ICU monitoring. Two fetal losses occurred before 22 weeks gestation. No neonatal deaths occurred. No infants tested positive for SARS-CoV-2.

Discussion

During this "first wave" of the pandemic, rates of COVID-19 were in keeping with those reported by UKOSS. This may reflect local adherence to shielding advice, or that testing was performed only on symptomatic patients. In keeping with results from UKOSS, patients from minority ethnic groups (and those with high BMIs) were over-represented in hospital admission rates. All patients studied have subsequently been discharged home and mainly required level 1 care during admission. Numbers for neonatal outcomes are low and further conclusions cannot be made from this data

References

1. Knight M, Bunch K, Vousden N et al. Characteristics and outcomes of pregnant women admitted to hospital with confirmed SARS-CoV-2 infection in UK: national population based cohort study. BMJ, 2020; 369: m2107