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Anaesthetic considerations and outcomes in 90 pregnant women with COVID-19: a prospective observational study

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Introduction

- The **coronavirus disease 2019 (SARS-CoV2)** global pandemic devastated the UK with a death tally greater than 112,000 people by January 2021.[1] This presented novel challenges to our institution, providing **tertiary obstetric service** in it's unique position serving the South London population at the epicentre of the early United Kingdom COVID-19 outbreak and one of five **ECMO** (Extracorporeal Membranous Oxygenation) referral centres in England.
- We undertook a single centre **prospective observational study** of 90 COVID-19 positive pregnant women presenting to our inner London tertiary hospital

Methods

After trust approval was obtained, we conducted this study over a **ten month period covering both waves of the pandemic** from March 2020 to January 2021.
We included:
- all pregnant women with a **positive polymerase chain reaction swab** result for COVID-19.

Data collected included: Demographics, co–morbidities, COVID-19 presentation and severity, anaesthetic received and maternal/neonatal outcomes.

Results

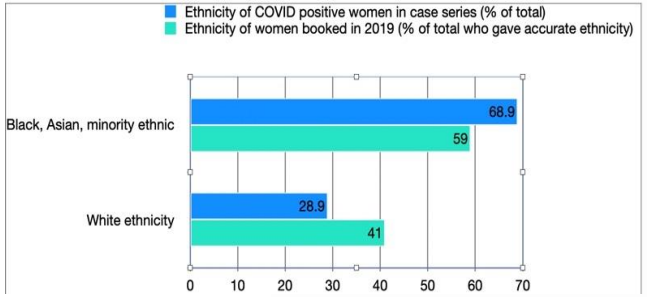


Fig 1: Ethnicity of women in study group (blue bars) v. bookings in 2019 (green bars)

Ninety women (1.6% of total deliveries) were included.

Demographics:

- Gestation 30 ±7 weeks
- Average age 32.3 ±5.4 years
- Body mass index 28.0 ±6.2 kg/m2

Co-morbidities:
- 21.1% women had diabetes mellitus

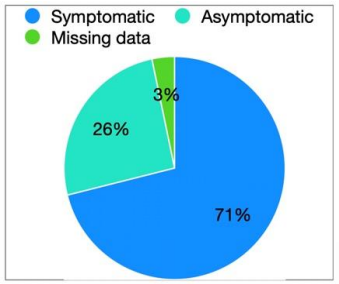
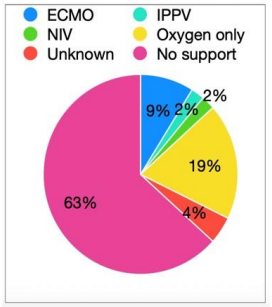


Figure 2: Presence of COVID-19 symptoms at time of diagnosis

Figure 3: Maximum level of support needed. 14.4% women needed critical care



Anaesthetic:
56.6% of patients had anaesthetic input
- 35.3% of women had an **epidural**
  - **70.5% inserted at 4cm or less**
  - 55.5% topped up for anaesthesia
- 35.3% had a spinal anaesthetic
- 9.8% had a CSE
- 3.3% women had a GA

Outcomes:
- 76 women (84%) delivered
- 44.7% by spontaneous vaginal delivery
- 44.7% by caesarean section
- **2 intrauterine deaths**
- No maternal deaths

Discussion

- BAME background, raised BMI, diabetes and infection during the third trimester were risk factors consistent with those found nationally (UKOSS) [2]
- Severity of disease was greater in our cohort with **14.4% vs. 5% requiring critical care** and 8.9% vs <0.1% requiring ECMO explained by our tertiary referral institution providing ECMO [2]
- Early **epidural insertion minimised respiratory complications** and intraoperative conversion to GA which may explain our low GA rate [3]

References

1. GOV.UK Coronavirus (COVID-19) in the UK https://coronavirus.data.gov.uk/details/deaths Accessed 30th January 2021
2. Vousden N, Bunch K, Morris E et al. The incidence, characteristics and outcomes of pregnant women hospitalized with symptomatic and asymptomatic SARS-CoV-2 infection in the UK from March to September 2020: a national cohort study using the UK Obstetric Surveillance System (UKOSS) medRxiv 2021.01.04.21249195; doi:https://doi.org/10.1101/2021.01.04.21249195
3. Bauer ME, Bernstein K, Dinges E et al. Obstetric Anesthesia