Comparing the Delta and Omicron waves – are calmer waters ahead?

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Introduction

The SARS-CoV-2 pandemic has disproportionately affected pregnant and post-partum women, with maternal outcomes differing according to viral variants. The Delta variant, dominant in the UK until November 2021, was associated with more severe disease than previous variants.[1] The Omicron variant, first reported in November 2021, exhibits increased transmissibility and became predominant by mid-December.[2] We aimed to compare outcomes in women presenting with these two variants at our tertiary obstetric centre (annual deliveries ~5500).

Methods

Caldicott guardian approval was obtained and ethical approval was waived by the West of Scotland Ethics Service. All patients admitted to Princess Royal Maternity, Glasgow, between 01/05/2021 – 30/11/2021 (Delta) and 01/12/2021 – 27/01/2022 (Omicron) with a positive SARS-CoV-2 test were included. Patients were defined as having a primary diagnosis of COVID-19 if admitted to hospital for > 24 hours with symptoms attributable to SARS-CoV-2. Advanced respiratory support was defined as continuous positive airway pressure, high flow nasal oxygen, or ventilation. Analyses were performed using student t-tests, Wilcoxon rank sum, Fisher exact and Chi-squared testing using R version 3.6.2.

Results

Forty-eight patients had confirmed SARS-CoV-2 infection during the 7-month Delta wave period, compared with 29 patients in the 2-month Omicron wave. Patients were more likely to be admitted with COVID-19 as a primary diagnosis in the Delta compared with Omicron wave (29/48 [60%] vs 10/29 [34%], p= 0.03). None of the patients requiring critical care unit admission were fully vaccinated.

	Delta, N = 48	Omicron, N = 29	p-value
Age (years)	31 [27 – 34]	28 [26 - 35]	0.30
Gestation at SARS-CoV-2 diagnosis (weeks)	34 [25 – 38]	36 [33 - 38]	0.09
Primary diagnosis of COVID-19, n (%)	29 / 48 (60%)	10 / 29 (34%)	0.03
Zero vaccines at time of admission, n (%)	42 / 48 (88%)	21 / 29 (72%)	0.10
Oxygen therapy, n (%)	20 / 48 (42%)	7 / 29 (24%)	0.12
Advanced respiratory support, n (%)	7 / 48 (15%)	0 / 29 (0%)	0.04
Admission to critical care, n (%)	9 / 48 (19%)	0 / 29 (0%)	0.01
Delivered on critical care, n (%)	2 / 48 (4.2%)	0 / 29 (0%)	0.50

Discussion

In this observational study, we report findings of reduced disease severity associated with the Omicron wave of the SARS-CoV-2 pandemic. Women admitted during the Omicron wave were more likely to have SARS-CoV-2 as an incidental diagnosis, with reduced requirements for advanced respiratory support and critical care.

Changes in SARS-CoV-2 testing policy over the course of the pandemic may mean that more incidental cases were detected in the Omicron wave, however it is likely that the increased number cases reflect the high transmissibility of this variant. This will have ongoing implications for resource management and service provision.

Limitations of our data include its retrospective nature, lack of availability of SARS-CoV-2 variant subtyping, differences in testing proceudres, the small numbers of cases from a single centre, and a predominantly white British ethnic group. We look forward to seeing further data on the implications of the Omicron variant in obstetric patients.

References:
(1) Vousden N, Ramakrishnan R, Bunch K, et al. Impact of SARS-CoV-2 variant on the severity of maternal infection and perinatal outcomes: Data from the UK Obstetric Surveillance System national cohort. MedRxiv 2021. Doi: 10.1101/2021.07.22.21261000.
(2) UK Health Security Agency. SARS-CoV-2 variants of concern and variants under investigation: Technical briefing 33 Accessed January 28 2022 https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1043807/technical-briefing-33.pdf.