# Wild type through Omicron: Obstetric outcomes across COVID-19 waves

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## Introduction

- SARS-CoV-2 has been associated with poor obstetrical outcomes
- Few studies exist that specifically compare these outcomes across the waves and variants of the pandemic
- We sought to determine which COVID-19 wave was associated with worse obstetrical outcomes

## Methods

- Retrospective study of pregnant patients with SARS-CoV-2 between 3/6/20 and 2/28/22
- 3 distinct waves of the pandemic were identified: Wild type (3/6/20-12/31/20), Alpha/Delta (1/1/21-12/14/21), and Omicron (12/15/21-2/28/22)
- Baseline demographics and clinical outcomes were collected
- The primary outcome was a composite of obstetric complications (PPH, IUFD, PTL, blood transfusion, pyelonephritis, GDM, and PPROM)
- Statistical analysis was performed using Chi square tests, student T-tests, and logistic regression modeling, with statistical significance defined as $p<0.05$

## Results

- 654 patients included in the analysis with 190 (29%) patients in the wild type wave, 207 (31%) patients in the Alpha/Delta wave, and 257 (39%) patients in the Omicron wave
- Baseline demographics are shown in Table 1
- Alpha/Delta and Omicron waves had statistically significant higher odds of obstetrical complications compared to wild type (OR 2.00; 95% CI 1.31-3.08)
- The incidence of preeclampsia with severe features varied from 6.3% during wild type versus 1.4% during Alpha/Delta versus 5.1% during Omicron waves ($p<0.026$)
- Patients with multifetal gestation had significant lower odds of obstetric complications (OR 0.16; 95% 0.06-0.43)
- Patients that had no hospitalization had significantly higher odds of obstetric complications (OR 2.77; 95% CI 1.08-7.09)
- Rates of other obstetric complications are shown in Figure 1

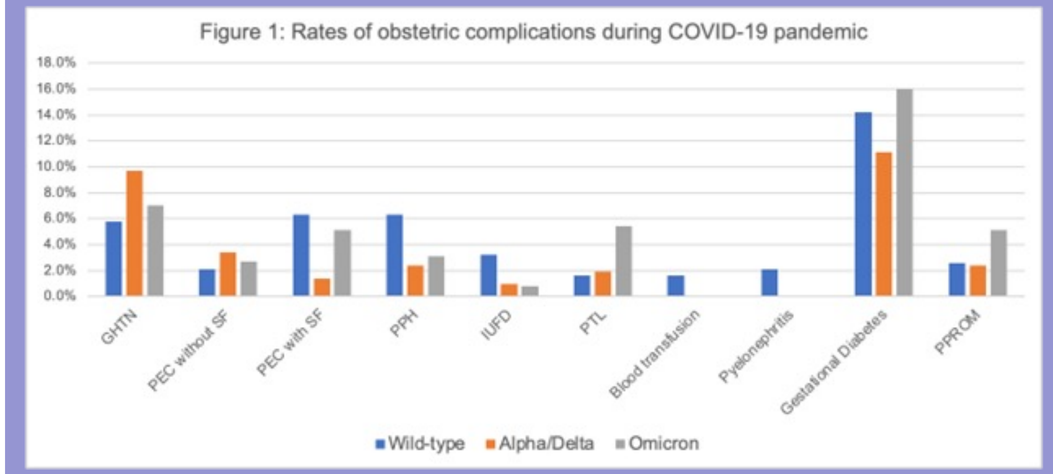
## Tables/Graphs

| | Obstetric complications | | |
|---|---|---|---|
| | Yes (N=124) | No (N=530) | p-value |
| AMA | 82 (66.1%) | 319 (60.4%) | 0.260 |
| BMI >30 | 76 (65%) | 287 (57.3%) | 0.145 |
| Chronic HTN | 6 (4.8%) | 20 (3.8%) | 0.609 |
| Pregestional DM | 6 (4.8%) | 13 (2.5%) | 0.228 |
| Asthma | 8 (6.5%) | 56 (10.6%) | 0.183 |
| Pregnancy induced HTN | 19 (15.3%) | 69 (13%) | 0.469 |
| Gestational DM | 14 (11.3%) | 77 (14.5%) | 0.390 |
| Multifetal gestation | 11 (9.2%) | 8 (1.7%) | 0.001 |

Table 1:Maternal characteristics presented as N (%)

## Discussion

- Obstetric complications varied across COVID waves with a higher risk in the Alpha/Delta and Omicron waves compared to the wild type wave
- The risk of preeclampsia with severe features was higher in the wild type and Omicron waves compared to the Alpha/Delta wave
- Multifetal gestation had a protective effect for developing obstetric complications




Obstetric complications varied across COVID waves with a **higher risk in the Alpha/Delta and Omicron waves** compared to the wild type wave