**OBSTETRIC AND NEONATAL OUTCOMES IN PREGNANT WOMEN VACCINATED WITH COVID-19 VACCINES: A PROSPECTIVE COHORT STUDY**

**Chau Ngoc Minh1,2, Tran Ngoc Van Anh1, Dao Thi Hai Yen1, Nguyen Le Duy2, Vu Thi Lan Anh2, Vuong Thi Ngoc Lan2,3, Ho Manh Tuong1,2**

1My Duc Hospital

2HOPE Research Center, My Duc Hospital

3University of Medicine and Pharmacy at Ho Chi Minh City

**ABSTRACT**

**Aim**

To investigate the obstetrics and neonatal outcomes in pregnant women   
vaccinated with COVID-19 vaccines (Pfizer-BioNtech [PF] or Oxford/AstraZeneca [AZ]) after 13 weeks of gestational age.

**Methods**

This was a prospective cohort study conducted at My Duc Hospital from August 2021 to November 2021. Pregnant women were vaccinated after 13 weeks of gestation and followed from one week after vaccination to 28 days after giving birth. Post-vaccination side-effects, obstetric and neonatal outcomes were compared between women vaccinated with PF or AZ.

**Results**

Between August 2021 and November 2021, there were 4420 pregnant women vaccinated. Out of them, 533 (267 with PZ, 266 with AZ) had given birth and completed the follow-up duration. No miscarriage case was recorded. There was no difference in rates of PIH (0.75% vs 2.25%, p=0.285), GDM (8.27% vs 5.24%, p=0.223), preterm birth (7.89% vs 8.61%, p=0.885), IUGR (1.13% vs 0.75%, p=0.686), oligohydramnios (0.38% vs 0%, p=1), polyhydramnios (0.75% vs 0.75%, p=1), and stillbirth (0.8% vs 0%, p=0.198) between AZ.and PF. Gestational age at delivery was not different … in PF and … in AZ (…). For neonatal outcomes, the rate of low birthweight (<2500g) was significantly higher in PF as compared to AZ groups (9.2% vs 3.46%, p=0.015); other complications such as congenital defects, admission to NICU, neonatal death were not different. The most frequent side effect after vaccination was injection-site pain (77.9%). There was no serious adverse reaction recorded (e.g., myocarditis, anaphylaxis, thrombotic thrombocytopenic purpura-TTP) in both groups. For the first dose, first dose, PF had less side effects as compared to AZ including fatigue….…. AstraZeneca had more side effects such as fatigue (56% vs 10.1%, p<0.001), headache (30.6% vs 8.99%, p<0.001), and myalgia (40.6 vs 10.5, p<0.001). For the second dose, PF had more side effects including injection-site pain (42.3% vs 12.1%, p<0.001), fatigue (15.3% vs 3.23%, p=0.001), and headache (10.2% vs 0%, p=0.001).

**Conclusion**

Pfizer and AstraZeneca COVID-19 vaccines are generally safe and well-tolerated among pregnant women. Pfizer COVID-19 in pregnant women is associated with higher rate of low birthweight as compared with AstraZeneca.

**Keywords:** COVID-19 vaccines, pregnancy, side effects, obstetrics outcomes, neonatal outcomes.