



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

TABLE

**Association of multiple gestation, assisted reproductive technology, and placenta accrete spectrum subtypes**

ART	No	Yes	No	Yes
Multiple gestation	No	No	Yes	Yes
Accreta	Referent	2.96 (2.50–3.52)	1.28 (1.16–1.41)	3.24 (2.45–4.24)
Increta or percreta	Referent	1.55 (0.83–2.90)	0.89 (0.68–1.17)	2.23 (0.92–5.38)

The study cohort was grouped into the following 4 exposures based on ART and multiple gestation: neither of the 2, ART alone, multiple gestation alone, and both. The outcome was PAS subtypes (accreta or increta/percreta). The exposure-outcome association was assessed in the multinomial regression model, adjusting for age, race or ethnicity, primary expected payer, grand multiparity, and previous cesarean delivery. The effect size was expressed with adjusted odds ratio and corresponding 95% confidence interval.

ART, assisted reproductive technology; PAS, placenta accrete spectrum.

Matsuzaki. Is twin gestation an independent risk factor for placenta accrete spectrum? *Am J Obstet Gynecol* 2022.

observation that the effect size for placenta accreta was more robust in the 2 ART groups than the multiple gestation without ART group (adjusted odds ratio [aOR], 2.96–3.24 vs aOR, 1.28). Last, pregnancy after ART was significantly more likely to result in multiple gestation (unadjusted odds ratio, 10.5; 95% confidence interval, 10.1–10.8).

This finding may raise a plausible hypothesis that ART may increase the incidence of less severe forms of PAS. Together with Guo's suggestion, the important triad of ART, multiple gestation, and abnormal placentation merits further investigation. ■

Shinya Matsuzaki, MD, PhD  
Division of Gynecologic Oncology  
Department of Obstetrics and Gynecology  
University of Southern California  
Los Angeles, CA  
Department of Gynecology  
Osaka International Cancer Institute  
Osaka, Japan

Rachel S. Mandelbaum, MD  
Division of Gynecologic Oncology  
Department of Obstetrics and Gynecology  
University of Southern California  
Los Angeles, CA  
Division of Reproductive Endocrinology and Infertility  
Department of Obstetrics and Gynecology  
University of Southern California  
Los Angeles, CA

Koji Matsuo, MD, PhD  
Division of Gynecologic Oncology  
Department of Obstetrics and Gynecology  
University of Southern California  
Los Angeles, CA  
Norris Comprehensive Cancer Center  
Keck School of Medicine  
University of Southern California  
Los Angeles, CA  
[koji.matsuo@med.usc.edu](mailto:koji.matsuo@med.usc.edu)

The authors report no conflict of interest.

S.M. reports receiving research grant from Merck; K.M. reports receiving honorarium from Chugai, textbook editorial expense from Springer, and investigator meeting attendance expense from VBL Therapeutics.

## REFERENCES

- Guo Z, Ma J, Yang H. Is twin gestation an independent risk factor for placenta accrete spectrum? *Am J Obstet Gynecol* 2022;226:446–7.
- Matsuzaki S, Mandelbaum RS, Sangara RN, et al. Trends, characteristics, and outcomes of placenta accrete spectrum: a national study in the United States. *Am J Obstet Gynecol* 2021;225:534.e38.
- Jiang F, Gao J, He J, et al. Obstetric outcomes for twins from different conception methods—a multicenter cross-sectional study from China. *Acta Obstet Gynecol Scand* 2021;100:1061–7.
- Miller HE, Leonard SA, Fox KA, Carusi DA, Lyell DJ. Placenta accrete spectrum among women with twin gestations. *Obstet Gynecol* 2021;137:132–8.

© 2021 Elsevier Inc. All rights reserved. <https://doi.org/10.1016/j.ajog.2021.10.024>

## Regarding: COVID-19 vaccination during pregnancy: coverage and safety



**TO THE EDITORS:** We read with great interest the article titled “COVID-19 vaccination during pregnancy: coverage and safety” by Blakeway et al<sup>1</sup>, and we appreciate the authors for conducting this study at a

particularly crucial point of time to make vaccine safety data available for clinicians. We, however, would like to make some observations to help comprehend the study better.

The study reveals that among the vaccinated antenatal population, 3 women eventually developed SARS-CoV-2 infection. It would be highly informative if you could further elaborate on the duration between the administration of the vaccine and the development of infection, the type of vaccine given, and the severity of disease in these women. It is also mentioned that the vaccine was administered to 1 woman with underlying cardiac disease. We would like to know the particulars of the lesion and whether any thromboprophylaxis was given postvaccination. Table 3 indicates that among the unvaccinated population, 1 woman had a stillbirth. It would be highly appreciated if we are given information about the cause of the same, in particular whether it was related to SARS-Cov-2 infection or febrile illness.

We also seek some clarifications regarding a few statistical figures. Table 3 shows the perinatal outcomes among the women who received the vaccine antenatally vs those who did not. Among the 133 women who received at least 1 dosage during pregnancy, 3 developed SARS-CoV-2 infections; when they are excluded, it makes a cohort of 130. However, in Table S1, the strength of this cohort is 131.

Assuming that Table S1 is a subset of Table 3, it is confusing to us that the number of women who had fetal abnormalities (12 vs 11), cesarean deliveries (133 vs 122), and neonatal intensive care unit admissions (23 vs 21) among the unvaccinated women in Table S1 exceeds that of Table 3. We would be grateful to you if you could shed some light on the same.

Moreover, under the results section, it is stated that there was a statistically significant trend of a reduced vaccine uptake among women of the African-Caribbean and Asian ethnicity than those of Caucasian background (page 14, line 25). However, the *P* value for the Asian ethnicity was .183, which was not statistically significant.

We would also like to know the background behind choosing a blood loss cutoff of 1 L as the definition of postpartum hemorrhage. It would significantly exclude many cases falling between 1 L cutoff and the World Health Organization-defined cutoff of 500 mL for vaginal deliveries.<sup>2</sup> ■

Prerana Nagabushana, MD  
Avir Sarkar, MD  
Department of Obstetrics and Gynecology  
Post Graduate Institute of Medical Education and Research  
House number 459, Sector 15 A  
Chandigarh 160015, India  
[avirsarkar93@gmail.com](mailto:avirsarkar93@gmail.com)

Isha Wadhawan, MD  
Department of Obstetrics and Gynecology  
Fortis Escorts Hospital  
Faridabad, Haryana, India

The authors report no conflict of interest.

#### REFERENCES

1. Blakeway H, Prasad S, Kalafat E, et al. COVID-19 vaccination during pregnancy: coverage and safety. *Am J Obstet Gynecol* 2022;226:236.e14.
2. World Health Organization. Human Reproduction Programme. WHO recommendations on prevention and treatment of postpartum haemorrhage. 2012. Available at: [https://www.who.int/reproductivehealth/publications/maternal\\_perinatal\\_health/9789241548502/en/](https://www.who.int/reproductivehealth/publications/maternal_perinatal_health/9789241548502/en/). Accessed August 14, 2021.

© 2021 Elsevier Inc. All rights reserved. <https://doi.org/10.1016/j.ajog.2021.10.027>

## Which cervical sonographic markers of preterm birth occur earlier? Can these markers be effective in determining the type of interventions? Issues that have not been well considered



**TO THE EDITORS:** We have read the study by Boelig et al<sup>1</sup> and wanted to congratulate the authors for this successful article and make some minor contributions.

One of the most significant factors related to neonatal morbidity and mortality is preterm birth (PTB). The strategies for preventing PTB include understanding the risk factors with specific interventions. Serial follow-up of cervical length (CL) with normal competence during pregnancy needs to be understood before CL can be used to predict PTB. In normal pregnancy, sonographic measurements of CL demonstrate a bell-shaped distribution, similar to most biologic variables, with most women maintaining a CL between

30 and 40 mm throughout pregnancy.<sup>2</sup> CL exhibits minimal changes from 11 to 24 weeks of gestation for most women.<sup>3</sup> There are several disagreements about the cutoff length of the cervix as a short cervix. A short cervix is syndromic and can be caused by multiple etiologies, such as subclinical intrauterine infection and inflammation, early progesterone withdrawal, and cervical insufficiency.<sup>4</sup> Moreover, sonographic markers, such as cervical funneling, amniotic fluid sludge, uterocervical angle (UCA), cervical gland changes, cervical consistency, elasticity, acoustic attenuation, and progressive shortening of the CL, have been investigated to improve the prediction of PTB. These cervical changes occur