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.

Kristen Thomas, MD
Department of Pathology
New York University Grossman School of Medicine
NYU Langone Health—Main Campus & Bellevue Hospital Center
New York, NY

Anthony Vintzileos, MD
Martin Chavez, MD
Department of Obstetrics and Gynecology
NYU Langone Hospital—Long Island
New York University Long Island School of Medicine
Mineola, NY

Thomas Palaia, MS
Louis Ragolia, PhD
Departments of Biomedical Research and Foundations of Medicine
New York University Long Island School of Medicine
Mineola, NY

Sourabh Verma, MD
Department of Pediatrics
NYU Langone Hospital—Long Island
New York University School of Medicine
Mineola, NY

Poonam Khullar, MD
Iman Hanna, MD
Department of Pathology
NYU Langone Hospital—Long Island
New York University Long Island School of Medicine
Mineola, NY

The authors report no conflict of interest.

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Coagulation assessment with viscoelastic testing in asymptomatic postpartum patients with SARS-CoV-2 infection: a pilot study

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OBJECTIVE: Starting in the late 2019, the COVID-19 pandemic caused by SARS-CoV-2 infection has affected millions of people worldwide. Since then, multiple publications have described a hypercoagulable profile among patients with severe COVID-19.[1] This apparent underlying hypercoagulable state is expected to be more deleterious during the immediate postpartum period when the risk for thromboembolic events is already markedly elevated than in nonpregnant individuals.[2] In this study, we aimed to evaluate the coagulation profile of asymptomatic patients with COVID-19 during the immediate postpartum period by utilizing viscoelastic testing.

STUDY DESIGN: This was a single center cohort study. The institutional review board committee approved the protocol, and informed consent was obtained from all participants. At our institution, universal screening for SARS-CoV-2 on admission, using polymerase chain reaction (PCR) testing of nasopharyngeal swabs, is routine. Asymptomatic patients who presented for delivery and who had a positive PCR test result were approached by research staff for inclusion. Based on the availability of research staff, a convenience sample of individuals with a negative PCR test result was used as the control group. Patients with known coagulopathies were excluded. The coagulation profiles for both groups were determined using viscoelastic testing (Quantra QPlus System, Hemosonics, LLC, Charlottesville, VA) on a 2 mL blood sample, collected from each participant.[3] This device measures clotting time (which reflects the clotting factor function responsible for initial fibrin formation) and clot stiffness (which provides an independent value for the fibrinogen and platelet contribution to the overall stiffness of the clot).

RESULTS: A total of 34 patients were included (15 with COVID-19 and 19 controls without COVID-19). Most of the patients were Hispanic (n=32) and delivered vaginally

TABLE
Viscoelastic measurements of hemostasis in postpartum women

Clotting parameter	No infection (n=19)	SARS-CoV-2 infection (n=15)	*P* value[a]
Clot time (s)	121.5 (109–135)	126 (94–151)	.26
Clot stiffness (hectopascals)	33.9 (14.8–44.3)	34.8 (19–46)	.85
Platelet contribution to clot stiffness (hectopascals)	29.2 (13.2–38.2)	29.7 (16.5–39.7)	.91
Fibrinogen contribution to clot stiffness (hectopascals)	4.4 (1.6–6.8)	4.8 (2.5–6.3)	.96

Data are presented as median (range).

[a] Mann-Whitney U test was used to determine significance.

Pacheco. Viscoelastic testing in postpartum SARS-CoV-2 infection. Am J Obstet Gynecol 2021.

(85%). Of the included patients, 70% had a body mass index of >30 kg/m^2. We found no statistically significant difference between the 2 groups in any of the viscoelastic measurements of hemostasis that were studied (Table). Although the results for mean clotting time in both groups were well within the previously described normal limits for nonpregnant individuals, clot stiffness, fibrinogen contribution to clot stiffness, and platelet contribution to clot stiffness were all at the upper limit of the previously described accepted normal limits for nonpregnant individuals.

CONCLUSION: By using viscoelastic testing, we found no evidence that asymptomatic postpartum patients infected with SARS-CoV-2 have an elevated hypercoagulable state compared with noninfected individuals. The risk for and severity of COVID-19–associated coagulopathy correlate with the severity of the disease, because the degree of inflammation and cytokine production is likely the main cause of the clotting anomalies.[4] Because most pregnant women will be asymptomatic or only have a mild disease severity, the added risk for inflammation-induced clotting anomalies is likely very low. The main limitation of our study is the small sample size. The latter was mainly secondary to the difficulty of recruiting research patients during the current pandemic and the cost of viscoelastic testing. Although we cannot rule out that a small difference in coagulation parameters exist between the groups, this is likely of minimal clinical significance. Based on our findings, postpartum thromboembolism prophylaxis in this cohort should follow the current guidelines, namely early mobilization following uncomplicated vaginal delivery and sequential use of compression devices until ambulatory, following a cesarean delivery.[5] ■

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Luis D. Pacheco, MD
Division of Maternal-Fetal Medicine
Department of Obstetrics and Gynecology
The University of Texas Medical Branch at Galveston
Galveston, TX
Division of Surgical Critical Care
Department of Anesthesiology
The University of Texas Medical Branch at Galveston
301 University Boulevard
Galveston, TX 77555-0587
ldpachec@utmb.edu

Marissa Berry, MD
Antonio F. Saad, MD
Division of Maternal-Fetal Medicine
Department of Obstetrics and Gynecology
The University of Texas Medical Branch at Galveston
Galveston, TX

Sean G. Yates, MD
Division of Transfusion Medicine and Hemostasis
Department of Pathology
The University of Texas Southwestern Medical Center
Dallas, TX

George R. Saade, MD
Division of Maternal-Fetal Medicine
Department of Obstetrics and Gynecology
The University of Texas Medical Branch at Galveston
Galveston, TX

The authors report no conflict of interest.

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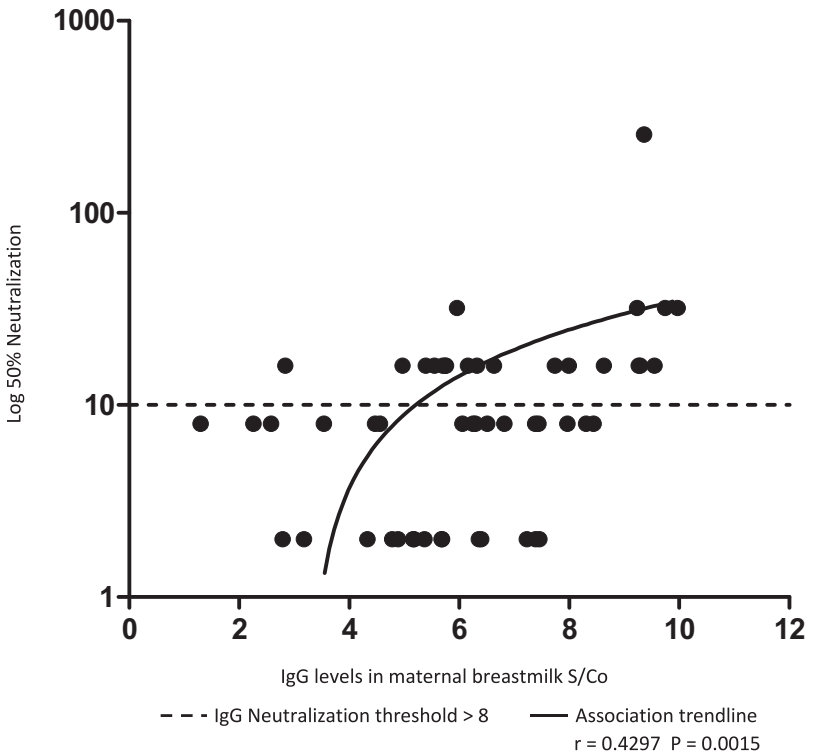
Presence of SARS-CoV-2 antibodies in lactating women and their infants following BNT162b2 messenger RNA vaccine

OBJECTIVE: Pregnant and lactating women were excluded from the initial clinical trials in which the safety and efficacy of the BNT162b2 messenger RNA vaccine were evaluated. Consequently, recommendations regarding vaccination of pregnant and lactating women were equivocal.[1] Therefore, our aim was to assess whether SARS-CoV-2 immunoglobulins (Igs) can be detected in breastmilk samples of lactating women following SARS-CoV-2 vaccination and whether it can be detected in the serum and oral mucosal secretions of their breastfed infants.

STUDY DESIGN: This was a longitudinal cohort study, conducted between December 2020 and April 2021. Samples were collected from lactating women who were vaccinated against COVID-19 after delivery and their breastfed infants. Blood samples and breastmilk were obtained from all study participants, and dried blood spot (DBS) samples from breastfed infants were collected on Guthrie cards. In addition, the saliva of infants was collected from oral mucosa immediately after breastfeeding and at 30, 90, and 150 minutes after breastfeeding. All serum samples were tested

FIGURE
Association between SARS-CoV-2 IgG levels in breast-milk of vaccinated women to neutralization capacity



IgG, immunoglobulin G; *S/Co*, sample cutoff.

Schwartz. SARS-CoV-2 antibodies in lactating women and their infants following BNT162b2 vaccine. Am J Obstet Gynecol 2021.